

Air Force Reserve Command  
**F-35A Operational  
Beddown**



DRAFT

# F-35A OPERATIONAL BEDDOWN - AIR FORCE RESERVE COMMAND ENVIRONMENTAL IMPACT STATEMENT

The collage features four vertical panels on the left showing F-35A jets in flight and on the ground. On the right, a map of the United States highlights four locations: Davis-Monthan AFB, AZ; Whiteman AFB, MO; NAS Fort Worth JRB, TX; and Homestead ARB, FL. Each location is accompanied by a small inset photograph: Davis-Monthan AFB (award sign), Whiteman AFB (welcome sign), NAS Fort Worth (stone sign), and Homestead ARB (gate sign).

Prepared for:  
**United States Air Force**  
**United States Department of the Navy**

## EXECUTIVE SUMMARY

February 2020

This document is the Executive Summary (ES) of the Draft Environmental Impact Statement (EIS) for the Air Force Reserve Command (AFRC) F-35A Operational Beddown. The entire Draft EIS is contained on the Compact Disk (CD) in the pocket below.

To view the Draft EIS on CD, you will need Adobe Acrobat ® Reader. If you do not already have Adobe Acrobat ® Reader, you can download it at [www.adobe.com](http://www.adobe.com).

- Insert the CD into your computer's CD drive and double-click on the file in the CD directory.
- Either scroll through the document or click on a heading in the Table of Contents and it will take you to that section of the Draft EIS.

The CD files are read-only, which means that you can view and/or print them. A printed copy of the Draft EIS for the AFRC F-35A Operational Beddown is available at public libraries in Tuscon, Vista, Yuma, Douglas, and Ajo, Arizona; Homestead and Avon Park, Florida; Fort Worth and Snyder, Texas; Lawton, Oklahoma; and Knob Noster, Warrensburg, and Whiteman Air Force Base, Missouri. The Draft EIS is also available online at <http://www.AFRC-F35A-Beddown.com>.

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## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
<b>LIST OF FIGURES .....</b>	<b>ES-i</b>
<b>LIST OF TABLES .....</b>	<b>ES-i</b>
<b>ACRONYMS AND ABBREVIATIONS.....</b>	<b>ES-ii</b>
<b>ES1.0 PROPOSED ACTION OVERVIEW .....</b>	<b>ES-1</b>
ES1.1 PURPOSE AND NEED.....	ES-3
ES1.1.1 Alternative Identification Process .....	ES-3
ES1.1.2 Public Involvement.....	ES-4
ES1.2 ELEMENTS OF THE PROPOSED ACTION .....	ES-4
ES1.2.1 Action Elements Affecting the Installation .....	ES-5
ES1.2.2 Action Elements Affecting Training Airspace .....	ES-9
<b>ES2.0 ENVIRONMENTAL CONSEQUENCES .....</b>	<b>ES-11</b>

### LIST OF FIGURES

	<u>Page</u>
Figure ES-1. Location of Alternative Bases Proposed for the AFRC F-35A Operational Beddown .....	ES-2

### LIST OF TABLES

	<u>Page</u>
Table ES-1. Summary of Alternatives (Baseline/Proposed).....	ES-7
Table ES-2. Comparative Summary of Environmental Consequences .....	ES-13

## ACRONYMS AND ABBREVIATIONS

301 FW	301st Fighter Wing
355 FW	355th Fighter Wing
442 FW	442nd Fighter Wing
482 FW	482nd Fighter Wing
ACC	Air Combat Command
ACM	asbestos-containing material
AEZ	Airport Environs Zone
AFB	Air Force Base
AFI	Air Force Instruction
AFRC	Air Force Reserve Command
AGL	above ground level
APAFR	Avon Park Air Force Range
APE	Area of Potential Effects
APZ	Accident Potential Zone
ARB	Air Reserve Base
ATC	air traffic control
ATCAA	Air Traffic Control Assigned Airspace
BMGR	Barry M. Goldwater Range
BAI	Backup Aircraft Inventory
BASH	Bird/Wildlife-Aircraft Strike Hazard
BOS	Base Operating Support
C&D	construction and demolition
CDNL	C-weighted day-night average sound level
CO	carbon monoxide
CONUS	continental United States
CSAF	Chief of Staff of the Air Force
CZ	Clear Zone
dB	decibel(s)
DNL	day-night average sound level
EIS	Environmental Impact Statement
ERP	Environmental Restoration Program
FAA	Federal Aviation Administration
GPS	global positioning system
HQ	Headquarters
IFR	instrument flight rules
JDAM	Joint Direct Attack Munition
JLUS	Joint Land Use Study
JRB	Joint Reserve Base
LBP	lead-based paint
L <sub>dnmr</sub>	onset rate-adjusted day-night average sound level
MAJCOM	Major Command
M-DCPS	Miami-Dade Public School
MOA	Military Operations Area
MSL	mean sea level
MTR	Military Training Route
NAS	Naval Air Station
NEPA	National Environmental Policy Act

**ACRONYMS AND ABBREVIATIONS (Continued)**

NM	nautical mile(s)
NOA	Notice of Availability
NOI	Notice of Intent
NO <sub>x</sub>	nitrogen oxides
NRHP	National Register of Historic Places
O <sub>3</sub>	ozone
OSHA	Occupational Safety and Health Administration
PAA	Primary Aerospace Vehicles Authorized
PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 micrometers in diameter
PM <sub>10</sub>	particulate matter less than or equal to 10 micrometers in diameter
RA	Restricted Area
RAP	Ready Aircrew Program
ROI	Region of Influence
SECAF	Secretary of the Air Force
SEL	sound exposure level
SHPO	State Historic Preservation Officer
SO <sub>x</sub>	sulfur oxides
SUA	Special Use Airspace
SULMA	Special Use Land Management Area
UFC	Unified Facilities Criteria
USAF	U.S. Air Force
USFWS	U.S. Fish and Wildlife Service
VFR	visual flight rules
VOC	volatile organic compound

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## **ES1.0 PROPOSED ACTION OVERVIEW**

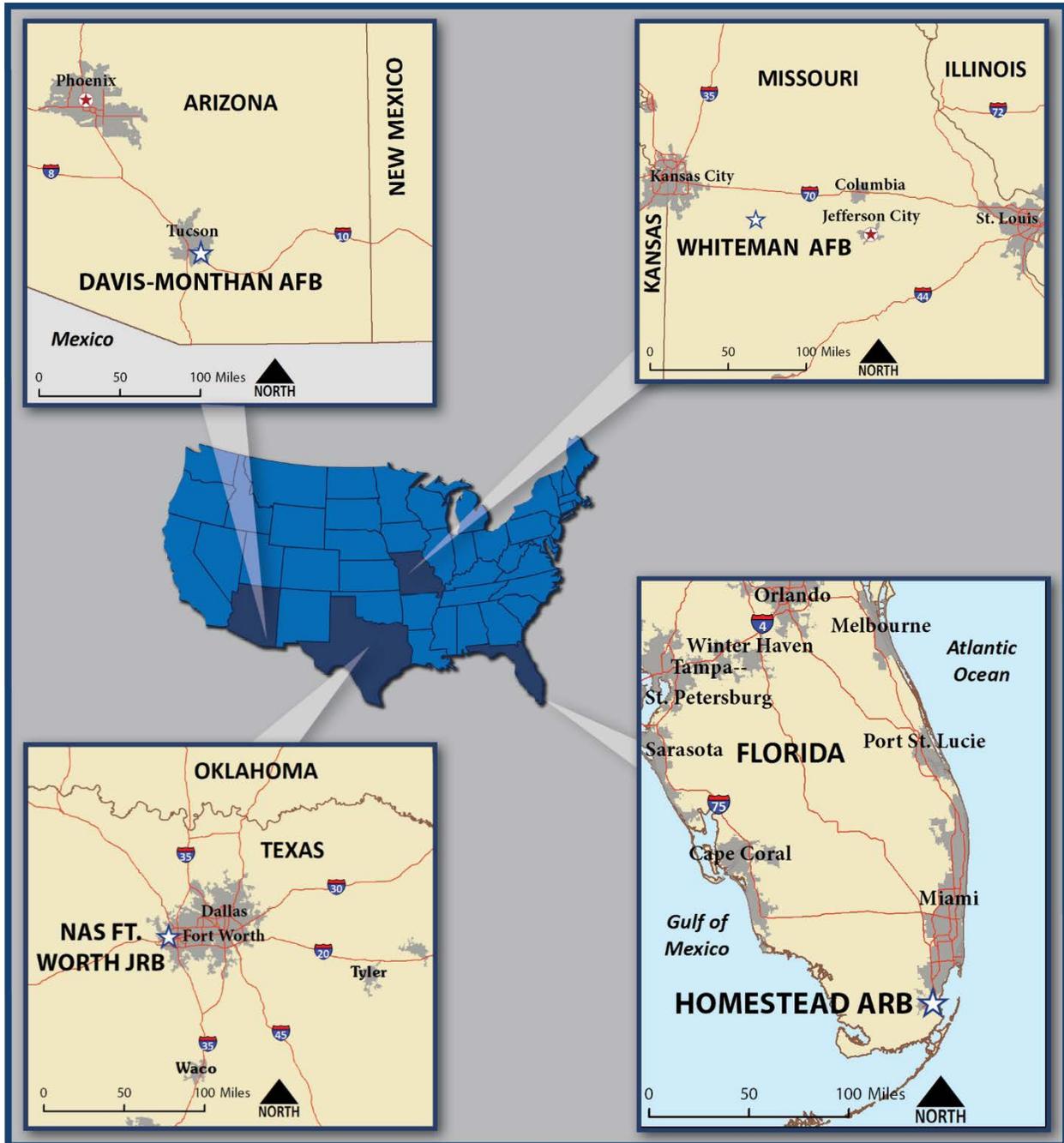
This Environmental Impact Statement (EIS) analyzes the potential environmental impacts associated with the U.S. Air Force (USAF) proposed beddown of F-35A aircraft at one of four bases in the continental United States (CONUS) where the Air Force Reserve Command (AFRC) leads a global precision attack mission. The F-35A would replace the existing F-16 fighter or A-10 ground-attack aircraft at the selected installation. This action would involve the beddown of one F-35A squadron consisting of 24 Primary Aerospace Vehicles Authorized (PAA)<sup>1</sup> with 2 Backup Aircraft Inventory (BAI) at the selected location. Four alternative bases (Figure ES-1) are being considered for this beddown: Davis-Monthan Air Force Base (AFB), Arizona; Homestead Air Reserve Base (ARB), Florida; Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Texas; and Whiteman AFB, Missouri (Figure 1-1). NAS Fort Worth JRB has been identified as the preferred alternative, and the other three bases are reasonable alternatives.

The mission of AFRC is to provide combat ready forces to fly, fight, and win. AFRC provides the USAF approximately 14 percent of the total force and reservists supporting numerous different missions, including global precision attack. During peacetime, the combat-ready units support most USAF major commands (MAJCOMs), to carry out missions compatible with training, mobilization readiness, humanitarian and contingency operations. Each of the four alternative bases evaluated in this EIS has a fighter mission that is assigned to the USAF Air Combat Command (ACC) MAJCOM for their federal missions, and as such they implement a training syllabus associated with ACC. The ACC fighter missions at each alternative base are:

- 355th Fighter Wing (355 FW) at Davis-Monthan AFB,
- 482nd Fighter Wing (482 FW) at Homestead ARB,
- 301st Fighter Wing (301 FW) at NAS Fort Worth JRB, and
- 442nd Fighter Wing (442 FW) at Whiteman AFB.

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<sup>1</sup> PAA is the number of aircraft authorized to a unit in order to perform its operational mission, while BAI is the aircraft that would be used only if one of the PAA aircraft is out of commission.



**Figure ES-1. Location of Alternative Bases Proposed for the AFRC F-35A Operational Beddown**

## **ES1.1 PURPOSE AND NEED**

The purpose of the proposed action is to efficiently and effectively maintain combat capability and mission readiness as the USAF faces deployments across a spectrum of conflicts while also providing for homeland defense. Beddown and operation of the F-35A at one of the alternative bases would represent a major step toward this goal.

Three factors establish the need for the AFRC beddown and operation of the F-35A. First, existing and anticipated enemy air defense systems have reached levels of effectiveness sufficient to pose a significant threat to current fighter and ground-attack aircraft. In addition, worldwide prevalence of sophisticated air-to-air and surface-to-air missiles continues to grow, increasing the number of threats to which existing USAF fighter and ground-attack aircraft are vulnerable. Implementation of the proposed beddown would provide AFRC with a location to operate the F-35A aircraft.

Second, AFRC needs to efficiently and effectively maintain combat capability and mission readiness. However, it faces increased difficulty in maintaining aging fighter and ground-attack aircraft inventories. These aircraft need to be replaced as a result of attrition, decreasing service life, and the lack of manufacturing of additional aircraft. Therefore, AFRC must replace the aging aircraft and supporting infrastructure to integrate operational F-35A squadrons into the existing USAF structure.

Third, the F-35A must support AFRC core competencies of air and space superiority, global precision attack and agile combat support. In order for AFRC to organize, train, equip and support F-35A pilots to meet a full range of military operations, the USAF needs to beddown the F-35A at existing bases offering compatible base infrastructure and providing ready access to existing airspace and ranges suitable for the F-35A. Beddown and operation of the F-35A at such bases forms a critical priority for the USAF.

### **ES1.1.1 Alternative Identification Process**

The established USAF strategic basing process (Air Force Instruction [AFI] 10-503, *Strategic Basing*) provides a deliberate, repeatable, standardized, and transparent framework for identifying operations and training locations. As part of the F-35A strategic basing process in 2010, the USAF developed basing criteria to assess the four AFRC fighter bases, based on their capability and capacity to support F-35A training and operations. The USAF has successfully used this process for basing selections of other operational locations.

Through a process involving collaborative staffing between ACC, AFRC, and Headquarters (HQ) functional offices, the need for an AFRC F-35A installation was validated. The seventh F-35A operational location, which is the focus of this EIS, would host a 24 PAA AFRC squadron with 2 BAI, with the first aircraft expected to arrive in 2024.

To meet the overall purpose and need, the USAF identified two broad selection standards that a base must meet: (1) the base must be a current AFRC installation with a fighter mission, and; (2) the base must have a runway longer than 8,000 feet. Applying these two broad selection standards, the USAF identified four candidate bases for the first AFRC-led F-35A base. On 12 April 2016, the USAF released the names of these four candidate bases: Davis-Monthan AFB, Arizona; Homestead ARB, Florida; NAS Fort Worth JRB, Texas; and Whiteman AFB, Missouri.

ACC and AFRC then conducted detailed, on-the-ground site surveys at each candidate base and assessed each location against four additional specific selection standards. These specific selection

standards represent capabilities that each installation must have in order to qualify as a reasonable alternative. The four specific selection standards are:

1. Mission standard: ability to conduct a global precision attack core mission with access to training and range airspace;
2. Capacity standard: operational and logistics facilities, and ramp and parking space;
3. Environmental standard: considerations on air quality, incompatible development, base encroachment, and land use controls; and
4. Cost factor standard: Given budgetary constraints, the USAF considered area construction factors based on Unified Facilities Criteria (UFC) 3-701-01, *DoD Facilities Pricing Guide*, dated March 2011, Change 11, September 2016, area Basic Allowance Housing rates, and area General Schedule locality pay.

The completed site survey results were briefed to the Secretary of the Air Force (SECAF) and Chief of Staff of the Air Force (CSAF) to select preferred and reasonable alternatives for the AFRC F-35A beddown location.

On 6 January 2017 the USAF announced NAS Fort Worth JRB as the preferred alternative and the remaining three bases as reasonable alternatives for the AFRC F-35A mission. Along with the No Action Alternative, all four bases are equally evaluated in this EIS.

### **ES1.1.2 Public Involvement**

The official public scoping period was initiated by publication of the Notice of Intent (NOI) in the *Federal Register* on 22 March 2018. Notices were also published in local newspapers near each of the four alternative bases and under the airspace proposed for use.

The USAF held four public scoping meetings near Homestead ARB, NAS Fort Worth JRB, Davis-Monthan AFB, and Whiteman AFB. The purpose of the public scoping meetings was to gather community-specific concerns to help focus the EIS analysis. All four of the scoping meetings were well attended. The public scoping period ended on 11 May 2018. After the public scoping period closed, the USAF was made aware that the address provided for submittal of courier-delivered (e.g., Federal Express or United Parcel Service) public scoping comments was incorrect. Consequently, the USAF provided the correct address and an additional 10 working days to resubmit scoping comments from the time resubmittal instructions were published in the *Federal Register* on 13 August 2018 and in the local newspapers. During both comment periods combined, a total of 711 comments were received regarding all of the resource areas evaluated in this Draft EIS.

The Notice of Availability (NOA) of the Draft EIS was published in *Federal Register* on 14 February 2020 which initiated the 45-day public comment period on the Draft EIS. All substantive comments received on the Draft EIS will be fully considered and addressed in the Final EIS, as appropriate.

## **ES1.2 ELEMENTS OF THE PROPOSED ACTION**

The USAF proposes to beddown 24 PAA F-35A aircraft with 2 BAI in one squadron at one of the four alternative bases. Each of the four alternative installations meets the beddown and operational requirement described above. At Davis-Monthan AFB or Whiteman AFB, 24 A-10 aircraft would be replaced with 24 F-35A aircraft. At Homestead ARB or NAS Fort Worth JRB, 24 F-16 aircraft would be replaced with 24 F-35A aircraft.

Four elements of the proposed action have the potential to affect the base and associated airspace: (1) facility and infrastructure projects necessary or required to support the F-35A beddown; (2) personnel changes necessary to meet F-35A requirements; (3) airfield operations conducted by AFRC F-35A pilots; and (4) airspace and range use by AFRC F-35A pilots.

Pilots operating F-35A aircraft would conduct training from the installation and in existing airspace associated with each proposed location. No new airspace or reconfiguration of existing airspace is proposed, or would be required to support the AFRC F-35A beddown at any of the alternative bases. Table ES-1 summarizes the major components of each alternative.

### **ES1.2.1 Action Elements Affecting the Installation**

#### *ES1.2.1.1 Basing of the F-35A Aircraft*

The beddown process would occur in phases associated with manufacture and delivery of F-35A aircraft. Delivery of the first F-35A aircraft to the selected base would occur in 2024. Construction activities would precede the arrival of the first aircraft. Construction associated with the AFRC F-35A beddown would be completed in approximately 2 years. Replacement of the aircraft would occur over a 2-year timeframe. The F-16 or A-10 aircraft that would be replaced by the F-35A aircraft would be reassigned or removed from the USAF inventory. Construction activities are planned to start in 2021. Table ES-1 identifies the current type and number of PAA aircraft at each alternative installation, the number of F-35As proposed for beddown, and the net change in aircraft.

#### *ES1.2.1.2 Airfield Operations*

To provide the training needed to ensure combat readiness, F-35A aircrews would conduct operations in two types of areas: (1) an airfield associated with an installation, and (2) training ranges and special use airspace. The USAF anticipates that each AFRC F-35A aircraft would be used to fly approximately 193 sorties per year. Thus, a total of 24 F-35A aircraft would account for an estimated 4,632 sorties per year. USAF has determined that this is the required number of sorties per year to meet the training requirements of the AFRC F-35A mission. These sorties are used to build the operations shown in Table ES-1. Current airfield operations differ across installations due to several factors: aircraft type, number of pilots requiring Ready Aircrew Program (RAP) training currency, and the availability of aircraft/training hours. Each aircraft type, such as the A-10 and F-16 have differing utilization rates for daily operations; therefore, baseline airfield operations differ from those identified for F-35As. The number of pilots requiring currency in their RAP training also differs across installations and is a function of available training hours and the amount of pilots requiring the training.

**Sortie** = one single military aircraft mission from a take-off through a landing and includes a flying mission. A sortie can include more than one *operation*.

**Operation** = one action (e.g., a landing or take-off). Pilots making multiple practice approaches (i.e., touch and go's) conduct a landing followed immediately by a take-off; this entire closed pattern circuit is counted as two airfield operations.

Combat missions can require flying after dark. Therefore, combat pilots are required to train and fly after dark. F-16 and A-10 pilots stationed at each of the four bases currently fly after dark. F-35A pilots would also need to train under such conditions. For the purposes of meeting this requirement, 1 hour after sunset is generally considered to be dark. Therefore, the hours of flight activity after dark vary from season to season and by base. The aircraft proposed for replacement

are only flown from less than 1 to 4 percent of the time during “environmental night” (i.e., after 10:00 P.M. and before 7:00 A.M.). AFRC F-35A pilots are predicted to generally follow the same night requirement as AFRC F-16 and A-10 pilots. AFRC F-35A pilots would fly very little during environmental night, although contingencies such as weather or special combat mission training could result in rare, unplanned operations during this time period. AFRC F-35A units could conduct nearly all required “after dark” operations prior to 10:00 P.M.

Certain F-35A operational requirements, such as the use of afterburner, are mission- and situation-dependent. Runway length, temperature, atmospheric pressure, wind conditions, and aircraft loads (e.g., avionics, fuel, weapons) are some of the factors that influence pilot decisions to use afterburner power for departures versus standard military power. AFI 11-2F-35A V3, *Flying Operations, F-35 – Aircrew Training*, guidelines state that F-35A pilots should not takeoff with military power if calculations, based on the relevant site conditions, indicate that the aircraft would require more than 50 percent of the available runway for takeoff when using military power.

AFRC evaluated the requirement for afterburner use during departures at each of the four alternative bases, calculated takeoff requirements, and determined that afterburner use would be required on approximately 5 percent of the total departures from each alternative base. However for this analysis, the USAF evaluated three different scenarios for afterburner use in this EIS: Scenario A is afterburner use on 5 percent of total takeoffs, Scenario B is afterburner use on 50 percent of total takeoffs, and Scenario C is afterburner use on 95 percent of total takeoffs. Figure 3-1 in Chapter 3 illustrates the difference between a takeoff using afterburner and a takeoff using standard military power.

Total airfield operations numbers, as noted above, would account for 11,580 F-35A arrivals and departures, regardless of the location. However, closed patterns under visual flight rules (VFR) and instrument flight rules (IFR) would also be conducted and are dependent on the installation. Closed pattern operations account for the variations among the installations. The current number of closed patterns per sortie flown was used to predict the proposed F-35A closed patterns at each base. Therefore, if one installation averaged one closed pattern per sortie and another averaged two closed patterns per sortie, the total of airfield operations would differ.

Each of the alternative bases currently supports a considerable number of airfield operations; Table ES-1 provides the baseline operations current as of September 2017 and compares them to the proposed AFRC F-35A airfield operations. The AFRC F-35A beddown would not change the number or type of other based aircraft, transient military aircraft, or civilian and commercial operations.

**Table ES-1. Summary of Alternatives (Baseline/Proposed)**

Alternative Component	Alternative Base			
	Davis-Monthan AFB	Homestead ARB	NAS Fort Worth JRB	Whiteman AFB
Aircraft Drawdown (PAA)	24 A-10 aircraft	24 F-16 aircraft	24 F-16 aircraft	24 A-10 aircraft
Proposed F-35A Aircraft (PAA) Beddown	24 F-35A aircraft	24 F-35A aircraft	24 F-35A aircraft	24 F-35A aircraft
Baseline Annual Airfield Operations	11,088	10,428	8,524	5,810
Proposed Annual Airfield Operations	11,580	11,580	11,580	11,580
Baseline Annual Airspace Sorties	40,358	45,151	77,445	15,739
Proposed Annual Airspace Sorties	42,362	45,043	78,362	14,808
Ground Disturbance Area <sup>a</sup> (acres)	15.2	2.3	7.7	2.9
Maximum proposed new impervious surface (acres)	1.6	2.0	1.2	-0.4
Changes in number of Ordnance/Defensive Countermeasures used under the Proposed Action compared to baseline	No Change or Decrease	No Change or Decrease <sup>b</sup>	No Change or Decrease	No Change or Decrease
Changes in AFRC Personnel	-30	-91	-102	11

<sup>a</sup> The total disturbed area includes the construction footprint plus an additional 50 feet around the footprint of buildings and an additional 20 feet for road widening.

<sup>b</sup> AFRC F-35A training proposed to be conducted at the U.S. Navy Pinecastle Range Complex would be conducted at the same training tempo and type as training currently conducted by AFRC F-16 pilots. Prior to the use of F-35A ordnance profiles and training actions, the USAF would coordinate with the Navy to ensure that the proposed F-35A ordnance profiles have been approved for use at the U.S. Navy Pinecastle Range Complex. Should additional analysis or planning be required for range safety actions, they would be completed as applicable.

### ES1.2.1.3 *Facilities and Infrastructure*

To accommodate the AFRC F-35A beddown, the selected base must provide the facilities and infrastructure necessary to support all aspects of the AFRC F-35A mission. Examples of some basic F-35A facility and infrastructure requirements necessary to support the beddown of F-35A aircraft include:

- Squadron operations/maintenance facilities;
- Hangars;
- Full mission simulator facility;
- Base communications infrastructure;
- Electrical system upgrades; and
- Other base support facilities (e.g., an engine repair shop, lightning-protected sunshades, and aircraft parking aprons), which vary from base to base.

While all four of the bases offer the basic necessary facilities for the operational beddown, none have all of the required infrastructure and facilities. Construction of new facilities and/or modification of existing facilities would be necessary at each of the alternative bases, although the nature and magnitude of these efforts would differ among the four bases. Chapter 2, Table 2-2, presents an overview of the amount of construction and modification necessary at each base, including total estimated costs and total disturbed acres. Details on construction and modification projects are presented in each alternative base-specific section contained in Chapter 4.

### ES1.2.1.4 *Personnel*

Beddown of the F-35A aircraft would also require sufficient and appropriate personnel to operate and maintain the aircraft and to provide necessary support services. Personnel discussed in this EIS include:

- All personnel authorizations in the AFRC units directly related to flying and maintaining the aircraft;
- Associated Base Operating Support (BOS) personnel authorizations (military, civilian, contractor) performing functions such as security or administration at the bases;
- Other AFRC unit personnel authorizations associated with the AFRC units; and
- Total base personnel to provide an overall context for changes resulting from the F-35A beddown.

Depending on the alternative base, the proposed AFRC F-35A mission would require a variety of different full-time and part-time personnel. Changes in personnel at each base were derived by comparing the requirements of the incoming AFRC F-35A mission with the requirements of the existing mission at each base. At Davis-Monthan AFB, Homestead ARB, and NAS Fort Worth JRB, the AFRC F-35A mission would result in net decreases of 30, 91, and 102 personnel, respectively. At Whiteman AFB, the AFRC F-35A mission would result in a net increase of 11 personnel. The USAF expects that changes in personnel authorizations necessary for the AFRC F-35A mission would occur coincident with the arrival of the F-35A aircraft during the procurement process.

## **ES1.2.2 Action Elements Affecting Training Airspace**

Although the exact nature and sequence of training activities for the F-35A remain under development, information available from the RAP indicates that F-35A pilots must conduct multiple role training for five major mission types to replace the missions of F-16 and A-10 aircraft. Each of these five major missions requires the necessary airspace and range assets to permit realistic training. Due to advanced electronics, the ability to engage targets at higher altitudes, and the speed of the aircraft, AFRC F-35A pilots would use existing Federal Aviation Administration (FAA)-approved and -charted Special Use Airspace (SUA), including Military Operations Areas (MOAs), Air Traffic Control Assigned Airspace (ATCAA), Restricted Areas (RAs), and offshore Warning Areas. AFRC F-35A pilots would infrequently use Military Training Routes (MTRs), either to access SUA or conduct training. AFRC F-35A pilots would only use existing ranges. By adapting training activities to the airspace associated with the selected base, no F-35A-specific changes to airspace or ranges would be required to accommodate the AFRC F-35A training.

Variation in the number of operations among the four alternative bases would result from differences in the number, size, arrangement, and proximity of the airspace units to the installation. These differences also reflect adaptation of training activities to existing airspace. Due to advanced capabilities, F-35A aircraft require large expanses of airspace to operate. In order to conduct required training missions, F-35A pilots would use SUA in combination rather than individually.

Although AFRC F-35A pilots would conduct missions similar to the missions conducted by F-16 and A-10 pilots, the F-35A aircraft has distinctive capabilities and would be operated somewhat differently. AFRC F-35A pilots would generally conduct training at altitudes higher than those used by F-16 pilots and A-10 pilots. AFRC F-35A pilots would fly at 18,000 feet mean sea level (MSL) or higher approximately 71 percent of the time. Due to the capabilities and expected tactics of the F-35A aircraft, F-35A pilots would rarely (1 percent) fly below 5,000 feet above ground level (AGL). Actual flight altitudes would depend upon the lower and upper limits of specific airspace. Some SUA might not offer sufficient vertical spans to permit all of the required training activities. Due to such limitations, AFRC F-35A pilots would need to use existing airspace in different proportions than those used by F-16 or A-10 pilots.

To train with the full capabilities of the aircraft, AFRC F-35A pilots would conduct supersonic flight where permitted. All supersonic flight would occur at altitudes and in airspace already authorized (i.e., approved and charted by the FAA) for such activities. For the offshore Warning Areas, supersonic flight would be conducted at least 15 nautical miles (NM) from shore. Due to the F-35A mission and the aircraft's capabilities, the USAF anticipates that AFRC F-35A supersonic flight training would be conducted above 15,000 feet MSL, with 90 percent occurring above 30,000 feet MSL (Chapter 2, Table 2-10). AFRC F-35A pilots would fly at supersonic speeds below 15,000 MSL on only an occasional basis. Currently, the estimated percentage of F-35A sorties involving supersonic flight is approximately the same as the percentage flown by 4th generation fighter aircraft such as the F-16. Comparable percentages for A-10 aircraft are not available as those aircraft do not conduct supersonic flight.

### **ES1.2.2.1 Range Use**

For the AFRC F-35A aircraft, air-to-ground training would represent about 60 percent of the training program, with the air superiority mission accounting for the remaining 40 percent. Most air-to-ground ordnance delivery training would be simulated (i.e., nothing is released from the aircraft and electronic scoring is used). The F-35A aircraft uses high-fidelity avionics and

embedded training systems to simulate ordnance delivery on a target. This type of training could be conducted in any of the SUA meeting the airspace training event requirements for floor, ceiling, and size.

Air-to-ground training would also include occasional ordnance delivery. Actual ordnance delivery training would occur during the times when AFRC F-35A pilots would operate in existing RA over ranges approved for ordnance use. Proposed ranges at each of the alternative bases include: the Barry M. Goldwater Range (BMGR) (Davis-Monthan AFB); U.S. Navy Pinecastle Range Complex (to include Rodman and Lake George Ranges) and Avon Park Air Force Range (APAFR) (Homestead ARB); Falcon and Fort Hood Ranges (NAS Fort Worth JRB); and Cannon, Fort Riley and Smoky Hill Ranges (Whiteman AFB). Ordnance use at each of these ranges would be the same as or less than what is currently used for A-10 and F-16 pilot training. The U.S. Navy Pinecastle Range Complex, to include the Rodman and Lake George Ranges, located in Florida, does not currently include F-35A air-to-ground ordnance training. However, the U.S. Navy Pinecastle Range Complex does support both high-explosive and inert training conducted by AFRC F-16 pilots. AFRC F-35A training proposed to be conducted at the U.S. Navy Pinecastle Range Complex would be conducted at the same training tempo and type as training currently conducted by AFRC F-16 pilots. Prior to the use of F-35A ordnance profiles and training actions, the USAF would coordinate with the Navy to ensure that the proposed F-35A ordnance profiles have been approved for use at the U.S. Navy Pinecastle Range Complex. Additional analysis or planning required for range safety actions, would be completed as applicable.

The F-35A is capable of carrying and employing several types of ordnance. As the USAF currently envisions, the following describes the types of ordnance that could be employed by the F-35A; however, ordnance types change over the years and how they are employed in training evolves as well. AFRC F-35A pilots would only use ordnance that is approved for use at each of the ranges identified in this EIS.

Currently, the F-35A is expected to use the GBU-31 variant of the Joint Direct Attack Munition (JDAM), which is a 2,000-pound, general-purpose Mark-84 bomb, for air-to-ground ordnance delivery. JDAMs are guided to the target by an attached global positioning system (GPS) receiver. These weapons, commonly released between 20,000 and 40,000 feet MSL, require no laser guidance. The USAF expects no changes in the numbers of JDAMs used by F-35A aircraft when compared to those of the F-16 or A-10 aircraft proposed for replacement, and JDAMs would continue to be used on ranges already approved for such use. Optional internal loads include a wide variety of air-to-ground ordnance: small diameter bombs, missiles, dispensers, and guided weapons. In addition, because the F-35A carries an internal, four-barrel cannon, occasional tactical training using the cannon would be conducted. Using the cannon involves firing at a prescribed target for a short burst of time. As is the case for air-to-air and air-to-ground ordnance training, use of the cannon would follow specific safety procedures and be employed only on ranges and targets approved for such use.

#### ES1.2.2.2 *Defensive Countermeasures*

Flares are one of the defensive mechanisms dispensed by military aircraft to avoid attack by enemy aircraft and air defense systems. Flares dispensed from aircraft provide high-temperature heat sources that mislead heat-sensitive or heat-seeking targeting systems. Flares would only be used in airspace approved for flare use and at altitudes designated for the airspace.

Flare deployment in authorized airspace associated with the four alternative bases is governed by a series of regulations based on safety and environmental considerations and limitations. These regulations establish procedures governing the use of flares over ranges, other government-owned

and -controlled lands, and nongovernment-owned or -controlled areas. All areas used for flare deployment are required to be analyzed through appropriate National Environmental Policy Act (NEPA) documentation. ACC has set standard minimum-release altitudes (ACC Supplement to AFI 11-214, Change 1, 2016) for flares over government-owned and -controlled lands. These standards, which vary from 300 to 900 feet AGL according to aircraft type, are designed to allow the flares to burn out completely at least 100 feet AGL. For F-16 and A-10 aircraft, the minimum release altitude for flares is 700 feet AGL. Minimum release altitudes for the F-35A aircraft would be the same. Over nongovernment-controlled lands, flare release is restricted to a minimum of 2,000 feet AGL and above for all aircraft; this requirement would apply to F-35A aircraft. More restrictive altitude restrictions are followed for specific airspace in response to local considerations, including wildfire threat levels. Flares can also be dispensed in the offshore Warning Areas without altitude restrictions.

## **ES2.0 ENVIRONMENTAL CONSEQUENCES**

Evaluation of the environmental consequences resulting from the proposed AFRC F-35A mission among the alternatives is the fundamental premise of NEPA. The summary comparison of environmental consequences resulting from the new mission is presented in Table ES-2.

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**Table ES-2. Comparative Summary of Environmental Consequences**

Resource Area	<b>Davis-Monthan AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>Homestead ARB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>NAS Fort Worth JRB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>Whiteman AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>No Action</b>
<b>Airspace Management and Use</b>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No adverse impacts to airspace management and use in the local air traffic environment.</li> <li>0.7 percent increase in total annual airfield operations. This increase could be accommodated by the Davis-Monthan AFB airfield and surrounding airspace without adverse effect.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No change to the current configuration of airspace.</li> <li>Approximate 5 percent increase in total sorties. This increase could be accommodated by the region’s airspace.</li> <li>No adverse impacts on airspace management and use.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No adverse impacts to airspace management and use in the local air traffic environment.</li> <li>3.0 percent increase in total annual airfield operations. This increase could be accommodated by the air traffic control (ATC) within the Homestead ARB airfield and surrounding airspace without adverse effect.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No change to the current configuration of airspace.</li> <li>Approximate 0.2 percent decrease in total sorties.</li> <li>No adverse impacts on airspace management and use.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No adverse impacts to airspace management and use in the local air traffic environment.</li> <li>12.1 percent increase in total annual airfield operations. This increase could be accommodated by the NAS Fort Worth JRB airspace environment without adverse effect.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No change to the current configuration of airspace.</li> <li>Approximate 1.2 percent increase in total sorties.</li> <li>No adverse impacts on airspace management and use.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No adverse impacts to airspace management and use in the local air traffic environment.</li> <li>17.4 percent increase in total annual airfield operations. This increase could be accommodated Whiteman AFB airfield and surrounding airspace environment without adverse effect.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No change to the current configuration of airspace.</li> <li>Approximate 5.9 percent decrease in total sorties.</li> <li>No adverse impacts on airspace management and use.</li> </ul>	<p>Under the No Action Alternative at all four alternative bases, the USAF would continue to use and manage airspace as it is today until retirement of the current aircraft. Flying operations and airspace use would continue with no F-35A-related increase or decrease in air traffic.</p>

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	<b>Davis-Monthan AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>Homestead ARB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>NAS Fort Worth JRB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>Whiteman AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>No Action</b>
<b>Noise</b>	<p>Implementation of the AFRC F-35A mission would result in significant noise impacts at Davis-Monthan AFB. The USAF considered a number of different measures to mitigate noise impacts, but none of these measures were determined to be operationally feasible (Section 2.5).</p> <p><b>Installation:</b></p> <p><b>Affected by day-night average sound level (DNL) of 65 decibels (dB) or greater:</b></p> <p><i>Scenario A</i> Acres – 1,566 Estimated Population – 1,506</p> <p><i>Scenario B</i> Acres – 1,679 Estimated Population – 1,428</p> <p><i>Scenario C</i> Acres – 1,762 Estimated Population – 1,361</p> <p><b>Other items of note:</b></p> <ul style="list-style-type: none"> <li>The Griffin Foundation Schools would be the only schools exposed to DNL of 65 dB or greater (all scenarios)</li> <li>Residential areas including parts of the Roberts and Julia Keen neighborhoods would be exposed to DNL of 65 dB (all scenarios)</li> <li>Transient F-35A aircraft operate at Davis-Monthan occasionally under baseline conditions. Operations would become much more frequent under the AFRC F-35A mission.</li> <li>The highest sound exposure level (SEL) experienced at representative locations would remain the same under the AFRC F-35A mission as under baseline conditions except at Freedom Park, the Griffin Foundation Schools, and the University of Arizona where they would increase by 2, 1, and 5 dB, respectively, under Scenario A, B, or C.</li> <li>All the proposed action noise contours (all scenarios) are within the Airport Environs Zone (AEZ).</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>Onset-rate adjusted day-night average sound level (<math>L_{dnmr}</math>) would not increase by more than 1 dB in the training airspace.</li> <li>Supersonic training would occur in the BMGR airspace (i.e., R-2301, R-2304, and R-2305) and Sells MOA, which are currently approved for supersonic training. The number of sonic booms in the BMGR would increase from 3.1 to 3.5 per day and the C-weighted day-night average sound level (CDNL) would increase from 56 to 57 dB. The average number of sonic booms per day beneath the Sells MOA would increase from 2.1 to 2.2 per day and CDNL would increase from 54 to 56 dB.</li> </ul>	<p>Implementation of the AFRC F-35A mission would result in adverse but not significant noise impacts at Homestead ARB. The USAF considered a number of different measures to mitigate noise impacts, but none of these measures were determined to be operationally feasible (Section 2.5).</p> <p><b>Installation:</b></p> <p><b>Affected by DNL of 65 dB or greater:</b></p> <p><i>Scenario A</i> Acres – 2,926 Estimated Population – 62</p> <p><i>Scenario B</i> Acres – 3,088 Estimated Population – 79</p> <p><i>Scenario C</i> Acres – 3,263 Estimated Population – 104</p> <p><b>Other items of note:</b></p> <ul style="list-style-type: none"> <li>All of the estimated population affected by DNL greater than 65 dB are located at the South Dade Center (S02).</li> <li>The highest SEL experienced at representative locations would remain the same or decrease under the AFRC F-35A mission except at the Biscayne Bay Visitor Center where it would increase by 4 dB from 88 to 92 dB.</li> <li>The DNL at Biscayne Bay National Park offshore would increase by 10 dB, 9 dB, and 8 dB under Scenarios A, B, and C, respectively.</li> <li>The DNL at Audubon Park would increase by 8 dB under all scenarios.</li> <li>The DNLs at other representative locations studied would increase by 1 to 4 dB under Scenarios A and B and by as much as 5 dB under Scenario C.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li><math>L_{dnmr}</math> would increase by as much as 6 dB beneath training airspace.</li> <li>The number of sonic booms would decrease and supersonic training would be conducted in areas currently authorized for supersonic activities.</li> <li><math>L_{dnmr}</math> in the Ocala National Forest would range from 48 to 56 dB.</li> </ul>	<p>Implementation of the AFRC F-35A mission would result in significant noise impacts at NAS Fort Worth JRB. The USAF considered a number of different measures to mitigate noise impacts, but none of these measures were determined to be operationally feasible (Section 2.5).</p> <p><b>Installation:</b></p> <p><b>Affected by DNL of 65 dB or greater:</b></p> <p><i>Scenario A</i> Acres – 2,350 Estimated Population – 8,593</p> <p><i>Scenario B</i> Acres – 2,369 Estimated Population – 8,622</p> <p><i>Scenario C</i> Acres – 2,386 Population – 8,648</p> <p><b>Other items of note:</b></p> <ul style="list-style-type: none"> <li>Under Scenario A, DNL at all 11 representative locations studied would exceed 65 dB. At 5 of the locations DNL would exceed 70 dB, and at 1 location DNL would exceed 75 dB.</li> <li>DNL under Scenarios B and C would be the same as under Scenario A except at White Settlement Library where it would increase under Scenarios B and C by 3 dB rather than 2 dB.</li> <li>DNL at Malaga Park and Luelle Merritt Elementary School would increase by 5 dB, to 71 and 67 dB, respectively.</li> <li>DNL at the other locations would increase 1 to 4 dB.</li> <li>The estimated number of residents exposed to outdoor 24-hour equivalent noise levels (<math>L_{eq24}</math>) &gt;80 dB would increase by 40 under Scenario A, 42 under Scenario B, and 44 under Scenario C. These individuals would be exposed to noise levels that are associated with an increased risk of measureable noise-induced hearing loss under certain circumstances.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li><math>L_{dnmr}</math> would remain at baseline levels or below 45 dB beneath the training airspace, with the exception of R-5601/R-5602 (Falcon Range). The <math>L_{dnmr}</math> at R-5601/R-5602 would increase from less than 45 dB to 49 dB.</li> <li>Supersonic training would continue to occur above the Brownwood MOAs and the number of sonic booms would average less than one per day.</li> </ul>	<p>Implementation of the AFRC F-35A mission would result in significant noise impacts at Whiteman AFB. The USAF considered a number of different measures to mitigate noise impacts, but none of these measures were determined to be operationally feasible (Section 2.5).</p> <p><b>Installation:</b></p> <p><b>Affected by DNL of 65 dB or greater:</b></p> <p><i>Scenario A</i> Acres – 2,421 Population – 2,226</p> <p><i>Scenario B</i> Acres – 2,517 Estimated Population – 2,507</p> <p><i>Scenario C</i> Acres – 2,620 Population – 2,804</p> <p><b>Other items of note:</b></p> <ul style="list-style-type: none"> <li>Under all scenarios, DNL at Knob Noster Elementary School would increase from 61 dB to 65 dB and DNL at Knob Noster High School would increase from 55 to 62 dB.</li> <li>The DNL at residential area 3 would increase from 57 to 66 dB under Scenarios A and B, and from 57 to 67 dB under Scenario C.</li> <li>At Residential Areas 1 and 2, DNL would increase to 69 dB and 73 dB, respectively under all scenarios.</li> <li>The DNL at Knob Noster State Park would increase from 48 dB to 54 dB under Scenario A and to 55 dB under Scenarios B and C.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li><math>L_{dnmr}</math> would remain at baseline levels beneath the training airspace, with the exception of R-4501 and the Cannon and Salem MOAs. <math>L_{dnmr}</math> below these areas would increase by up to 2 dB.</li> <li>Supersonic training is not authorized in the training airspace associated with this alternative and would not occur.</li> </ul>	<p>Under the No Action Alternative at Davis-Monthan AFB, Homestead ARB, NAS Fort Worth JRB and Whiteman AFB, existing aircraft operations would continue unchanged until retirement of the current aircraft. Construction associated with the AFRC F-35A beddown would not occur. Noise levels at each of the four installations would continue as described in this EIS under baseline conditions, and there would be no new F-35A-related noise impacts. At NAS Fort Worth JRB, Lockheed Martin would continue to build F-35 and other aircraft at the adjacent assembly facility and Lockheed Martin pilots would continue to conduct F-35 test flights for the new aircraft.</p>

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	<b>Davis-Monthan AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>Homestead ARB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>NAS Fort Worth JRB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>Whiteman AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>No Action</b>
<b>Air Quality</b>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Net emissions were determined to be insignificant in that they were less than the General Conformity applicability threshold for the maintenance criteria pollutant and the Prevention of Significant Deterioration threshold used as an indicator of significance for the area’s attainment criteria pollutants.</li> <li>Area is in attainment for all criteria pollutants but is a maintenance area for carbon monoxide (CO); the General Conformity applicability analysis determined the net direct and indirect emissions to be below the de minimis threshold for CO and the action may proceed without a conformity determination.</li> <li>Volatile organic compound (VOC), CO, nitrogen oxide (NO<sub>x</sub>), particulate matter less than or equal to 10 micrometers in diameter (PM<sub>10</sub>) and particulate matter less than or equal to 2.5 micrometers in diameter (PM<sub>2.5</sub>) emissions would be reduced and sulfur oxide (SO<sub>x</sub>) concentrations would increase slightly but not exceed the indicator threshold.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>Emissions in the training airspace would decrease.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Net emissions were determined to be insignificant in that they were less than the Prevention of Significant Deterioration threshold used as an indicator of significance for the area’s attainment criteria pollutants.</li> <li>Area is in attainment for all criteria pollutants.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>Emissions in the training airspace would decrease.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Net emissions were determined to be insignificant in that they were less than the General Conformity applicability thresholds for the nonattainment criteria pollutant precursors and the Prevention of Significant Deterioration threshold used as an indicator of significance for the area’s attainment criteria pollutants.</li> <li>Tarrant County is in moderate nonattainment of the 2008 ozone (O<sub>3</sub>) standard and in marginal nonattainment of the 2015 O<sub>3</sub> standard; the General Conformity applicability analysis determined the net direct and indirect emissions to be below the de minimis thresholds for O<sub>3</sub> precursor pollutants and the action may proceed without a conformity determination.</li> <li>VOC emissions would reduce with the new mission and all other pollutant emissions would increase but not exceed their respective indicator thresholds.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>Emissions in the training airspace would decrease.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Net emissions were determined to be insignificant in that they were less than the Prevention of Significant Deterioration threshold used as an indicator of significance for the area’s attainment criteria pollutants.</li> <li>Area is in attainment for all criteria pollutants.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>Emissions in the training airspace would decrease.</li> </ul>	<p>Under the No Action Alternative, baseline conditions at each installation would remain unchanged until retirement of the current aircraft. No F-35A-related construction emissions would occur, and operational emissions would be identical to the current baseline conditions. No additional F-35A-related impacts would occur.</p>
<b>Safety</b>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No specific aspect of the AFRC F-35A mission would create any unique or extraordinary safety issues.</li> <li>No unique construction practices or materials would be required as part of any of the demolition, renovation, or construction projects and would be completed in compliance with all applicable Occupational Safety and Health Administration (OSHA) regulations to protect workers.</li> <li>Emergency response and mishap plans, including fire and crash response plans (including aircraft containing composite material), would be updated and followed.</li> <li>Due to the current safety record of the F-35A, the increasing safety trend for single-engine fighter aircraft, and increases in safety as an airframe matures operationally, it is reasonable to expect nominal changes in flight-safety risk.</li> <li>No changes to existing Accident Potential Zones (APZs) or Clear Zones (CZs).</li> <li>Bird/Wildlife-Aircraft Strike Hazard (BASH) Plans and procedures would continue to be followed.</li> <li>No significant impacts to installation safety are anticipated.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>Compliance with fire management plans and mutual response agreements would continue.</li> <li>The frequency of flare use would remain the same or decrease and primarily be used above 15,000 feet MSL reducing the potential risk of accidental fires.</li> <li>Compliance with all flight safety procedures and requirements would minimize the chances for aircraft mishaps.</li> <li>BASH Plan and procedures would continue to be followed.</li> <li>No significant impacts to airspace safety are anticipated.</li> </ul>				<p>Under the No Action Alternative, baseline conditions at each installation would continue as they are today until retirement of the current aircraft. The number and types of operations would remain the same as those described under baseline conditions.</p>
<b>Soil and Water Resources</b>	<p>Implementation of the AFRC F-35A mission would not result in significant impacts to soil and water resources at any of the four bases.</p>				<p>Conditions at each installation would remain unchanged. None of the construction associated with the AFRC F-35A mission would occur and no F-35A-related impacts to soil and water resources would occur.</p>
	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Total disturbed area - approximately 15.2 acres, total new impervious area – 1.6 acres</li> <li>Most of the construction would occur in areas which have been previously disturbed.</li> <li>No changes to the existing aircraft deicing operations would occur.</li> </ul> <p><b>Airspace:</b> Not applicable.</p>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Total disturbed area - approximately 2.3 acres, total new impervious area - approximately 2 acres.</li> <li>Most construction would occur in disturbed areas.</li> </ul> <p><b>Airspace:</b> Not applicable.</p>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Total disturbed area - approximately 7.7 acres, total new impervious area – approximately 1.2 acres</li> <li>Most of the construction would occur in areas which have been previously disturbed.</li> <li>No changes to the existing aircraft deicing operations would occur.</li> </ul> <p><b>Airspace:</b> Not applicable.</p>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>Total disturbed area - approximately 2.9 acres, total new impervious area – reduction of approximately 0.4 acres</li> <li>Most of the construction would occur in areas which have been previously disturbed.</li> <li>No changes to the existing aircraft deicing operations would occur.</li> </ul> <p><b>Airspace:</b> Not applicable.</p>	

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	Davis-Monthan AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	Homestead ARB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	NAS Fort Worth JRB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	Whiteman AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	No Action
<b>Biological Resources</b>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>Construction and demolition (C&amp;D) projects would occur in developed and previously disturbed areas resulting in no significant impacts to vegetation.</li> <li>No federal- listed species are known to occur on Davis-Monthan AFB. The U.S. Fish and Wildlife Service (USFWS) indicated that no further Section 7 consultation is required (see Volume II, Appendix A, Section A.2.4.5).</li> <li>State-listed species known to occur at Davis-Monthan AFB include Gila monster (<i>Heloderma suspectum</i>), cactus ferruginous pygmy-owl (<i>Glaucidium brasilianum</i>), western burrowing owl, cave myotis (<i>Myotis velifer</i>), and western yellow bat (<i>Lasiurus xanthinus</i>); one state-protected species, the Saguaro cactus (<i>Carnegiea giganteus</i>), is known to occur at Davis-Monthan AFB. No impacts to federal- or state-listed species are anticipated.</li> <li>No significant impacts to wildlife are anticipated. Wildlife would adapt, acclimate, and habituate to the increase in noise from aircraft operations.</li> <li>C&amp;D projects would not occur in wetlands resulting in no impacts to wetlands.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>Ground disturbance would be limited to flare and munitions use which would be less than or the same as used by the current A-10 mission. No significant impacts to vegetation are anticipated.</li> <li>90 percent of F-35A operations would occur at elevations greater than 15,000 feet and 99 percent of operations would occur at elevations higher than 5,000 feet. No significant impacts to wildlife or protected species are anticipated.</li> <li>Supersonic operations would occur at the BMGR and above the Sells MOA at elevations typically greater than 30,000 feet MSL (~90 percent of time). The number of sonic booms would increase from 3.1 to 3.5 per day below the BMGR resulting in an increase of the CDNL from 56 to 57 dB. The number of sonic booms above the Sells MOA would increase from 2.1 to 2.2 per day but the CDNL would increase from 54 to 56 dB. No significant impacts to wildlife or protected species are anticipated.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>C&amp;D projects would occur in developed and previously disturbed areas resulting in no significant impacts to vegetation.</li> <li>10 federal- listed species are known to occur on Homestead ARB. USAF determined that the proposed action would have <i>No Effect</i> on the American alligator (<i>Alligator mississippiensis</i>), American crocodile (<i>Crocodylus acutus</i>), Eastern indigo snake (<i>Drymarchon corais couperi</i>), sand flax (<i>Polygala smallii</i>), Small's milkpea (<i>Galactia smallii</i>), and <i>May Effect</i> but is <i>Not Likely to Adversely Affect</i> the Everglade snail kite (<i>Rostrhamus sociabilis plumbeus</i>), rufa red knot (<i>Calidris canutus rufa</i>), Florida bonneted bat (<i>Eumops floridanus</i>), wood stork (<i>Mycteria americana</i>), and least tern (<i>Sterna antillarum</i>). Consultations with the USFWS are complete.</li> <li>No significant impacts to federal- or state-listed species are anticipated.</li> <li>No significant impacts to wildlife are anticipated. Animals would adapt, acclimate, and habituate to the increase in noise from aircraft operations.</li> <li>C&amp;D projects would not occur in wetlands resulting in no impacts to wetlands.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>2 percent decrease in aircraft operations.</li> <li>Ground disturbance would be limited to flare and munitions use which would be less than or the same as used by the current F-16 mission. No significant impacts to vegetation are anticipated.</li> <li>94 percent of F-35A operations would occur at elevations above 10,000 feet and 99 percent of operations would occur at elevations higher than 5,000 feet.</li> <li>Supersonic operations would occur only in areas currently authorized for supersonic activities. No significant impacts to wildlife or threatened and endangered species are anticipated.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>C&amp;D projects would occur in developed and previously disturbed areas resulting in no significant impacts to vegetation.</li> <li>No federal- or state-listed species are known to occur on NAS Fort Worth JRB. No impacts to federal- or state-listed species are anticipated. The USFWS indicated that no further Section 7 consultation is required (see Volume II, Appendix A, Section A.2.6.4).</li> <li>No significant impacts to wildlife are anticipated. Wildlife would adapt, acclimate, and habituate to the increase in noise from aircraft operations.</li> <li>C&amp;D projects would not occur in wetlands resulting in no impacts to wetlands.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>Ground disturbance would be limited to flare and munitions use which would be less than or the same as used by the current F-16 mission. No significant impacts to vegetation are anticipated.</li> <li>94 percent of F-35A operations would occur at elevations greater than 10,000 feet and 99 percent of operations would occur at elevations higher than 5,000 feet. No significant impacts to wildlife or threatened and endangered species are anticipated.</li> <li>Supersonic operations would continue to occur above the Brownwood MOAs at altitudes of 30,000 feet MSL or higher. No significant impacts to wildlife or threatened and endangered species are anticipated.</li> </ul>	<p><b>Installation:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>C&amp;D projects would occur in developed and previously disturbed areas resulting in no significant impacts to vegetation.</li> <li>No federal- or state-listed species are known to occur on Whiteman AFB and no trees would be cleared. No impacts to federal- or state-listed species are anticipated. The USFWS indicated that no further Section 7 consultation is required (see Volume II, Appendix A, Section A.2.7.4).</li> <li>No significant impacts to wildlife are anticipated. Wildlife would adapt, acclimate, and habituate to the increase in noise from aircraft operations.</li> <li>C&amp;D projects would not occur in wetlands resulting in no impacts to wetlands.</li> </ul> <p><b>Airspace:</b></p> <ul style="list-style-type: none"> <li>No significant impacts to biological resources or wetlands are anticipated.</li> <li>Ground disturbance would be limited to flare and munitions use which would be less than or the same as used by the current A-10 mission. No significant impacts to vegetation are anticipated.</li> <li>94 percent of F-35A operations would occur at elevations greater than 10,000 feet and 99 percent of operations would occur at elevations higher than 5,000 feet. No supersonic operations would occur. No significant impacts to wildlife or threatened and endangered species are anticipated.</li> </ul>	<p>Under the No Action Alternative, baseline conditions at each of the four bases and associated airspace would continue as they are today until retirement of the current aircraft. There would be no F-35A related changes to vegetation or wildlife habitat resulting in no impacts to biological resources.</p>

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	<b>Davis-Monthan AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>Homestead ARB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>NAS Fort Worth JRB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>Whiteman AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>No Action</b>
<b>Cultural Resources</b>	<p><b>Installation:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Airspace:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Consultations:</b> <b>Native American</b></p> <ul style="list-style-type: none"> <li>No adverse Section 106 impacts to tribal resources or traditional cultural properties are anticipated.</li> <li>Section 106 consultation with Native American tribes is complete. USAF will continue to coordinate with interested tribes throughout the EIS process.</li> </ul> <p><b>SHPO</b></p> <ul style="list-style-type: none"> <li>No National Register of Historic Places (NRHP)-eligible or listed resources affected.</li> <li>The Arizona State Historic Preservation Office (SHPO) concurred with the Area of Potential Effects (APE) and the USAF determination of no adverse effect (See Volume II, Appendix A, Section A.2.4.3).</li> </ul>	<p><b>Installation:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Airspace:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Consultations:</b> <b>Native American</b></p> <ul style="list-style-type: none"> <li>No adverse Section 106 impacts to tribal resources or traditional cultural properties are anticipated.</li> <li>Consultations with Native American tribes are ongoing.</li> </ul> <p><b>SHPO</b></p> <ul style="list-style-type: none"> <li>No NRHP-eligible or listed resources affected.</li> <li>The Florida SHPO concurred with the APE and the USAF determination of no adverse effect (see Volume II, Appendix A, Section A.2.5.3).</li> </ul>	<p><b>Installation:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Airspace:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Consultations:</b> <b>Native American</b></p> <ul style="list-style-type: none"> <li>No adverse Section 106 impacts to tribal resources or traditional cultural properties are anticipated.</li> <li>Section 106 consultation with Native American tribes is complete. The USAF will continue to coordinate with interested tribes throughout the EIS process.</li> </ul> <p><b>SHPO</b></p> <ul style="list-style-type: none"> <li>No NRHP-eligible or listed resources affected.</li> <li>The Texas SHPO concurred with the APE and the USAF determination of no adverse effect (See Volume II, Appendix A, Section A.2.6.3).</li> </ul>	<p><b>Installation:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Airspace:</b> No adverse impacts to cultural resources are anticipated.</p> <p><b>Consultations:</b> <b>Native American</b></p> <ul style="list-style-type: none"> <li>No adverse Section 106 impacts to tribal resources or traditional cultural properties are anticipated.</li> <li>Section 106 consultation with Native American tribes is complete. USAF will continue to coordinate with interested tribes throughout the EIS process.</li> </ul> <p><b>SHPO</b></p> <ul style="list-style-type: none"> <li>No NRHP-eligible or listed resources affected.</li> <li>The Missouri SHPO concurred with the APE and the USAF determination of no adverse effect (See Volume II, Appendix A, Section A.2.7.3).</li> </ul>	<p>Under the No Action Alternative, there would be no F-35A-related building renovation, demolition or construction at any of the four bases thus resulting in no changes to cultural resources. In addition, aircraft operations in the airspace would not change resulting in no changes to cultural resources under the airspace currently used by pilots from each of the four bases until retirement of the current aircraft. Implementation of the No Action Alternative would result in no effect to cultural resources and/or historic properties.</p>
	<p>Inadvertent discovery of archaeological resources is considered unlikely. An inadvertent discovery of previously unrecorded cultural resources would be managed in compliance with federal and state laws and USAF regulations.</p>				

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	Davis-Monthan AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	Homestead ARB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	NAS Fort Worth JRB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	Whiteman AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	No Action
Land Use and Recreation	<p><b>Installation:</b> No significant impacts to land use resources would result from the proposed on-base physical development.</p>				<p>Under the No Action Alternative, land use conditions at each installation would remain as they are today. No F-35A-related changes would occur to planning noise contours surrounding the installations and no F-35A-related land use changes would occur in the installation boundaries.</p>
	<p><b>Affected by day-night average sound level (DNL) of 65 decibels (dB) or greater:</b></p> <p><b>Scenario A</b> Total Acres – 1,566 Residential Acres – 91</p> <p><b>Scenario B</b> Total Acres – 1,679 Residential Acres – 85</p> <p><b>Scenario C</b> Total Acres – 1,762 Residential Acres – 79</p> <p>The AFRC F-35A mission would not expose any land or property outside of the AEZ to DNL of 65 dB or greater.</p> <p>None of the recreational facilities identified near the base would be exposed to a DNL of 65 dB or greater under any of the afterburner scenarios. However, as shown in Tables DM3-10, DM3-11, and DM3-13, the change in noise levels at some of the locations would be noticeable. Saguaro National Park would not be affected by DNL greater than 45 dBA.</p> <p><b>Airspace:</b> Six Special Use Land Management Areas (SULMAs) would experience an indiscernible 1 dB L<sub>dnmr</sub> increase above baseline. Sonic booms would occur in areas where they occur today and at an intensity comparable to what occurs today with an average of one more per day.</p> <p>The increase in the number of sorties in training airspace above some recreational areas would indiscernibly affect the noise level, but a slight increase (1 per day) in supersonic events could affect recreational users.</p>	<p><b>Affected by day-night average sound level (DNL) of 65 decibels (dB) or greater:</b></p> <p><b>Scenario A</b> Total Acres – 2,926 Residential Acres – 6</p> <p><b>Scenario B</b> Total Acres – 3,088 Residential Acres – 8</p> <p><b>Scenario C</b> Total Acres – 3,263 Residential Acres – 10</p> <p>All of the residential acres affected by DNL of 65 dB or greater are located at the South Dade Center (S02).</p> <p><b>Airspace:</b> A small portion of Biscayne National Park located offshore and northeast of the base would be exposed to a DNL increase of 10 dB (from 57 to 67 dB) from Scenario A.</p> <p>Average noise levels would increase below all of the training airspace proposed for use except the Palatka 1 MOAs. The Ocala National Forest is located below the Palatka MOA. However, the subsonic L<sub>dnmr</sub> would remain below 65 dB in all of these areas.</p>	<p><b>Affected by day-night average sound level (DNL) of 65 decibels (dB) or greater:</b></p> <p><b>Scenario A</b> Total Acres – 2,350 Residential Acres – 640</p> <p><b>Scenario B</b> Total Acres – 2,369 Residential Acres – 643</p> <p><b>Scenario C</b> Total Acres – 2,386 Residential Acres – 643</p> <p>Average noise levels at recreational facilities (local city/county parks) near the base would increase which could reduce the quality and enjoyment of outdoor activities.</p> <p><b>Airspace:</b> Wichita Mountains National Wildlife Refuge and Wilderness Area would experience a noticeable 4-dB increase, from less than 45 to 49 dB.</p> <p>Subsonic L<sub>dnmr</sub> at the Falcon Range on Fort Sill and areas below the R-5601/R-5062 would experience a noticeable 4-dB increase, from less than 45 to 49 dB.</p>	<p><b>Affected by day-night average sound level (DNL) of 65 decibels (dB) or greater:</b></p> <p><b>Scenario A</b> Total Acres – 2,421 Residential Acres – 307</p> <p><b>Scenario B</b> Total Acres – 2,517 Residential Acres – 354</p> <p><b>Scenario C</b> Total Acres – 2,620 Residential Acres – 405</p> <p>The Joint Land Use Study (JLUS) identifies these residential areas (except for the mobile home parks) as compatible, or generally compatible, with DNL from 65 dB to 75 dB when measures to achieve overall noise level reductions are included in the facility design and construction. Two mobile home parks would be impacted by increased noise from the AFRC F-35A mission. One park represented by point R02 is currently exposed to 68 dB DNL under baseline conditions. Implementation of Scenario A, B, or C would result in a DNL increase of 5 dB. A second mobile home park, represented by point R03, would be exposed to a DNL increase of 9 dB (66 dB) under all three afterburner scenarios.</p> <p><b>Airspace:</b> No recreational land would be exposed to DNL of 65 dB or greater.</p> <p>Average noise levels would increase by up to 2 dB below all of the training airspace proposed for use. However, the subsonic L<sub>dnmr</sub> would remain below 65 dB and none of the proposed airspace is approved for supersonic operations.</p>	

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

<b>Resource Area</b>	<b>Davis-Monthan AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft</b>	<b>Homestead ARB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft</b>	<b>NAS Fort Worth JRB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft</b>	<b>Whiteman AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft</b>	<b>No Action</b>
<b>Socioeconomics (all numbers are approximated)</b>	<p>Due to the increased noise, implementation of the AFRC F-35A mission would result in significant socioeconomic impacts.</p> <p><b>Installation<sup>a</sup>:</b> <i>Population</i> Decrease of 30 full-time mission personnel. Less than 0.01 percent decrease in the population of Pima County.</p> <p><b>Economic Activity</b> Construction activities would be temporary and provide limited economic benefit. Total construction costs of \$87.3 million could generate \$44.5 million in direct, indirect and induced income for the duration of the construction activity.</p> <p><b>Housing</b> The 30 outgoing full-time personnel would no longer require off-base housing. Properties exposed to DNL of 65 dB or greater which have not changed ownership since 2004 could experience a noise discount on property values.</p> <p><b>Education</b> Approximately 30 military and non-military dependents of school age would no longer attend schools in Pima County. This decrease in students would not be noticed in the dynamic Pima County Schools System. Griffin Foundation Schools would be exposed to DNL of 65 dB or greater which could interfere with learning. The number of schools and students impacted by increased noise would constitute a significant impact.</p> <p><b>Public Services</b> No measurable effect to public services would be anticipated.</p> <p><b>Base Services</b> No measurable effect to base services would be anticipated.</p> <p><b>Airspace:</b> Not applicable.</p>	<p><b>Installation<sup>a</sup>:</b> <i>Population</i> Decrease of 91 full-time mission personnel. Less than 0.01 percent decrease in the population of Miami-Dade County.</p> <p><b>Economic Activity</b> Construction activities would be temporary and provide limited economic benefit. Total construction costs of \$18.6 million could generate \$9.8 million in direct, indirect and induced income for the duration of the construction activity.</p> <p><b>Housing</b> Military housing is not available at Homestead ARB. The 91 outgoing full-time personnel would no longer require off-base housing.</p> <p><b>Education</b> Approximately 89 military and non-military dependents of school age would no longer attend the Miami-Dade Public School (M-DCPS) district. The M-DCPS district schools would not be adversely impacted by the reduction in enrollment. No off-base schools would be exposed to a DNL of 65 dB or greater.</p> <p><b>Public Services</b> No measurable effect to public services would be anticipated.</p> <p><b>Base Services</b> No measurable effect to base services would be anticipated.</p> <p><b>Airspace:</b> Not applicable.</p>	<p><b>Installation<sup>a</sup>:</b> <i>Population</i> Decrease of 102 full-time mission personnel. Less than 0.1 percent decrease in the population of Tarrant County.</p> <p><b>Economic Activity</b> Construction activities would be temporary and provide limited economic benefit. Total construction costs of \$21.7 million could generate \$11.4 million in direct, indirect and induced income for the duration of the construction activity.</p> <p><b>Housing</b> The 102 outgoing full-time personnel would no longer require off-base housing.</p> <p><b>Education</b> Approximately 100 military and non-military dependents of school age would no longer attend schools in Tarrant County. Tarrant County schools would not be noticeably affected. Six off-base schools are currently exposed to DNL of 65 dB or greater and three additional schools would be exposed to a DNL of 65 dB or greater. One school currently exposed to a DNL of 65 dB or greater would be exposed to a DNL of 70 dB or greater. The number of schools and students exposed to increased noise would constitute an adverse impact.</p> <p><b>Public Services</b> No measurable effect to public services would be anticipated.</p> <p><b>Base Services</b> No measurable effect to base services would be anticipated.</p> <p><b>Airspace:</b> Not applicable.</p>	<p><b>Installation<sup>a</sup>:</b> <i>Population</i> 11 additional full-time mission personnel. Less than 0.1 percent increase in the population of Johnson County.</p> <p><b>Economic Activity</b> Construction activities would be temporary and provide limited economic benefit. Total construction costs of \$32.5 million could generate \$8.0 million in direct, indirect and induced income for the duration of the construction activity.</p> <p><b>Housing</b> Assuming all 11 incoming full-time military personnel associated with the AFRC F-35A mission would require off-base housing, the housing market in the Region of Influence (ROI) would be anticipated to support the change in personnel.</p> <p><b>Education</b> Approximately 11 military and non-military dependents of school age would enter public school districts in the ROI. Johnson County schools would not be noticeably affected. One off-base childcare facility and one off-base school would be newly exposed to DNL of 65 dB or greater. Educational services are identified in the JLUS as a generally compatible use with sound attenuation measures within the 65 to 70 dB DNL contour.</p> <p><b>Public Services</b> No measurable effect to public services would be anticipated.</p> <p><b>Base Services</b> No measurable effect to base services would be anticipated.</p> <p><b>Airspace:</b> Not applicable.</p>	<p>Under the No Action Alternative, socioeconomic conditions would remain as they are today. No new F-35A-related personnel increases or decreases would occur at any of the installations and no F-35A-related construction would occur.</p>

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	Davis-Monthan AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	Homestead ARB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	NAS Fort Worth JRB 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	Whiteman AFB 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	No Action
<p><b>Environmental Justice and Other Sensitive Receptors</b></p>	<p>Implementation of the AFRC F-35A mission would result in disproportionate impacts to minority and low income populations.</p> <p><b>Installation:</b></p> <p><b>Scenario A</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in 6 of the 9 census block groups (ROIs) affected by the increased noise (DNL of 65 dB or greater)</li> <li>Disproportionate impact to low-income populations would occur in 3 of the 9 ROIs affected by the increased noise (DNL of 65 dB or greater).</li> <li>Implementation of Scenario A would expose an additional estimated 281 children and 223 elderly persons to DNL of 65 dB or greater.</li> </ul> <p><b>Scenario B</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in 6 of the 9 ROIs affected by the increased noise (DNL of 65 dB or greater)</li> <li>Disproportionate impact to low-income populations would occur in 3 of the 9 ROIs affected by the increased noise (DNL of 65 dB or greater).</li> <li>Implementation of Scenario B would expose an additional estimated 269 children and 206 elderly persons to DNL of 65 dB or greater.</li> </ul> <p><b>Scenario C</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in 6 of the 9 ROIs affected by the increased noise (DNL of 65 dB or greater)</li> <li>Disproportionate impact to low-income populations would occur in 3 of the 9 ROIs affected by the increased noise (DNL of 65 dB or greater).</li> <li>Implementation of Scenario C would expose an additional estimated 258 children and 194 elderly persons to DNL of 65 dB or greater.</li> </ul>	<p>Implementation of the AFRC F-35A mission would result in disproportionate impacts to minority and low income populations.</p> <p><b>Installation:</b></p> <p><b>Scenario A</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in the 1 ROI affected by affected by the increased noise (DNL of 65 dB or greater)</li> <li>Disproportionate impact to low-income populations would impact 1 ROI affected by the increased noise (DNL of 65 dB or greater)</li> <li>Implementation of Scenario A would expose an additional estimated 22 children and 3 elderly persons to DNL of 65 dB or greater.</li> </ul> <p><b>Scenario B</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in the 1 ROI affected by affected by the increased noise (DNL of 65 dB or greater)</li> <li>Disproportionate impact to low-income populations would impact 1 ROI affected by the increased noise (DNL of 65 dB or greater)</li> <li>Implementation of Scenario B would expose an additional estimated 28 children and 4 elderly persons to DNL of 65 dB or greater.</li> </ul> <p><b>Scenario C</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in the 1 ROI affected by affected by the increased noise (DNL of 65 dB or greater)</li> <li>Disproportionate impact to low-income populations would impact 1 ROI affected by the increased noise (DNL of 65 dB or greater)</li> <li>Implementation of Scenario C would expose an additional estimated 37 children and 5 elderly persons to DNL of 65 dB or greater.</li> </ul>	<p>Existing disproportionate impacts to minority populations in 13 ROIs and to low income populations in 8 ROIs. Implementation of the AFRC F-35A mission would result in disproportionate impacts to minority populations and low income populations.</p> <p><b>Installation:</b></p> <p><b>Scenario A</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in 17 ROIs that would be newly exposed to DNL of 65 dB or greater.</li> <li>Disproportionate impact to low-income populations would occur in 10 ROIs that would be newly exposed to DNL of 65 dB or greater.</li> <li>Implementation of the Scenario A would expose an additional estimated 2,188 children and 1,126 elderly persons to DNL of 65 dB or greater.</li> </ul> <p><b>Scenario B</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in 17 ROIs that would be newly exposed to DNL of 65 dB or greater.</li> <li>Disproportionate impact to low-income populations would occur in 10 ROIs that would be newly exposed to DNL of 65 dB or greater.</li> <li>Implementation of Scenario B would expose an additional estimated 2,192 children and 1,129 elderly persons to DNL of 65 dB or greater.</li> </ul> <p><b>Scenario C</b></p> <ul style="list-style-type: none"> <li>Disproportionate impact to minority populations would occur in 17 ROIs that would be newly exposed to DNL of 65 dB or greater.</li> <li>Disproportionate impact to low-income populations would occur in 10 ROIs that would be newly exposed to DNL of 65 dB or greater.</li> <li>Implementation of Scenario C would expose an additional estimated 2,200 children and 1,129 elderly persons to DNL of 65 dB or greater.</li> </ul>	<p>The analysis of EJ populations at Whiteman AFB identified 3 ROIs with disproportionately high minority populations and 1 ROI with disproportionately high low-income populations. These populations are currently impacted by DNL of 65dB or greater and would continue to be impacted by DNL of 65dB or greater under all three afterburner scenarios. Therefore, implementation of the AFRC F-35A mission would not result in disproportionate impacts to minority or low-income populations.</p> <p><b>Installation:</b></p> <p><b>Scenario A</b></p> <p>Implementation of the new mission would expose an additional estimated 669 children and 196 elderly persons to DNL of 65 dB or greater.</p> <p><b>Scenario B</b></p> <p>Implementation of the new mission would expose an additional estimated 764 children and 194 elderly persons to DNL of 65 dB or greater.</p> <p><b>Scenario C</b></p> <p>Implementation of the new mission would expose an additional estimated 863 children and 207 elderly persons to DNL of 65 dB or greater.</p>	<p>Under the No Action Alternative, baseline conditions at Davis-Monthan AFB, Homestead ARB, NAS Fort Worth JRB and Whiteman AFB would remain as described in Sections DM3.10.1, HS3.10.1, FW3.10.1 and WM3.10.1.</p> <p>Disproportionate impacts to minority and low income populations would continue to occur under baseline conditions at NAS Fort Worth JRB and Whiteman AFB and children and elderly persons would continue to be exposed to DNL of 65 dB or greater at both of these installations.</p>

**Table ES-2. Comparative Summary of Environmental Consequences (Continued)**

Resource Area	<b>Davis-Monthan AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>Homestead ARB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>NAS Fort Worth JRB</b> 24 F-35A aircraft (+2 BAI) Replace 24 F-16 aircraft	<b>Whiteman AFB</b> 24 F-35A aircraft (+2 BAI) Replace 24 A-10 aircraft	<b>No Action</b>
<b>Infrastructure</b>	<p><b>Installation:</b> Implementation of the proposed AFRC F-35A mission is not anticipated to result in significant impacts to infrastructure systems (e.g., potable water, wastewater, stormwater, electrical, natural gas, solid waste management, and transportation).</p> <p><b>Airspace:</b> Not applicable.</p>				<p>Under the No Action Alternative, baseline conditions at each installation would continue as they are today until retirement of the current aircraft. No new F-35A-related construction would occur and no new F-35A-related personnel would arrive or decrease at any of the installations. No additional impacts to the infrastructure system at any of the installations would occur.</p>
<b>Hazardous Materials and Waste</b>	<p><b>Installation:</b> Implementation of the proposed AFRC F-35A mission is not anticipated to result in significant impacts to hazardous materials and waste management.</p> <ul style="list-style-type: none"> <li>• Quantities and types of hazardous materials needed for maintenance would be less than those currently generated by maintaining A-10 and F-16 aircraft.</li> <li>• Operations and maintenance involving hydrazine, cadmium, and hexavalent chromium primer, and various heavy metals have been eliminated or greatly reduced for the F-35A.</li> <li>• The proposed demolition and renovation projects would be reviewed for asbestos-containing material (ACM) and lead-based paint (LBP) according to established procedures. If present or located, all remediation and disposal would be performed according to USAF policies and procedures and in compliance federal, state, and local regulations.</li> <li>• The proposed construction, demolition, and renovation projects and operations are not expected to affect known Environmental Restoration Program (ERP) locations.</li> </ul> <p><b>Airspace:</b> Not applicable.</p>				<p>Under the No Action Alternative, conditions at each installation would remain as they are today until retirement of the current aircraft. Each installation would continue to use hazardous materials and dispose of hazardous waste as described for each installation's baseline conditions.</p>

<sup>a</sup> For purposes of the EIS analysis a change in personnel assumes those personnel will leave the area. It is possible that these personnel could remain in the area and associated changes in population, housing, and education would not occur. Impacts for such a small change in personnel would be negligible.  
 Note: "Installation" includes the base and the area surrounding the base.

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