

**FINAL  
ENVIRONMENTAL ASSESSMENT  
AND FINAL FINDING OF NO SIGNIFICANT IMPACT /  
FINAL FINDING OF NO PRACTICABLE ALTERNATIVE**

**FOR  
ESTABLISHING A COMBINED ARMS LIVE FIRE EXERCISE  
FACILITY**

**AT  
FORT STEWART, GEORGIA**



**JULY 2016**

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**FINAL FINDING OF NO SIGNIFICANT IMPACT AND  
FINAL FINDING OF NO PRACTICABLE ALTERNATIVE  
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FORT STEWART, GEORGIA**

**1.0 INTRODUCTION**

Fort Stewart plays a pivotal role in supporting the United States Department of the Army's (Army's) overarching mission. As the 3<sup>rd</sup> Infantry Division and the home to numerous deployable units, Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. With this in mind, Fort Stewart strives to maintain its well-developed range and training land infrastructure that supports numerous tank and small arms ranges, aerial gunnery training, maneuver training, and individual and team collective tasks.

**2.0 PURPOSE AND NEED**

While Fort Stewart has land and range infrastructure appropriate for standardized Army qualification and maneuver training, it does not have a range capable of supporting an area to conduct a Combined Arms Live Fire Exercise (CALFEX). A CALFEX facility is unlike a typical Army range on Fort Stewart which focuses on weapon systems qualification. Instead, a CALFEX facility offers an area to combine all aspects of conducting an attack, movement, air assault, and breaching operations through a series of mounted and dismounted maneuvers at a Company or Platoon level to stop a simulated enemy force. This includes shooting, moving, and communicating together in a unified manner. Altogether, a CALFEX facility allows for embedded fire support elements with maneuver forces to adjust high explosive and dud producing indirect fires while assaulting objective targets which is necessary to support realistic training at the Company and Platoon level.

**3.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

The Army conducted a screening criteria analysis to qualify the feasibility of a given alternative to how well it meets or does not meet the purpose and need of the proposed action. The screening process is discussed in Environmental Assessment (EA) Section 2.2. The proposed action, No Action Alternative, and feasible action alternatives are described below.

**Proposed Action.** The Army proposes to establish a CALFEX facility at Fort Stewart. A CALFEX facility is a non-standard Army range and the layout to establish one is site dependent. The components necessary to create a CALFEX facility include a helicopter landing zone (approximately 9.5 acres), maneuver space with small arms targets (at least 130 acres), the ability for the observation of fires from close combat attack and indirect fire from the maneuver element to include smoke and high explosive munitions, one Platoon objective area with bunkers and obstacles (approximately 1.5 acres), one

Company objective area with trenches and bunkers (approximately 20 acres), vehicle platforms for fire and maneuver for armored military fighting vehicles, standalone shock absorbing concrete structures that allows the employment of high explosive grenades, and visibility to an artillery impact area of 750 meters (or 2,250 feet).

The helicopter landing zone and Platoon and Company objectives must be clear of all trees / vegetation. Ability for line-of-sight must also exist to meet the 750 meter visibility requirement. Therefore, depending on the location, land disturbance including timber / vegetation removal, grubbing and grading activities, and timber thinning will be necessary to establish the CALFEX facility. Prior to the start of site disturbing activities, the Army will conduct a ground surface unexploded ordnance (UXO) survey to determine if munitions of explosive concern exist. In areas of trench construction, a UXO subsurface survey will also be conducted. Munitions of explosive concern will be removed upon UXO survey completion. In the event UXO is discovered during the actual construction, the Army's explosive ordnance disposal detachment has the responsibility to safely remove or blow in place the UXO.

Because there are competing requirements for use of training land, a range scheduling process is managed by the Installation's Range Control Office for safety reasons. All military unit training, natural resource management, and range maintenance personnel will utilize this process to schedule associated requirements. This means military units must schedule time with the Installation Range Control Office to train on the CALFEX facility and natural resource management personnel must also use the same process to perform surveys during times of range inactivity. Maintenance of the range (mowing and general repairs) will also be scheduled through this established process.

The CALFEX facility will be maintained for target line-of-sight by controlling vegetation on an as-needed basis through mowing, prescribed burning, and herbicide treatment. After each scheduled military use of the facility, a UXO survey will be necessary to render the area safe by eliminating any dud-producing explosives in the footprint.

**Alternative I: No Action/Status Quo.** The Council on Environmental Quality (CEQ) regulations that implement NEPA require a clear basis for choice among options by the decision maker and the public, and a no action alternative must be included and analyzed (40 CFR 1502.14[d]). Under the No Action Alternative, the Army will not establish a CALFEX facility.

**Alternative II: B-13 (Preferred).** This alternative is located in an area that has not been disturbed through construction but is within surface danger zones (SDZs) of existing large-caliber ranges from the Red Cloud Range Complex. The SDZ area serves as a safety buffer for use of specified munitions, although the majority of the rounds land in the range floor. The probability of a hazardous fragment escaping the SDZ boundary is approximately equal to one in one million. As such, the site is generally an undisturbed pine forest with heavy underbrush but is relatively flat and can support a developable footprint with line-of-sight to the artillery impact area. The footprint will require complete tree removal and grubbing and grading activities of approximately 30 acres to establish the helicopter landing zone, Platoon objective, and the Company objective. Existing tank trails south of the artillery impact area buffer will be utilized for engaging small arms targets during maneuver to the Platoon and Company objectives, although tree removal will not be necessary in the maneuver area. The maneuver area consists of approximately 615 acres and starts from the helicopter landing zone to the objective areas to within the 750 meter buffer visible of the artillery impact area.

**Alternative III: Luzon.** The Luzon alternative is an existing large-caliber range that contains an existing opening from the baseline to an established duded impact area. As with Alternative II, SDZs overlap Luzon but contains interspersed mature pine trees beyond the open area. Two existing cleared engagement boxes associated with the convoy live fire route will be utilized to establish the Platoon objective and the Company objective. The helicopter landing zone will be established at the baseline of Luzon, an existing open area. Tree removal will not be necessary to create the maneuver area which will total approximately 2,200 acres. Considering the 750 meter buffer to the Luzon impact area is accessible from three sides, the maneuver area is larger than what is available under Alternative II. This also allows for placement of additional ancillary training infrastructure in the maneuver area to include 5 support by fire structures, 2 breach facilities, and one trench. Tree removal to place infrastructure in the maneuver area is not expected given the very small footprint for each. Existing tank trails will be utilized as maneuver routes for engaging small arms targets as units travel to the Platoon and Company objectives. Timber thinning of approximately 500 acres will be necessary within the 750 meter boundary for line-of-sight to observe high explosive impact.

#### 4.0 ENVIRONMENTAL ANALYSIS

Chapter 3.0 of the EA provides a description of the existing environmental conditions at and surrounding the alternatives under consideration. Chapter 3.0 also provides information that serves as a baseline from which to identify and evaluate any individual or cumulative environmental and socioeconomic impacts likely to result from the implementation of the action alternatives. The region of influence of the action alternatives, and therefore of the EA, varies by specific environmental resource but it is primarily contained within Fort Stewart boundaries and surrounding, immediately adjacent lands.

The EA analyzed potential environmental impacts of the alternatives on Water Resources and Biological Resources. Resources whose impacts resulted in no effect are summarized in Appendix B. Table 1 summarizes the findings of Chapter 3.0, including cumulative impacts. Potential environmental impacts, including direct, indirect, and cumulative effects, were analyzed, as appropriate.

Type of Impact	Alternative I (No Action)	Alternative II, Preferred (B-13)	Alternative III (Luzon)
<b>Water Resources</b>			
Direct / Indirect	None	Minor	Minor
Cumulative	None	Minor	Minor
<b>Biological Resources</b>			
Direct / Indirect	None	Minor	Moderate
Cumulative	None	Minor	Moderate

**Table 1. Summary of Environmental Impacts**

#### 5.0 MITIGATION AND MONITORING MEASURES

Implementation of the preferred alternative (Alternative II) will require environmental mitigation and monitoring measures as described in detail in EA Chapter 3.0 and summarized below:

**Water Resources.** Fort Stewart will comply with Georgia erosion and sedimentation control regulations by preparing an erosion and sedimentation pollution control plan which will entail low impact

development features to meet the same or better pre-construction runoff flow rates as expected under Section 438 of the Energy Independence and Security Act and the Coastal Stormwater Supplement.

Impacts to wetlands and water quality will be minimized through the use of standard construction best management practices (BMPs) for minimizing soil erosion and any other potential contamination from site disturbing activities. Stormwater will be managed through the design and implementation of standard stormwater engineering controls, such as low impact development and maintaining natural drainage patterns. All required stormwater protection measures, BMPs, and minimization efforts will be undertaken to limit impacts from runoff.

Alternative II is in part located within the 100-year floodplain of the Canoochee River watershed. The Army will take all practicable measures to minimize potential harm to or within the floodplain and wetlands as described above. The effect of the proposed development will not create an obstruction to the floodplain, increase the water surface elevation of the base flood, or increase the flood heights or velocities associated with the Canoochee River.

**Biological Resources.** The Army consulted informally with the U.S. Fish and Wildlife Service (USFWS) on the Installation's preferred alternative (Alternative II). Fort Stewart concluded in its biological assessment that the proposed action is not likely to adversely affect the red-cockaded woodpecker or eastern indigo snake, nor any other threatened or endangered species occurring on the Installation. Concurrence from the USFWS was issued on June 7, 2016 (available in the EA Appendix C).

Merchantable timber will be harvested by the Government. Non-merchantable timber disposal is the responsibility of the engineer unit and cannot be sold. If determined appropriate by the Government, the engineer unit may use non-merchantable timber as on-site erosion and sedimentation control features.

## **6.0 PUBLIC REVIEW AND COMMENTS**

The *Draft EA; Draft Finding of No Significant Impact; and Draft Finding of No Practicable Alternative for Establishing a Combined Arms Live Fire Exercise Facility at Fort Stewart, Georgia* were made available for a 30-day public review period (June 13 – July 12, 2016) at the local public libraries in Hinesville and Savannah. A notice of availability (NOA) of the draft documents were made known to the public via publication of an NOA in the *Savannah Morning News*, *Coastal Courier*, and *The Frontline* in the Savannah/Fort Stewart area (June 2016). Notification of the Draft EA and Draft Findings were also mailed to the regulatory community and joint land use partners with whom the Installation consults (June 2016). There were no negative public or regulatory comments received during the public review period.

## **7.0 FINDINGS**

### **7.1 FINDING OF NO PRACTICABLE ALTERNATIVE**

Executive Order 11988, *Floodplain Management*, provides that if a Federal Government agency proposes to conduct an activity in a floodplain, it will consider alternatives to the action and modify its actions, to the extent feasible, to avoid adverse effects or potential harm. Alternatives have been considered to avoid and minimize impacts on floodplains. The Army considered all reasonable site alternatives to establish the CALFEX facility on Fort Stewart. As the action alternatives are within or in close proximity to the Canoochee River floodplain, other than the No-Action Alternative, no practicable alternative exists

to entirely avoid the floodplain because no alternative sites are available that could perform the same function given the location of the activity and the geography. State and federal permitting, BMPs, and potential conservation measures will be used to minimize impacts (described in Section 5.0, Mitigation Measures). Based on my review of the facts and analyses contained in the attached EA and in accordance with Executive Order 11988, I find that there is no practicable alternative to implementing the Preferred Alternative (Alternative II) within the 100-year floodplain and the Proposed Action includes all practicable measures to minimize and mitigate impacts to floodplains.

## 7.2 FINDING OF NO SIGNIFICANT IMPACT

In accordance with the Council of Environmental Quality regulations, 40 CFR 1500-1508, implementing the National Environmental Policy Act of 1969, as amended, and Environmental Analysis of Army Actions; Final Rule, 32 CFR 651, based on the environmental analysis included in the Final EA for establishing a CALFEX facility on Fort Stewart, Georgia. I conclude that the Preferred Alternative (Alternative II) will have no significant or potential significant environmental impacts; thus, an Environmental Impact Statement is not warranted.



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Townley R. Hedrick  
Colonel, U.S. Army  
Commanding

14 Sep 16  
Date

In compliance with the National Environmental Policy Act of 1969

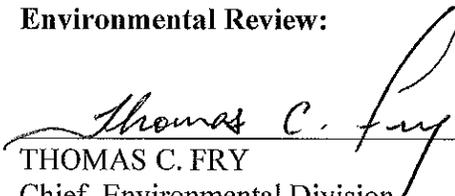
FINAL ENVIRONMENTAL ASSESSMENT

FOR

ESTABLISHING A COMBINED ARMS LIVE FIRE EXERCISE FACILITY

AT FORT STEWART, GEORGIA

Environmental Review:

  
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THOMAS C. FRY  
Chief, Environmental Division  
Directorate of Public Works

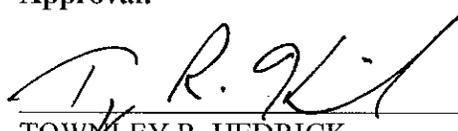
Date: 07/13/2016

Reviewed by:

  
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ROBERT R. BAUMGARDT  
Director, Public Works

Date: 2016-07-13

Approval:

  
\_\_\_\_\_  
TOWNLEY R. HEDRICK  
Colonel, U.S. Army  
Commanding

Date: 14 Jul 16

## **1.0 INTRODUCTION**

This EA will analyze the potential environmental impacts associated with establishing a Combined Arms Live Fire Exercise (CALFEX) facility at Fort Stewart and was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] Section 4321 *et seq.*); the Council on Environmental Quality (CEQ) regulations that implement NEPA (Title 40 Code of Federal Regulations [CFR], Parts 1500 to 1508); and Army Regulation 200-2, *Environmental Effects of Army Actions*, as promulgated in 32 CFR 651.

### **1.1 INSTALLATION BACKGROUND**

Fort Stewart, Georgia (FSGA) is the largest Army Installation east of the Mississippi River, covering approximately 280,000 acres in parts of Liberty, Long, Bryan, Evans, and Tattnall counties (Figure 1). The Installation is approximately 39 miles across from east to west and approximately 19 miles from north to south. Fort Stewart was established in 1940 to train Soldiers inducted into the General Infantry by Regular Army in anticipation of the United States entering World War II. The Army named the new Post, Camp Stewart, in honor of Daniel Stewart, a local Revolutionary War veteran and state political leader who rose to the rank of Brigadier General in the Georgia Militia. After World War II ended, the Army deactivated Camp Stewart, but reopened it four years later during the early stages of the Korean Conflict.

In 1953, the Army authorized construction of tank unit firing ranges and maneuver areas. The following year, the Post was renamed Camp Stewart Anti-Aircraft Artillery and Tank Training Center. The Army decided that Camp Stewart will play an integral role in training that force, and in 1956, the Post became a permanent Army Installation and was renamed Fort Stewart. With the activation of the 1<sup>st</sup> Brigade, 24<sup>th</sup> Infantry Division in 1974, the Post entered a new era. In June 1996, the 24<sup>th</sup> Infantry Division was reflagged the 3<sup>rd</sup> Infantry Division (Mechanized), also known as the Marne Division or “Rock of the Marne.” Today, Fort Stewart and Hunter Army Airfield are the home of the 3<sup>rd</sup> Infantry Division and are the Army’s Premier Power Projecting Platform on the Atlantic Coast. Major units of the 3<sup>rd</sup> Infantry Division include one Armored Brigade Combat Team, one Infantry Brigade Combat Team, a Sustainment Brigade, a Combat Aviation Brigade, and a Division Artillery. The primary mission of Fort Stewart is to provide the support necessary for Soldiers to meet Army national security objectives.

Fort Stewart has a well-developed range and training land infrastructure that supports Abrams Tank, Bradley Fighting Vehicle, aerial gunnery, artillery live-fire training, other assorted live-fire training, maneuver training, individual, and team and collective tasks. Fort Stewart’s training land configuration allows for concurrent live-fire and maneuver training in separate sections of the Installation, each not interfering with each other.

The military aviation, maneuver, and training activities at Fort Stewart use 190,700 acres of training and range area or approximately 68 percent of the total Installation land area. The training areas and the firing ranges are used extensively through the year by Soldiers assigned to Fort Stewart as well as active Army units from other Installations and U.S. Army Reserve, National Guard, and U.S. Air Force units. Range

Support Operations estimates about 200,000 Soldiers annually use these range facilities at Fort Stewart for mounted and dismounted individual weapons and crew qualifications.

## **1.2 PURPOSE AND NEED**

While Fort Stewart has land and range infrastructure appropriate for standardized Army qualification and maneuver training, it does not have a range capable of supporting an area to conduct a CALFEX. A CALFEX facility is unlike a typical Army range on Fort Stewart which focuses on weapon systems qualification. Instead, a CALFEX facility offers an area to combine all aspects of conducting an attack, movement, air assault, and breaching operations through a series of mounted and dismounted maneuvers at a Company or Platoon level to stop a simulated enemy force. This includes shooting, moving, and communicating together in a unified manner. Altogether, a CALFEX facility allows for embedded fire support elements with maneuver forces to adjust high explosive and dud producing indirect fires while assaulting objective targets which is necessary to support realistic training at the Company and Platoon level.



**Figure 1. Location of Fort Stewart.**

## **2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

This chapter will describe the proposed action and the components necessary to establish a CALFEX facility on Fort Stewart. A discussion of the feasibility of CALFEX facility alternatives considered is also provided. Additionally, CALFEX facility alternatives carried forward for environmental impact analysis are described.

### **2.1 PROPOSED ACTION**

The Army proposes to establish a CALFEX facility at Fort Stewart. A CALFEX facility is a non-standard Army range and the layout to establish one is site dependent. The components necessary to create a CALFEX facility include a helicopter landing zone (approximately 9.5 acres), maneuver space with small arms targets (at least 130 acres), the ability for the observation of fires from close combat attack and indirect fire from the maneuver element to include smoke and high explosive munitions, one Platoon objective area with bunkers and obstacles (approximately 1.5 acres), one Company objective area with trenches and bunkers (approximately 20 acres), vehicle platforms for fire and maneuver for armored military fighting vehicles, standalone shock absorbing concrete structures that allows the employment of high explosive grenades, and visibility to an artillery impact area of 750 meters (or 2,250 feet).

The helicopter landing zone and Platoon and Company objectives must be clear of all trees / vegetation. Ability for line-of-sight must also exist to meet the 750 meter visibility requirement. Therefore, depending on the location, land disturbance including timber / vegetation removal, grubbing and grading activities, and timber thinning will be necessary to establish the CALFEX facility. Prior to the start of site disturbing activities, the Army will conduct a ground surface unexploded ordnance (UXO) survey to determine if munitions of explosive concern exist. In areas of trench construction, a UXO subsurface survey will also be conducted. Munitions of explosive concern will be removed upon UXO survey completion. In the event UXO is discovered during the actual construction, the Army's explosive ordnance disposal detachment has the responsibility to safely remove or detonate in place the UXO.

Because there are competing requirements for use of training land, a range scheduling process is managed by the Installation's Range Control Office for safety reasons. All military unit training, natural resource management, and range maintenance personnel will utilize this process to schedule associated requirements. This means military units must schedule time with the Installation Range Control Office to train on the CALFEX facility and natural resource management personnel must also use the same process to perform surveys during times of range inactivity. Maintenance of the range (mowing and general repairs) will also be scheduled through this established process.

The CALFEX facility will be maintained for target line-of-sight by controlling vegetation on an as-needed basis through mowing, prescribed burning, and herbicide treatment. After each scheduled military use of the facility, a UXO survey will be necessary to render the area safe by eliminating any dud-producing explosives in the footprint.

## 2.2 SCREENING CRITERIA

A comparison of potential proposed action alternatives was conducted through an operational and environmental framework intended to determine the feasibility of a given alternative. The feasibility of a given alternative is based on its likelihood in meeting the purpose and need of the proposed action. In order to do this, the Army established the minimum criteria necessary to satisfy the purpose and need of the proposed action. Therefore, if the alternative does not adequately meet the screening criteria, with the exception of the No Action / Status Quo alternative, then it is not evaluated in this EA. If the alternative does meet the established screening criteria, then it is carried forward for environmental impact analysis in this EA. Table 1 identifies each potential action alternative and compares it to the feasibility screening criteria. Based on these findings, the following alternatives are evaluated in this EA: No Action / Status Quo, B-13, and Luzon.

<b>SCREENING CRITERIA:</b>		
<ol style="list-style-type: none"> <li>1. Does the alternative support at least 350 meters X 1,500 meters (or 130 acres) for mounted and dismounted maneuver space behind the firing line and 750 meters (or 2,250 feet) of visibility to an existing artillery impact area?</li> <li>2. Does the alternative support high explosive ammunition use and recovery?</li> <li>3. Does the alternative support observation / echelonment of high explosive fires and smoke?</li> <li>4. Does the alternative support Platoon (1.5 acres) and Company (20 acres) objectives to include the placement of bunkers and trenches?</li> <li>5. Does the alternative support a helicopter landing zone (9.5 acres)?</li> <li>6. Does the alternative avoid or minimize adverse environmental impacts or allow for acceptable mitigation?</li> </ol>		
<b>POTENTIAL ACTION ALTERNATIVE</b>	<b>ALTERNATIVE FEASIBLE (Y/N)?</b>	<b>FINDINGS</b>
<b>B-13 (Figure 2)</b>	<b>Y</b>	The B-13 alternative meets all screening criteria.
<b>Luzon (Figure 3)</b>	<b>Y</b>	The Luzon alternative meets all screening criteria.
<b>B-18  (Figure in Appendix A)</b>	<b>N</b>	The B-18 alternative was considered because it is an existing open area utilized for live-fire exercises (LFXs) near the artillery impact area; however, it does not meet all screening criteria. Savage Creek, approximately ½ mile wide and at least 5 feet deep at this location, runs through the buffer of the artillery impact area and would have to be filled or rerouted or bridged in this area to maintain visibility (750 meters) requirements. This would create unnecessary environmental impacts and costly construction in order to overcome terrain challenges. Another option for this location was to expand the artillery impact area to encompass Savage Creek; however, that was also unfeasible because firing high explosives into a waterbody becomes burdensome and was determined unnecessarily risky to recover after each use of the facility.
<b>B-13 LFX (Figure in Appendix A)</b>	<b>N</b>	The B-13 LFX alternative was considered for similar reasons as the B-18 location. The reason the B-13 LFX alternative is unfeasible, however, is because there is not enough upland space for the maneuver screening criteria, nor is there enough upland space to support the objectives

		necessary for Platoon and Company sized units. At least one previously undisturbed wetland system associated with Savage Creek would require filling to create enough upland terrain for maneuvering and to realistically engage objectives.
<b>B-3 (Figure in Appendix A)</b>	N	B-3 was considered because of its proximity to the artillery impact area and its vicinity to several open areas that could potentially be utilized as Company and Platoon objectives. The space needed for the maneuver capability, however, is nonexistent as existing training facilities occupy surrounding areas. To the immediate south are existing small arms ranges, to the west an explosive ordnance disposal area, and to the east an established engineer qualification area. Further compounding this site as unfeasible is its severe bluff overlooking the artillery impact area. To meet the 750 meter distance criteria, substantial amounts of fill material would be required to fill a portion of the Canoochee River and its associated wetland branches.
<b>Aerial Gunnery Ranges (AGRs) II / III (Figure in Appendix A)</b>	N	The AGRs II and III were considered because they have high explosive impact areas; however, when seeking to account for the maneuver space needed, these locations would require artillery firing forward of the maneuver element. Artillery firing must be conducted behind the maneuver element at the baseline which would require off-Post impacts. As such, the AGRs II and III were determined unfeasible.

**Table 1: Screening Criteria Matrix.**

## **2.3 ALTERNATIVES**

This section describes each CALFEX alternative whose potential environmental impacts will be discussed in detail in EA Section 3.0, *Affected Environment and Environmental Consequences*.

### **2.3.1 ALTERNATIVE I: NO ACTION / STATUS QUO**

The CEQ regulations that implement NEPA require a clear basis for choice among options by the decision maker and the public, and a No Action Alternative must be included and analyzed (40 CFR 1502.14[d]). Under the No Action Alternative, the Army will not establish the CALFEX on Fort Stewart.

### **2.3.2 ALTERNATIVE II: B-13 (PREFERRED)**

This alternative is located in an area that has not been disturbed through construction but is within surface danger zones (SDZs) of existing large-caliber ranges from the Red Cloud Range Complex. The SDZ area serves as a safety buffer for use of specified munitions, although the majority of the rounds land in the range floor. The probability of a hazardous fragment escaping the SDZ boundary is approximately equal to one in one million. As such, the site is generally an undisturbed pine forest with heavy underbrush but is relatively flat and can support a developable footprint with line-of-sight to the artillery impact area. The footprint will require complete tree removal and grubbing and grading activities of approximately 30 acres to establish the helicopter landing zone, Platoon objective, and the Company objective. Existing tank trails south of the artillery impact area buffer will be utilized for engaging small arms targets during maneuver to the Platoon and Company objectives, although tree removal will not be necessary in the

maneuver area. The maneuver area consists of approximately 615 acres and starts from the helicopter landing zone to the objective areas to within the 750 meter buffer visible of the artillery impact area.

### **2.3.3 ALTERNATIVE III: LUZON**

The Luzon alternative is an existing large-caliber range that contains an existing opening from the baseline to an established duded impact area. As with Alternative II, SDZs overlap Luzon but contains interspersed mature pine trees beyond the open area. Two existing cleared engagement boxes associated with the convoy live fire route will be utilized to establish the Platoon objective and the Company objective. The helicopter landing zone will be established at the baseline of Luzon, an existing open area. Tree removal will not be necessary to create the maneuver area which will total approximately 2,200 acres. Considering the 750 meter buffer to the Luzon impact area is accessible from three sides, the maneuver area is larger than what is available under Alternative II. This also allows for placement of additional ancillary training infrastructure in the maneuver area to include 5 support by fire structures, 2 breach facilities, and one trench. Tree removal to place infrastructure in the maneuver area is not expected given the very small footprint for each. Existing tank trails will be utilized as maneuver routes for engaging small arms targets as units travel to the Platoon and Company objectives. Timber thinning of approximately 500 acres will be necessary within the 750 meter boundary for line-of-sight to observe high explosive impact.

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**Figure 2. Alternative II Location, B-13 (Preferred).**

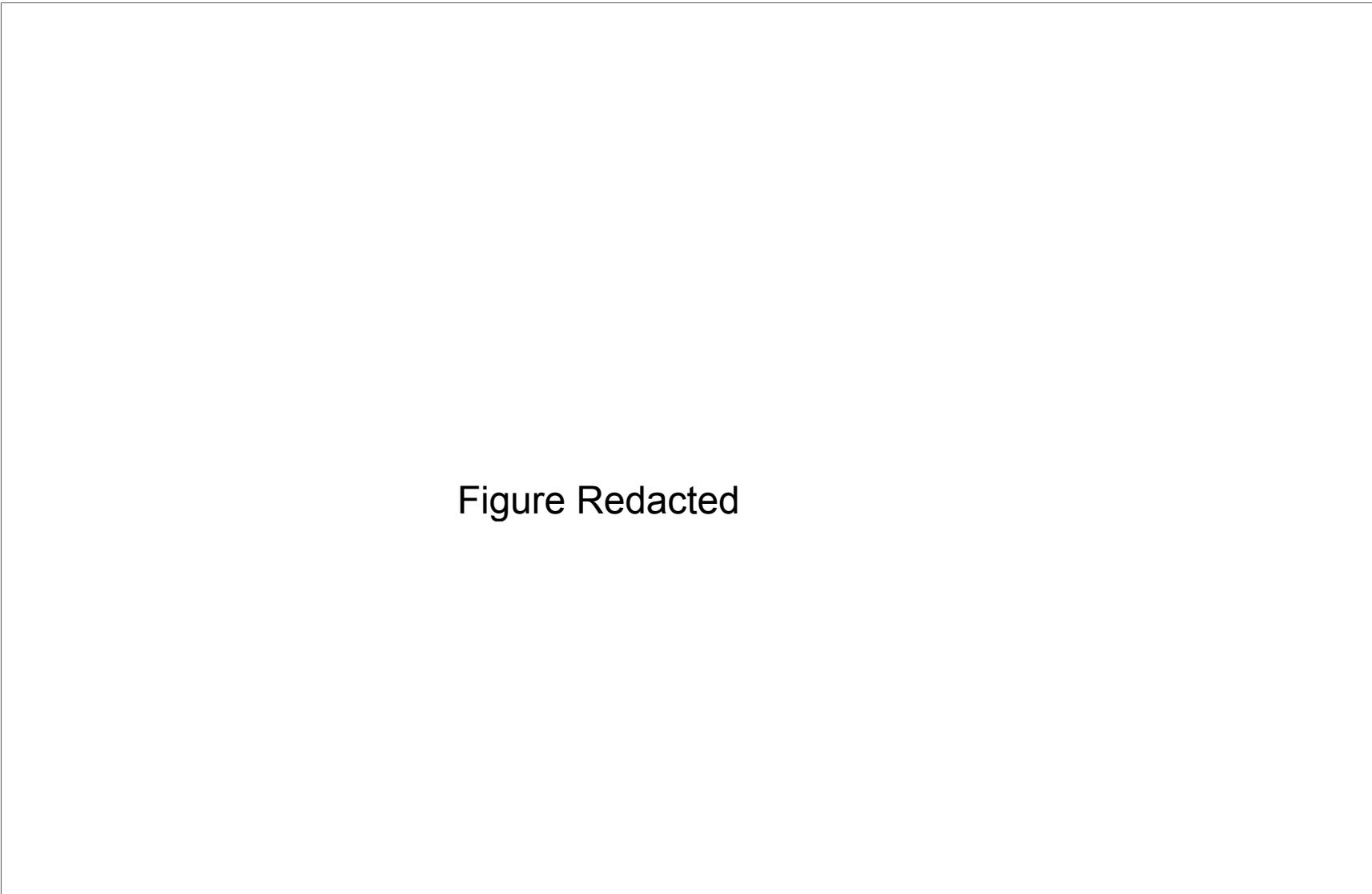


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**Figure 3. Alternative III Location, Luzon.**

### **3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This chapter focuses on only those resources within the affected environment potentially impacted by the proposed action. Potential direct, indirect, and cumulative impacts to the affected environment are discussed as they relate to the proposed action alternatives. Direct impacts are those caused specifically by the proposed action and that occur at the same time and place. Indirect impacts are also caused by the proposed action, but later in time or farther in distance. Cumulative impacts “result from the incremental impact of the action” when added to “other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or what person undertakes such other actions” (Canter et. al, 2007).

The levels of intensity of potential impacts are described as follows:

- *Negligible.* This term indicates the environmental impact is barely perceptible or measurable; remains confined to a single location; and will not result in a sustained recovery time for the resource impacts (days to months).
- *Minor.* This term indicates the environmental impact is readily perceptible and measurable; however, the impact will be temporary and the resource should recover in a relatively short period of time (days to months).
- *Moderate.* This term indicates the environmental impact is perceptible, measurable, and may not remain localized, thus also impacting areas adjacent to the proposed action. Under the impact, recovery of the resource may require several years or decades.
- *Significant.* This term indicates the environmental impact is likely to result in a permanent change or loss of resources. In the absence of mitigation, a potentially significant impact will require preparation of an Environmental Impact Statement.

### **3.1 RESOURCES ANALYZED**

Environmental analysis determined that the implementation of either action alternative has the potential to result in impacts to Water Resources and Biological Resources which are discussed in detail in the remainder of this chapter. There are no adverse impacts predicted to Sustainability; Cultural Resources; Operational Noise; Solid Waste Management; Hazardous Materials / Hazardous Wastes; Air Quality; Airspace Resources; Socioeconomics; Environmental Justice; Provision for the Handicapped; Land Use, Recreation, and Visual Resources; Utilities; Traffic and Transportation Systems; and Public Health and Safety; accordingly, these resources are not discussed in detail in the main body of the EA, but are instead briefly summarized in Appendix B.

## 3.2 WATER RESOURCES

### 3.2.1 AFFECTED ENVIRONMENT

Water resources are inclusive of surface waters like that in streams, rivers, lakes, and estuaries; groundwater, wetlands and floodplains. Water resources management requirements are typically derived from the Clean Water Act (CWA), Safe Drinking Water Act, and water rights laws that vary from state to state. Fort Stewart is located in the Atlantic Coastal Plain physiographic province of Georgia. The Atlantic Coastal Plain is characterized by flat to undulating topography, high water tables, and generally coarse sandy soils, except when broken by areas of extensive swamplands containing mostly organic soils. The Installation contains about 159,000 acres of upland forest, 90,000 acres of forested wetlands, and 38,000 acres of clearings.

**Surface Waters.** Within the greater Fort Stewart watershed, surface water resources are diverse and include over 265 miles of freshwater rivers, streams, and creeks, numerous ponds and lakes, and over 12 miles of brackish streams (FSGA, 2005). Although Fort Stewart occupies parts of four separate watersheds, the majority of the Installation lies within the Canoochee and Ogeechee Coastal Watersheds. The Canoochee River crosses the Installation from its northwest corner to its eastern side and its reaches through tributaries and creeks are proximal to the Alternative II and III locations.

**Wetlands.** 33 CFR Part 328.3(b) of the CWA (33 USC § 1251 et seq.) defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” Approximately one-third of Fort Stewart’s 280,000 acres are considered wetland as determined by the National Wetlands Inventory (NWI), a map-based planning tool. Executive Order 11990, *Protection of Wetlands*, requires federal agencies to avoid new construction in wetlands unless it finds that there is no practicable alternative to such construction, and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. Given their prevalence on the Installation, Fort Stewart has made avoidance and minimization of wetlands impacts a top priority and wetlands are one of the primary factors to be considered when siting a new project. In this manner, much of the avoidance and minimization of wetlands impacts takes place before actual site selection occurs.

The NWI was used to evaluate potential wetland impacts associated with the Alternative II and III locations instead of through field studies due to the safety risk of encountering UXO. This is also considering the NWI is an effective planning tool for examining likely wetland systems that exist at a given location in the Fort Stewart training area.

**Groundwater.** The Fort Stewart region has three distinct aquifer systems: the Floridan, Brunswick, and surficial. Within the upper Floridan aquifer, groundwater flow near Fort Stewart is easterly because of the effects of lowered groundwater levels to the northeast. The lowered groundwater level has caused saltwater to intrude into the upper Floridan aquifer, increasing its salinity. The Georgia Environmental Protection Division (EPD) has capped withdrawal from the upper Floridan aquifer at 1997 rates in parts of coastal Georgia to limit further saltwater intrusion, prompting interest in developing alternative sources of drinking water, primarily from the shallower surficial and Brunswick aquifer systems. Fort Stewart

withdraws its drinking water supplies from these groundwater sources, not surface water sources, and does not transfer water from one watershed into another.

**Floodplains.** Executive Order 11988, *Floodplain Management*, directs federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with flood loss. The “base flood” or “floodplain” regulated under this Executive Order refers to areas subject to a one percent chance of flooding in any given year (i.e., the 100-year floodplain). The Army has considered alternatives to avoid adverse effects and incompatible development in the 100-year floodplain; however, Alternatives II and III are the only feasible options for the proposed action as there are approximately 120,000 acres of 100-year floodplain on Fort Stewart. Avoiding the 100-year floodplain entirely is unrealistic for large range projects in general because the Army strives to place new ranges within existing impact areas to avoid and minimize adverse impacts to natural resources. Yet, measures, as explained in Sections 3.2.2.2 and 3.2.2.3 will be implemented to minimize potential harm to or within the floodplain.

### **3.2.1.1 Existing Water Resources Specific to Alternatives II and III**

*Alternative II (Preferred).* The proposed helicopter landing zone is located in upland. Approximately 80 acres of wetlands and approximately 375 acres of 100-year floodplain exist within the potential maneuver area. The wetlands that exist with the Alternative II footprint are considered old growth and forested. The Platoon and Company objectives are located within the 100-year floodplain but are completely outside of wetlands. The groundwater levels from below the ground’s surface range from greater than 5 feet to 0.5 feet. There are no streams within the entire B-13 footprint. Refer to Figure 4 for a depiction of water resources associated with Alternative II.

*Alternative III.* Approximately 7.5 acres of 100-year floodplain is within one of the existing convoy live fire engagement boxes that will be utilized as the Company objective. The Platoon objective footprint is located in upland. Approximately 1,200 acres of 100-year floodplain and 190 acres of wetland exists within the potential maneuver area. Of the 190 acres of wetlands, 125 acres are considered old growth forested and the remaining 65 acres are classified as emergent systems which were disturbed during the original construction of Luzon in the late 1960’s / early 1970’s. Two streams, one approximately 2,100 linear feet and one approximately 3,300 linear feet, are located within the potential maneuver area. Groundwater levels range from at or near the surface to greater than 5 feet below the ground’s surface. Refer to Figure 5 for a depiction of water resources associated with Alternative III.

Figure Redacted

**Figure 4. Alternative II, Existing Water Resources.**

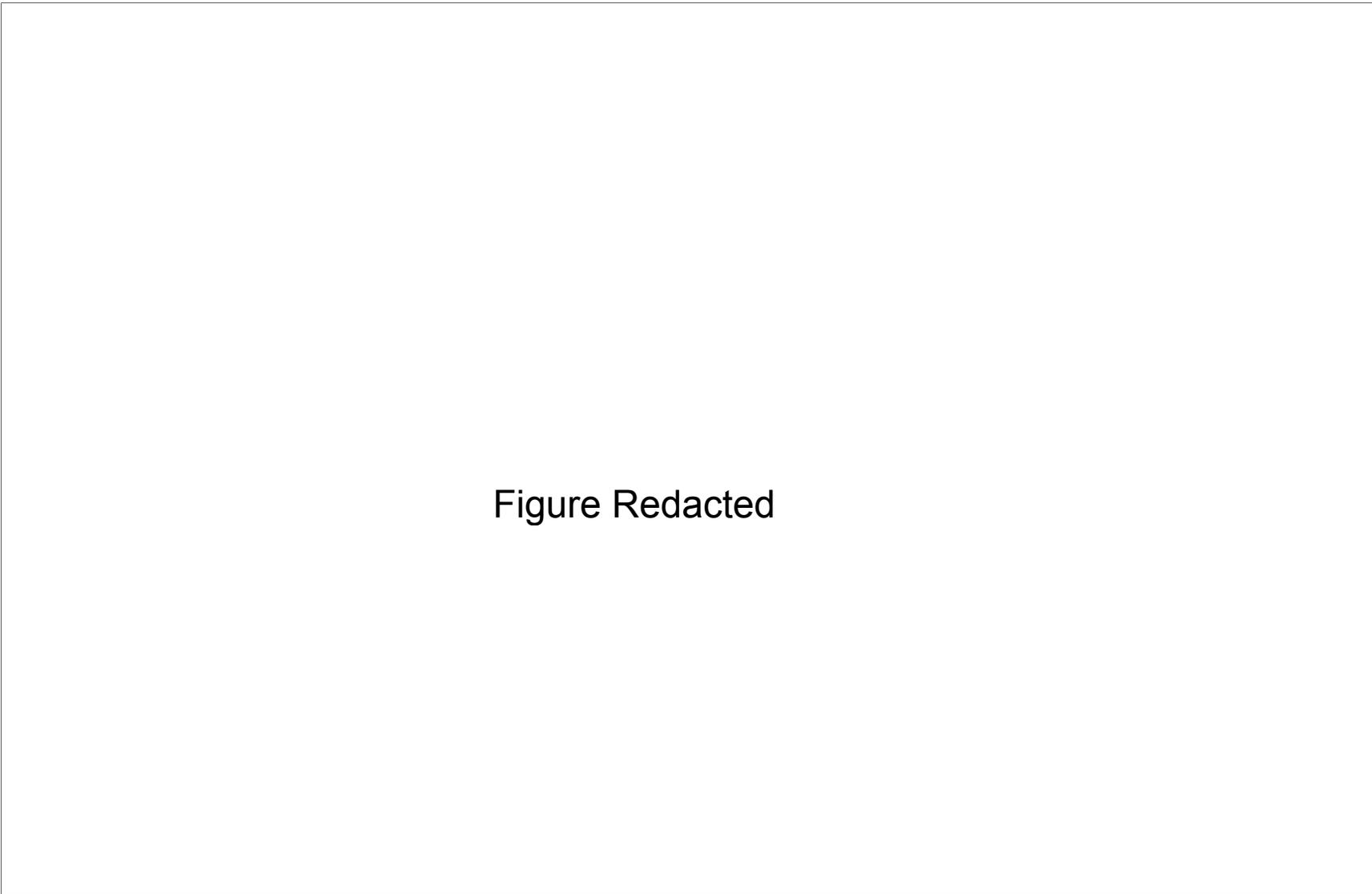


Figure Redacted

**Figure 5. Alternative III, Existing Water Resources.**

## **3.2.2 ENVIRONMENTAL CONSEQUENCES**

### **3.2.2.1 Water Resource Impacts from Alternative I**

This alternative will have no impacts to water resources, as there will be no timber removal, grading, grubbing, or other land disturbance because the Army would not establish a CALFEX facility at Fort Stewart.

### **3.2.2.2 Overview of Direct and Indirect Water Resource Impacts from Alternatives II and III**

**Surface Waters and Floodplains.** In the natural, undisturbed environment rain that falls is quickly absorbed by trees, other vegetation, and the ground. Most rainfall that is not intercepted by leaves infiltrates into the ground or is returned to the atmosphere by the process of evapotranspiration. Very little rainfall becomes stormwater runoff in permeable soil, and runoff generally only occurs with larger precipitation events. The proposed action does not call for traditional development practices covering large areas of ground with impervious surfaces such as roads, sidewalks, and buildings. Therefore, comparatively, runoff rates will be much less post-construction.

The purpose of Section 438 of the Energy Independence and Security Act (EISA) is to replicate pre-development hydrology to protect and preserve both the water resources onsite and those downstream. The Army complies with EISA Section 438 by designing facilities based on the goal of maintaining pre-development hydrology on a site-specific basis and an objective methodology with which to determine appropriate practices to protect the receiving environment. Coupled with EISA Section 438, Fort Stewart also specifies the requirement for site designers to utilize Georgia's Coastal Stormwater Supplement (CSS). The purpose of the CSS is to protect Georgia's existing water quality standards, particularly those of the State's coastal waters. By utilizing the CSS, post-construction stormwater runoff rates and volumes are reduced through the use of low impact development practices to help maintain pre-development site hydrology, help prevent downstream water quality degradation, and to help prevent downstream flooding and erosion. Not only does this approach protect water resources from pollutant stresses including sedimentation loads, it minimizes potential harm to or within the 100-year floodplain consistent with Executive Order 11988.

The Georgia Water Quality Act (GWQA) (Official Code of Georgia [OCGA] § 12-5-20), and Georgia Erosion and Sedimentation Control Act (OCGA § 12-7-1) requires permitting and the establishment of erosion control measures prior to land disturbance. The control measures that must be established are referred to as Best Management Practices (BMPs) which are identified on an Erosion and Sedimentation Pollution Control (ESPC) Plan to be developed by the Army for CALFEX earthwork construction. These BMPs must be utilized by the engineer battalion and will be inspected by the Army periodically for adequacy and to have the engineer battalion correct any deficiencies as measured by turbidity samples and physical examination of downstream areas. The ESPC Plan will also include requirements identified in the *Manual for Erosion & Sedimentation Control for the State of Georgia*, the CSS, EISA Section 438, and local stormwater control requirements found on Fort Stewart's website: <http://www.stewart.army.mil/info/?id=443&p=1>.

Permitting associated with State erosion and sedimentation control rules also requires fees in the amount of \$80.00/disturbed acre and must be paid to the Georgia EPD. The Army will provide payment and an initialed Notice of Intent (NOI) for coverage under the State's National Pollutant Discharge Elimination System (NPDES) Permit. Land disturbance, inclusive of timber removal may not commence until 14 days from the date of certified mailing of the NOI packet to Georgia EPD.

During construction, the State requires a Level 1A Erosion and Sedimentation Control certified individual to be on the site during any land disturbance activity. In order for the Army to accept the project as complete, the site must be stabilized to prevent silts and sediments from leaving the construction site.

During operation of the facility, military units are expected to ensure all washouts of military vehicles and equipment is controlled and is discharged with BMPs. Waste material and/or debris is required to be disposed of properly, and not into streams, ditches, or any other surface water. Units are also expected to practice spill prevention by utilizing proper drip pans and secondary containment for all equipment.

**Wetlands.** In accordance with the CWA and Executive Order 11990, Fort Stewart is required to implement measures to avoid, minimize and compensate for wetland impacts. Wetland areas will not be impacted during earthwork / construction activities. Maneuver elements utilizing military vehicles will use existing tank trails and upland off-road areas when traveling to the Company and Platoon objectives. The primary issue regarding the use of military vehicles is the potential effect its operations may have on the landscape during off-road operations that may contribute to erosion, and thus increased sedimentation in surface waters. Monitoring the conditions of surface waters is an established component of the Sustainable Range Program which is operated at the Installation to identify and restore natural resources and lands damaged by training operations. Dismounted maneuver elements (traveling on foot) may traverse wetland areas, but no perceptible environmental impact is anticipated.

**Groundwater.** Trenches associated with the Company objective will be constructed at a depth of 6 feet; therefore, groundwater withdrawal may be necessary depending on actual site conditions. Dewatering, if greater than 100,000 gallons per day, requires a water withdrawal permit from Georgia EPD.

### **3.2.2.3 Specific Direct and Indirect Water Resource Impacts from Alternatives II and III**

*Alternative II (Preferred).* Minor direct and indirect water resource impacts are anticipated under Alternative II. Land cover changes that result from site development at the B-13 location include creating trenches and bunkers, soil compaction, and loss of approximately 30 acres of vegetation; however, Alternative II will not result in the loss of natural drainage patterns. Wetland areas will be avoided during construction and establishment of the helicopter landing zone and the Company and Platoon objectives. Trench construction associated with the Company objective is not expected to impact the groundwater as depths in this footprint are estimated at greater than 5 feet. The ESPC Plan will address how the project at this location will maintain pre-development hydrology to preserve the water resources downstream not only covering EISA Section 438 and CSS requirements but also ensuring the Army meets its obligations under Executive Order 11988 considering a portion of the footprint is within the 100-year floodplain.

*Alternative III.* Minor direct and indirect water resource impacts are anticipated under the Alternative III location. Land cover changes that result from site development at the Luzon site include timber thinning, but natural drainage patterns are expected to continue as they currently exist. Trench construction and use in the Company objective footprint will impact groundwater whose levels are estimated at a range of at or near the ground's surface to 2.5 feet below the ground's surface. Construction dewatering will be required to establish the trench; however, water withdrawal will not exceed 100,000 gallons per day. The ESPC Plan will address how the project at this location will maintain pre-development hydrology to preserve the water resources downstream not only covering EISA Section 438 and CSS requirements but also ensuring the Army meets its obligations under Executive Order 11988 considering a portion of the footprint is within the 100-year floodplain. The ESPC Plan will also provide BMPs for dewatering to limit erosion impacts.

#### **3.2.2.4 Cumulative Water Resource Impacts from Alternatives II and III**

Long-term minor cumulative water quality effects in the Canoochee watershed are anticipated when ongoing activities are added to the proposed action at either of the Alternative II and III locations. The Army has also recently notified Fort Stewart of a potential Infantry Squad Battle Course (ISBC) that could be planned within proximity to the CALFEX facility action alternatives; however, a preferred alternative has not been selected. Proper planning to ensure environmental resources are equally considered when determining the Installation's preferred ISBC alternative will occur similar to the process conducted for the CALFEX facility. Avoiding water resources will be of utmost importance when site planning is initiated. If water resources cannot be avoided, minimizing impacts will become an integral part of the design process.

Cumulative impacts are expected from increased erosion rates from training and other human activities, e.g., timbering; sources of chemicals and excess nutrients such as stormwater runoff from surrounding facilities and tank trails. Negligible cumulative impacts from munitions constituents of concern (MCOC) to water resources are expected. In 2013 the Army's Operational Range Assessment Program (ORAP) issued a final report on its finding from an evaluation of Fort Stewart's 274 operational range areas totaling 271,189 acres for release or substantial threat of release of munitions constituents of concern (MCOC) to off-range areas. These findings concluded that MCOC is not migrating from ranges at levels that pose an unacceptable risk to off-range human and ecological receptors located downstream. These findings were based on operational range areas meeting any one of three conclusions: (1) Sufficient evidence showing that there are no known releases or source-receptor interactions that could present an unacceptable risk to human health or the environment; (2) the MCOC migrating pathways from the operational range boundary to off-range receptors exceeded the programmatic 15 miles for surface water, and 4 miles for groundwater; or (3) multi-season field sampling of surface water and sediment samples and groundwater samples downstream of source areas did not detect explosives or perchlorate, and did not detect exceedances of source metal or lead concentrations. These results will be evaluated in 2018 to determine if they remain accurate and the ORAP will incorporate any new range operation as part of its periodic review program.

### 3.3 BIOLOGICAL RESOURCES

#### 3.3.1 AFFECTED ENVIRONMENT

Biological resources include native and naturalized plants, animals, and habitats in which they occur. Habitat is defined as the area of environment where the resources and conditions are present that cause or allow a plant or animal to live there. Biological resources in the proposed action's affected environment include, flora, common wildlife, migratory birds, threatened and endangered species, and forest management.

**Flora.** In a broad sense, there are 4 types of vegetative communities on Fort Stewart: upland longleaf pine (*Pinus palustris*) forests, mesic pine flatwoods, upland mixed hardwood-pine forests, and wetlands.

Upland longleaf pine forests are characterized by an overstory of longleaf pine and an understory of wiregrass (*Aristida stricta*). More xeric upland sites (sandhills) also are characterized by a midstory of turkey oak (*Quercus laevis*) and bluejack oak (*Q. incana*). Mesic pine flatwoods are characterized by an overstory of longleaf pine, slash pine (*P. elliottii*), and loblolly pine (*P. taeda*), and an understory of wiregrass, dropseed species (*Sporobolis*), saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), runner oak (*Q. pumila*), and various blueberries (*Vaccinium*) and huckleberries (*Gaylussacia*). Midstory components of mesic flatwoods include sweetgum (*Liquidambar styraciflua*), live oak (*Q. virginiana*), water oak (*Q. nigra*), and red bay (*Personia borbonia*). Upland mixed hardwood-pine forests generally occur in oldfield situations and are characterized by loblolly and slash pine, sweet gum, and water oak in the overstory and midstory. The groundcover of oldfields is often characterized by oldfield grasses like broomsedge (*Adropogon virginicus*). Connected wetlands (river and streamside floodplains) are typified by an overstory of bald cypress (*Taxodium distichum*), sweet gum, and water tupelo (*Nyssa sylvatica*), Ogeechee tupelo (*N. ogeechee*), while the overstory of isolated wetlands are dominated by pond cypress (*T. ascendens*), slash pine, and loblolly pine. The midstory of isolated wetlands often comprise myrtle-leaf holly (*Ilex myrtifolia*). The groundcover of isolated wetland ecotones frequently is dominated by wiregrass and dropseed.

**Common wildlife.** Common wildlife on Fort Stewart includes white-tailed deer (*Odocoileus virginianus*), wild boar (*Sus scrofa*), fox (*Vulpes* and *Urocyon* spp.), bobcat (*Lynx rufus*), rabbit (*Sylvilagus* spp.), squirrel (*Sciurus* spp.), and other small mammals. In addition to a diverse assemblage of forest songbirds, game birds such as eastern wild turkey (*Meleagris gallopavo silvestris*) and northern bobwhite quail (*Colinus virginianus*) occur on the Installation (INRMP, 2005).

**Migratory birds.** Approximately 170 species of birds protected under the Migratory Bird Treaty Act (MBTA) occur on Fort Stewart, either seasonally or year-round, and many of these species can be expected to occur in the areas affected by the action alternatives. Fort Stewart complies with the MBTA by implementing Army Policy Guidance (17 August 2001) and EO 13186, *Responsibilities of Federal Agencies to Migratory Bird Treaty Act*.

Flora impacts are discussed in the environmental consequences sections of wetland and forest management resources (3.2.2 and 3.3.2). Common wildlife and migratory birds are not further discussed,

as impacts will be temporary, with the species flushing from the area during construction, and returning to the area once it ceases.

**Threatened and endangered species.** There are seven federally listed species known to occur on Fort Stewart; red-cockaded woodpecker (RCW) (*Picoides borealis*), shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), wood stork (*Mycteria americana*), eastern indigo snake (*Drymarchon couperi*), frosted flatwoods salamander (FFS) (*Ambystoma cingulatum*), and smooth coneflower (*Echinacea laevigata*). Of the federally listed species known to occur on Fort Stewart, the RCW, FFS, and eastern indigo snake habitats exist in either or both of the Alternative II and III locations.

The RCW is listed by the United States Fish and Wildlife Service (USFWS) and Georgia as endangered. These woodpeckers are territorial, non-migratory, cooperative breeders that exclusively excavate their roost and nest cavities in living pines. A cooperative social structure, called a group, is formed with a breeding pair of RCWs, the current year's offspring, and helpers. Helpers are usually male offspring from previous breeding seasons that assist the breeding pair with cavity excavation and maintenance, egg incubation, feeding young, and defending a group's territory. The nesting season occurs from April to July. Some juvenile males disperse from their native territory to find vacant territories or to establish their own. Most juvenile females disperse after fledging. The average distance fledgling males and females disperse at Fort Stewart is 3.96 miles. Each group of RCWs occupies a discrete territory or area consisting of its cavity trees, called a cluster, and adjacent foraging habitat.

Fort Stewart contains Georgia's largest remaining forest of longleaf pine, which is essential habitat for the RCW. The quality of RCW foraging habitat varies depending upon vegetation in the understory, weather, soils, season, and fire frequency and intensity. The highest populations of RCWs occur on areas with active prescribed burning programs that control hardwoods (frequency of every 2-3 years). Fort Stewart reached its RCW recovery goal of 350 potential breeding groups during the breeding season of 2012 and has enough suitable or potentially suitable habitat to support 657 RCW clusters.

The FFS is listed by the USFWS and Georgia as threatened. The FFS habitat is widespread on Fort Stewart and includes many areas not heavily used or impacted by mechanized training activities. Salamander breeding sites are small ponds, often less than one acre, which receive surface water runoff from adjacent pine habitat. Terrestrial adult FFS inhabit low areas in pine flatwoods, where they live in underground burrows that they excavate or in crayfish tunnels. The FFS have been found more than one mile from their breeding ponds. A protective buffer of 492 yards from a wetland's edge is a recommended distance by USFWS and used by Fort Stewart. Isolated pools have been ranked according to their suitability as FFS breeding sites, and protective buffers have been assigned to minimize impacts to the potential breeding sites. The Installation's conservation goal is to maintain five existing populations of FFS and 25 breeding sites currently known on Fort Stewart.

Prescribed growing-season burns to control midstory vegetation are used to restore and maintain the flatwood habitat. Mechanical control of midstory vegetation is avoided to prevent the creation of tire ruts in wetlands, and no herbicides are applied within wetlands and adjacent uplands in salamander habitat.

The eastern indigo snake is listed by the USFWS as threatened. The majority of eastern indigo snake observations at Fort Stewart have been at gopher tortoise burrows in sandhills. The Installation's four known eastern indigo snake populations are associated with sandhills along the Canoochee River, the Ogeechee River, and Beards Creek. The majority sightings have been from the north-central portion of the artillery impact area and adjacent portions of B-12. The artillery impact area is considered a unique and exceptional site for the eastern indigo snake, as it has an extensive sandhill component (over 1,500 acres) interspersed with bay and river swamps. The largest gopher tortoise population also occurs in the artillery impact area (INRMP, 2005).

**Forest Management.** Fort Stewart supports one of the largest forest resources programs in the Department of Defense. The primary purpose of Fort Stewart's forest program is to support the Army's training mission by sustaining the ecosystem through prescribed burning, timber thinning, and longleaf pine regeneration. Most timber harvesting consists of selective cutting (thinning), emphasizing retention of high quality pines at between 50 and 60 square feet of basal area per acre. Clear cutting is limited to clearing land for construction, wildland fire salvage operations, bark beetle salvage and suppression operations, or re-establishment of longleaf pine. The majority of timber harvested is pine, with hardwood making up only a small and low-value component of timber sales. Pine timber products produced include poles, saw timber, and pulpwood. Aboveground portions of trees can also be chipped for use at Fort Stewart's central energy plant.

### **3.3.1.1 Existing Biological Resources Specific to Alternatives II and III**

*Alternative II (Preferred).* Approximately 540 acres of eastern indigo snake, gopher tortoise, and RCW habitat to include 5 RCW clusters exist in the B-13 footprint. The 30 acres of interspersed mature pine trees to be removed include longleaf pine and also potentially contain metal from ammunition firing over the course of many years at the nearby Red Cloud ranges. Refer to Figure 6 for a depiction of existing biological resources within the Alternative II area.

*Alternative III.* Approximately 2,000 acres of RCW habitat and 12 RCW clusters exists in the Luzon site. Primary (235 acres) and secondary (775 acres) buffer areas from 5 FFS ponds are located within this CALFEX footprint, one of which is a known breeding pond. Approximately 500 acres of the Alternative III footprint contains interspersed mature pine trees, including longleaf pine, to be thinned for line-of-sight to the impact area. The timber located downrange of Luzon is likely contaminated with lead bullets from previous live-fire training. Refer to Figure 7 for a depiction existing biological resources within the Alternative III area.

Figure Redacted

**Figure 6. Alternative II, Existing Biological Resources.**

Figure Redacted

**Figure 7. Alternative III, Existing Biological Resources.**

### 3.3.2 ENVIRONMENTAL CONSEQUENCES

#### 3.3.2.1 Biological Resource Impacts from Alternative I

This alternative will have no impacts to biological resources, as there will be no timber harvest, grading, grubbing, or other land disturbance because the Army would not establish a CALFEX facility at Fort Stewart.

#### 3.3.2.2 Overview of Direct and Indirect Biological Resource Impacts from Alternatives II and III

**Threatened and endangered species.** Section 7(a)(2) of the Endangered Species Act requires Fort Stewart to consult with the USFWS prior to implementation of either action alternative because the proposed action may affect a listed species. During consultation, a biological assessment or other evaluation document is developed that assesses the proposed action's effects on listed species. If the Army determines that the proposed action will not likely adversely affect the listed species and the USFWS concurs, then consultation concludes and no formal consultation is required. If the Army determines that a proposed action will likely adversely affect a listed species, then formal consultation is initiated. Formal consultation results in a Biological Opinion by USFWS which concludes whether the proposed action is likely to jeopardize the continued existence of the species.

**Forest Management.** Prescribed burning to improve RCW, FFS, and eastern indigo snake habitat will continue within the forested areas of B-13 and Luzon. With either action alternative, a determination will be made as to the risk level associated with UXO discovery prior to site disturbing activities. In areas where the UXO risk is considered low, a timber cruise of the proposed action footprint will be conducted to determine which trees are merchantable and sold by the Government (i.e., the Fort Stewart Forestry Office). All remaining timber on the site that the Army will not harvest must be disposed of properly or utilized as appropriate on site by military units.

#### 3.3.2.3 Specific Direct and Indirect Biological Resource Impacts from Alternatives II and III

*Alternative II (Preferred).* Minor direct and indirect impacts to biological resources are expected from Alternative II. The Army consulted informally with the USFWS after the Installation determined its preferred location for the CALFEX facility. The Installation concluded in its biological assessment that the proposed action is not likely to adversely affect the RCW or eastern indigo snake, nor any other threatened or endangered species occurring on Fort Stewart. The USFWS agreed with the Installation's conclusion (refer to Appendix C for biological assessment and USFWS concurrence letter). The areas of tree removal and grubbing and grading to establish the helicopter landing zone, Platoon objective, and the Company objective will permanently remove RCW and eastern indigo snake / gopher tortoise habitat, totaling 27.5 acres. The helicopter landing zone was surveyed for gopher burrows and 8 burrows were discovered. All burrows were scoped and 1 burrow was found to be occupied. This gopher tortoise was trapped and relocated within the same gopher tortoise population, but some distance away from the proposed helicopter landing zone. The Platoon and Company objectives are within the artillery impact area buffer and cannot be surveyed due to safety hazards presented by the presence of UXO. Live fire activity will occur south of the artillery impact area buffer and the timber within this area will suffer

mortality caused by bullet impacts. For this reason it will be necessary to remove 188.5 acres of RCW habitat.

Potential indirect effects (e.g., noise, dust, traffic, etc.) caused by site disturbance and operation of the CALFEX facility is not expected to adversely impact RCW or eastern indigo snake / gopher tortoise populations due to the existence of stable or increasing populations on similar landscapes for many years. Refer to Appendix C for USFWS concurrence and corresponding biological assessment. Trees within the Platoon and Company objectives (approximately 20 acres) will be removed by an Army engineer unit and will not be harvested by the Fort Stewart Forestry Office. The trees within the helicopter landing zone (approximately 10 acres) will undergo a metal detection survey by the Fort Stewart Forestry Office to determine if the timber is merchantable. If so, the timber will be harvested and sold by the Government. If the timber contains metal, it will not be harvested as merchantable. Trees not harvested and sold by the Government will be utilized as appropriate for erosion control or as supporting materials for the CALFEX Platoon or Company objectives.

*Alternative III.* Moderate direct and indirect impacts to biological resources are expected from Alternative III. Federal agencies are only required to consult with the USFWS on the agency's preferred alternative. As such, the Army did not consult with the USFWS regarding the potential RCW and FFS impacts associated with the Luzon location. Timber thinning for line-of-sight to the Luzon impact area will directly impact RCW habitat. An incidental take may occur to the RCW or FFS, depending on the location of the small arms targets, placement of ancillary infrastructure (e.g., breach facility and trench), and actual maneuver locations. Direct impacts to FFS ponds could occur through possible maneuver scenarios but is not anticipated considering the unlikelihood of driving military vehicles through ponds or wetland areas. Indirect impacts to FFS could occur from maneuvers in their associated pond buffers; however, impacts could be reduced through education and avoidance markers. Potential indirect effects (e.g., noise, dust, traffic, etc.) caused by site disturbance and operation of the CALFEX facility is not expected to adversely impact RCW populations due to the existence of stable or increasing RCW populations on similar landscapes for many years. Fort Stewart would seek a Biological Opinion from the USFWS and would expect a not likely to jeopardize the continued existence of these species finding. This formal USFWS consultation would be required prior to implementation of Alternative III. During the timber cruise process, efforts will be made to identify trees with metal contamination for proper use or disposal.

#### **3.3.2.4 Cumulative Biological Resource Impacts from Alternatives II and III**

Long-term moderate cumulative impacts to biological resources are expected from either the Alternative II or III locations when added to the military mission at Fort Stewart. The Army has recently notified Fort Stewart of a potential ISBC that could be planned within proximity to the CALFEX facility action alternatives; however, a preferred alternative has not been selected. Proper planning to ensure environmental resources are equally considered when determining the Installation's preferred ISBC alternative will occur similar to the process conducted for the CALFEX facility. In essence, minimization of impact on wildlife habitats and ecosystem damage will be a part of the site planning and design process. Army activities are not expected to impede recovery or management of the Fort Stewart RCW, FFS, or eastern indigo snake / gopher tortoise as opportunities continue to exist to manage these species.

As such, these populations are expected to persist near the ranges and infrastructure as they have historically persisted adjacent to existing developed areas.

#### 4.0 CONCLUSIONS

This EA was prepared to analyze the potential environmental impacts associated with establishing a CALFEX facility on Army land at Fort Stewart. Following an analysis and comparison of impacts, it was determined that implementing either Alternative, II or III, will not result in potentially significant impacts, and the preparation of a FNSI by the Army for the proposed action is appropriate. Table 2 provides a summary of anticipated impacts.

Type of Impact	Alternative I (No Action)	Alternative II, Preferred (B-13)	Alternative III (Luzon)
<b>Water Resources</b>			
<b>Direct / Indirect</b>	None	Minor	Minor
<b>Cumulative</b>	None	Minor	Minor
<b>Biological Resources</b>			
<b>Direct / Indirect</b>	None	Minor	Moderate
<b>Cumulative</b>	None	Minor	Moderate

**Table 2: Summary of Environmental Impacts.**

## 5.0 ABBREVIATIONS AND ACRONYMS

AGR	Aerial Gunnery Range
BMP	Best Management Practice
CAA	Clean Air Act
CALFEX	Combined Arms Live Fire Exercise
CDNL	C-Weighted Day-Night Levels
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CSS	Coastal Stormwater Supplement
CWA	Clean Water Act
DA	Department of the Army
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA 2007	Energy Independence and Security Act of 2007
EPA	U.S. Environmental Protection Agency
ESCA	Erosion and Sediment Control Act
ESPC	Erosion and Sedimentation Pollution Control
FFS	Frosted Flatwoods Salamander
FNSI	Finding of No Significant Impact
FSGA	Fort Stewart, Georgia
EPD	Environmental Protection Division
FAA	Federal Aviation Administration
GWQA	Georgia Water Quality Act
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
LFX	Live Fire Exercise
LID	Low Impact Development
LUPZ	Land Use Planning Zone
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetlands Inventory
PA	Programmatic Agreement
PSD	Prevention of Significant Deterioration
RCW	Red-Cockaded Woodpecker
R.O.C.K.	Resources, Optimize, Compliance, Keep Improving
SDZ	Surface Danger Zone
SMS	Sustainability Management System
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance

## 6.0 REFERENCES

Canter, L., Chawla, M., & Webster, R. (2007). *NEPA analysis guidance manual*. Aberdeen Proving Ground, MD: U.S. Army Environmental Command

Department of Army. (2014). *Integrated cultural resources management plan for Fort Stewart and Hunter Army Airfield, Georgia through fiscal year 2018*. Fort Stewart, Georgia: Directorate of Public Works.

Department of Army. (2005). *Integrated natural resources management plan: Fort Stewart and Hunter Army Airfield, Georgia*. Fort Stewart, Georgia: Directorate of Public Works.

Department of Defense (2013). *Final Operational Range Assessment Program Report, Fort Stewart, Georgia*. Retrieved May 25, 2016 from <http://denix.osd.mil/sri/Policy/orap.cfm>.

## **APPENDIX A**

### **FIGURES OF UNFEASIBLE ACTION ALTERNATIVES**

Figure Redacted

Figure Redacted

Figure Redacted

Figure Redacted

## **APPENDIX B**

### **RESOURCES CONSIDERED BUT ELIMINATED FROM FURTHER REVIEW**

Analysis by Installation Environmental Office resource experts determined that no adverse impacts are expected to the following resources as explained below; Sustainability; Cultural Resources; Operational Noise; Solid Waste Management; Hazardous Materials / Hazardous Wastes; Air Quality; Airspace Resources; Socioeconomics; Environmental Justice; Provision for the Handicapped; Land Use, Recreation, and Visual Resources; Utilities; Traffic and Transportation Systems; and Public Health and Safety.

***Sustainability.*** The operational controls identified in the Installation's Environmental Management System include unit adherence to the Sustainability Policy (R.O.C.K. = Resources, Optimize, Compliance, Keep Improving) and support of the Sustainability Management System (SMS). All persons working for / on the Installation must strive to conserve water and energy, reduce solid waste disposal (mostly through recycling), and properly manage threatened and endangered species. This system is in place to ensure proper management of those areas where insufficient efforts of adherence to regulations would cause significant negative impacts to the environment.

Complete the SMS General Awareness Training available on the internet at <http://stewdpwa401/smsquiz/>. The unit must generate a training roster to document this training.

***Cultural Resources.*** Per the terms of the Programmatic Agreement between the Installation and the State Historic Preservation Office, undertakings that occur within confirmed UXO contaminated areas, areas of elevated risk of UXO and low probability for cultural resources, Special Use Areas (e.g., existing Firing Points, Dropzones, Range Firing Floors, etc...), established bivouac areas, and routine maintenance activities are exempt from archaeological survey requirements. For Alternative II, portions of the area have been previously surveyed for cultural resources utilizing surface only investigations due to UXO. Portions of the project area have been excluded from archaeological survey due to known UXO hazards encountered during the archaeological survey per the terms of the Programmatic Agreement with the State Historic Preservation Office. A portion of the Savannah & Southern Railroad is located within Alternative II. This portion of the railroad has been determined eligible for the National Register of Historic Places; however, the resource has been mitigated for adverse effects in accordance with the Programmatic Agreement. For Alternative III, the vast majority of this location is also exempt from archaeological survey requirements due to elevated concerns for UXO within the Luzon Range footprint. Affected locations within Natural Resource Management Unit C12.1 (located north of FS Road 67) have been previously surveyed for cultural resources and no historic properties were identified within Alternative III. There are also no historical architectural features or buildings, nor are there any known tribal resources within these footprints. Refer to Enclosure 1 for a detailed cultural resource impact analysis.

***Operational Noise.*** As defined in Army Regulation 200-1, for low-frequency sounds (large caliber weapons and demolitions) that can cause vibrations, the C-weighting metric is used. Many find that these lower frequency sounds, such as artillery and explosions, are more annoying than other noises, which is taken into account in this metric. To present average sounds on a 24-hour basis, the day-night sound level (DNL) metric is used. DNL is used by the Army as a land-use planning tool for predicting areas of potential annoyance both inside and outside Fort Stewart.

The Land Use Planning Zone (LUPZ) (57-62 CDNL) and Noise Zone II (62-70 CDNL) from the firing of large caliber weapons (20mm and greater) extend beyond the northern and southern Installation boundaries into areas of Bryan and Liberty counties. The Noise Zone III does not extend beyond Fort Stewart boundary. The areas impacted by range activity noise are primarily agricultural / undeveloped with some areas of residential and commercial land uses. Most of the current land uses meet the federal guidelines, except for the existing residential uses. Conflicts with development have been and continue to be reduced by disclosure or compatible development within these areas by limiting noise-sensitive land uses within the LUPZ.

The proposed action will allow for units to fire high explosive rounds (i.e., large caliber) into the existing artillery impact area or the existing Luzon impact area. Both impact areas are designated for high explosives which are among the typical large caliber weapons that Army units train with at Fort Stewart. Because the CALFEX facility will be scheduled for training use like any other large caliber range on Fort Stewart, there is no expected change to the LUPZ, Noise Zone II, or Noise Zone III.

***Hazardous Materials / Waste.*** Constructing the CALFEX facility will require equipment such as earthmovers, bulldozers, front end loaders, backhoes, dump trucks and similar equipment. During construction each will require routine preventive maintenance and will be refueled on site. The risk of a spill or release that would threaten human health or the environment is low. Any risk is mitigated by the Army and federal regulations requiring Installations to develop and implement spill prevention and response plans and to conduct training to ensure proper response to spills or releases. This includes annual spill response exercises for the spill response organization.

Operations on ranges produce soil containing metals from spent rounds. Bullets are often fragmented and pulverized upon impact with the ground, backstops, berms, or other bullets fired earlier. Antimony, copper, lead, and zinc contribute to munitions constituent soil loading. As with most metals, lead, antimony, copper, and zinc generally tend to adhere to soil grains and organic material and remain fixed in shallow soils.

Lead and copper have the lowest potential for mobility. These metals generally have relatively low solubility constants in soil. The normal operation of a range can produce lead concentrations of several percent in soils located behind and adjacent to targets and impact berms. Zinc concentrations are generally one to two orders of magnitude lower (hundreds to high thousands parts per million (ppm) or mg/kg) and antimony is generally found in concentrations of tens to low hundreds of mg/kg in soil. Using risk-based concentrations as a guide, antimony, copper and zinc have a relatively low toxicity (AEC, 2012). Based on this information, antimony, copper and zinc, though found in significant concentrations in the soil on a range, generally pose a relatively low risk to migration, exposure in transport pathways off range. Coupled with its relatively high toxicity, lead is believed to be the munitions metal constituent of primary concern with respect to potential off-range transport and potential exposure in transport pathways. Lead migration to off-Post or residential areas is prevented through the control of stormwater runoff, which is the predominant transport mechanism for lead (AEC, 2012). Stormwater runoff will be filtered with permanent site stabilization measures through the establishment of grasses and other site-specific erosion and sedimentation control BMPs as discussed in EA Section 3.2, *Water Resources*.

Since there is no intent to formally close a range, there is no requirement to clean up contaminated soils on existing active or inactive ranges. Contaminated soils found on a range during construction will be used in the construction process, such as creating berms.

In the event UXO is discovered on the proposed action site, pre-construction phase, UXO clearance will be conducted as part of the CALFEX facility construction preparation process prior to commencement of the actual beginning of construction. In the event UXO is discovered during the actual construction, the Army's explosive ordnance disposal detachment has the responsibility to safely remove or blow in place the UXO.

The volume, type, classification and sources of hazardous waste associated with operating and maintaining a CALFEX facility would be similar to that generated at other training ranges on the Installation and will not cause a perceptible increase in risk to human health or the environment.

***Solid Waste Management.*** During construction and training, the unit must provide a means to collect recyclable materials and process these materials upon return from the field, in accordance with the Installation's Recycling Standard Operating Procedures and Solid Waste Management Plan (to be provided to the each unit as the CALFEX is scheduled through the Installation's Range Control Office). The unit must also provide a means to collect refuse and keep it separate from the collected recyclable materials. Refuse accumulated during each training event shall not be buried on site or burned and must be disposed of at the on-Post landfill.

***Air Quality.*** Under the provisions of the Clean Air Act (CAA) and its amendments, the mechanisms for establishing the Prevention of Significant Deterioration (PSD) program were enacted, whereby Congress established land classification schemes (zones) for those areas of the country (like Fort Stewart) having air quality better than the National Ambient Air Quality Standards. Although Fort Stewart is a major source of air emissions (per Title V of the CAA and its amendments) the proposed action will result in no amendments to the Installation's Title V permit and only minor and temporary amounts of dust generation during timber harvesting and construction. Standard installation of dust-minimizing and other air quality protection measures will further minimize this potential. In addition, no regulatory thresholds would be exceeded under air quality; therefore, this resource is not carried forward for further analysis.

In terms of global warming, scientists have concluded that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate. There is uncertainty as to how much it will change, and at what rate it will change. This action contributes greenhouse gases to the earth's atmosphere by adding vehicles and their associated carbon emissions to Fort Stewart. It also removes trees, which would otherwise absorb carbon dioxide. This is not a measurable impact when taken in context of the global situation and the Army's efforts. Although timber harvest will occur, establishing permanent grasses will be conducted after the range is constructed, further minimizing impacts to global warming.

***Airspace Resources.*** Airspace is defined in vertical and horizontal dimensions, and by time; a finite resource that must be managed to insure equitable allocation among commercial, general aviation, and military needs. The Federal Aviation Administration (FAA) has established various airspace designations to protect aircraft near and between airports in airspace used for military purposes. The Fort Stewart

training area in general is designated by the FAA as Special Use Airspace that is considered Restricted Area to nonparticipating aircraft (i.e., civilian aircraft) to 29,000 feet from ground level. Considering Restricted Area is already designated in the area of potential effect, airspace resources will not be adversely impacted as a result of the proposed action.

***Socioeconomics.*** Socioeconomics focuses on the general features of the local economy that could be affected by the proposed action alternatives. This project will be constructed by a military unit and no new jobs would be created; therefore, this resource has been eliminated from further discussion.

***Environmental Justice.*** Environmental justice compliance is prescribed by Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, issued in 1994. This policy directive to federal agencies outlines appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Since the proposal would not disproportionately impact low-income or minority populations, environmental justice is not analyzed further.

***Provision for the Handicapped.*** American Disabilities Act requires access be provided for the handicapped in all facilities constructed. This project will not be designed for accessibility and usability by those with disabilities as the facility will be used and operated solely by military personnel without disabilities; therefore, this resource is not impacted.

***Land Use, Recreation, and Visual Resources.*** All construction and renovation upgrades would occur in the Fort Stewart training area. Additionally, no recreation assets are present in this area. Therefore, implementation of the proposed action would not affect land use or recreation.

Visual resources include the natural and manmade physical features that give a particular landscape its aesthetic character and value. Establishing a CALFEX facility would be consistent with adjacent viewsheds. Installation viewshed visibility is limited to military personnel, contractors, and civilians working on or visiting Fort Stewart and these viewers are cognizant of the military mission and related training facilities. Therefore, no adverse impacts to visual resources are predicted.

***Utilities.*** Utilities are not needed as part of the proposed action; therefore, this resource has been eliminated from further discussion.

***Traffic and Transportation Resources.*** Implementation of the proposed action is not expected to affect transportation resources in and around the cantonment and training areas. The Installation contains well-established highways, roads, and parking networks and would not increase or decrease traffic in the area of the alternatives.

***Public Health and Safety.*** During the timber harvest, prescribed industrial safety standards would be followed. No specific aspects of the proposed action would create any unique or extraordinary safety issues. An unexploded ordnance survey will be completed prior to site disturbing activities which will

reduce risk of UXO discovery during timber harvest and construction (refer to the *Hazardous Materials / Waste* section, above).

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* requires each federal agency to identify and assess environmental health and safety risks that may disproportionately affect children and pose a disproportionate environmental health or safety risk to children. Environmental health and safety risks are those, which are attributable to products or substances a child is likely to come into contact with or to ingest. This Executive Order focuses primarily on the noise environment around schools, which is not an issue with regards to implementation of either action alternative. Children will not be present at the site of the proposed action; therefore, they will not be exposed to any hazardous materials or wastes. No impacts are predicted.

# Enclosure 1

## Cultural Resource Impact Analysis of the Proposed Establishment of a Combined Arms Live Fire Exercise (CALFEX) Facility at Fort Stewart, Georgia

Prepared by: Brian K. Greer

Prepared under the supervision of:

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Brian K. Greer, M.A., Principal Investigator



Cultural Resource Management  
Prevention & Compliance Branch  
Environmental Division  
U.S. Army Garrison, Fort Stewart, Georgia  
13 MAY 16

**PURPOSE:** This Cultural Resource Impact Analysis (CRIA) summarizes the potential impacts to cultural resources and documents the efforts to analyze and determine effects for the purposes of complying with the National Historic Preservation Act and the Installation's Programmatic Agreement (PA) with the Georgia State Historic Preservation Office (SHPO) and other applicable cultural resource laws and regulations. The results of this CRIA are summarized and incorporated into the Installation's Cultural Resource Management Annual Report to the SHPO in accordance with the PA.

**PROPOSED ACTION AND AREA OF POTENTIAL EFFECT:** The Army proposes to establish a CALFEX facility at Fort Stewart. A CALFEX facility is a nonstandard Army range and the layout to establish one is site dependent. The components necessary to create a CALFEX facility include a helicopter landing zone (approximately 9.5 acres), maneuver space with small arms targets (at least 130 acres), the ability for the observation of fires from close combat attack and indirect fire from the maneuver element to include smoke and high explosive munitions, one Platoon objective area with bunkers and obstacles (approximately 1.5 acres), one Company objective area with trenches and bunkers (approximately 20 acres), vehicle platforms for fire and maneuver for armored military fighting vehicles, standalone shock absorbing concrete structures that allows the employment of high explosive grenades, and visibility to an artillery impact area of 750 meters (or 2,250 feet).

The helicopter landing zone and Platoon and Company objectives must be clear of all trees / vegetation. Ability for line-of-sight must also exist to meet the 750 meter visibility requirement. Therefore, depending on the location, land disturbance including timber / vegetation removal, grubbing and grading activities, and timber thinning will be necessary to establish the CALFEX facility. Prior to the start of site disturbing activities, the Army will conduct a ground surface unexploded ordnance (UXO) survey to determine if munitions of explosive concern exist. In areas of trench construction, a UXO subsurface survey will also be conducted. Munitions of explosive concern will be removed upon UXO survey completion. In the event UXO is discovered during the actual construction, the Army's explosive ordnance disposal detachment has the responsibility to safely remove or blow in place the UXO.

The CALFEX facility will be maintained for target line-of-sight by controlling vegetation on an as needed basis through mowing, prescribed burning, and herbicide treatment. After each scheduled military use of the facility, a UXO survey will be necessary to render the area safe by eliminating any dud producing explosives in the footprint.

**ALTERNATIVE I – No Action Alternative/Status Quo:** Under the No Action Alternative, the Army will not establish the CALFEX on Fort Stewart. No new activity will occur under this alternative and therefore will not result in any impacts to cultural resources.

**ALTERNATIVE II - Training Area B-13 (Preferred):**

This alternative is located in an area that has not been disturbed through construction but is within surface danger zones (SDZs) of existing large-caliber ranges from the Red Cloud Range Complex. The SDZ area serves as a safety buffer for use of specified munitions, although the majority of the rounds land in the range floor. The probability of a hazardous fragment escaping the SDZ boundary is approximately equal to one in one million. As such, the site is generally an undisturbed pine forest with heavy underbrush but is relatively flat and can support a developable footprint with line-of-sight to the artillery impact area. The footprint will require complete tree removal and grubbing and grading activities of approximately 30 acres to establish the helicopter landing zone, Platoon objective, and the Company objective. Existing tank trails will be utilized for engaging small arms targets during maneuver to the Platoon and Company objectives, although tree removal will not be necessary in the maneuver area. The maneuver area consists of approximately 615 acres.

The Area of Potential Effect (APE) is located within NRMUs B12.3, B13.2, and AIAW. NRMUs B12.3 and B13.2 have been partially surveyed for cultural resources utilizing surface only investigations due to UXO (Healey et al. 2016). Portions of the APE have been excluded from archaeological survey due to known UXO hazards encountered during the archaeological survey. Per the terms of the PA, areas of known UXO hazards may be exempt from archaeological survey and are considered ineligible for the National Register of Historic Places (NRHP) (i.e. they cannot safely yield significant data). Previously recorded archaeological sites within B13.2's APE include 9BN485, 9BN486 and ISO-9BN188.9. All three sites are Isolated Finds and have been determined to be ineligible for the NRHP. A portion of the Savannah & Southern Railroad (Savannah Division) is within the APE. The former tramline extends along FS Road 45 and branches to the southwest into the Artillery Impact Area (AIA). This tramline was determined eligible for the NRHP; however, adverse effects to this tramline were mitigated in accordance with stipulations within the PA. The APE within the AIA is exempt from archaeological survey in accordance with the PA. No previously recorded sites have been documented within the APE for the AIA.

### ALTERNATIVE III – Luzon Range:

The Luzon alternative is an existing large-caliber range that contains an existing opening from the baseline to an established duded impact area. As with Alternative II, SDZs overlap Luzon but contains interspersed mature pine trees beyond the open area. Two existing cleared engagement boxes associated with the convoy live fire route will be utilized to establish the Platoon objective and the Company objective. The helicopter landing zone will be established at the baseline of Luzon, an existing open area. Tree removal will not be necessary to create the maneuver area which will total approximately 2,200 acres. Considering the 750 meter buffer to the Luzon impact area is accessible from three sides, the maneuver area is larger than what is available under Alternative II. This also allows for placement of additional ancillary training

infrastructure in the maneuver area to include 5 support by fire structures, 2 breach facilities, and one trench. Tree removal to place infrastructure in the maneuver area is not expected given the very small footprint for each. Existing tank trails will be utilized as maneuver routes for engaging small arms targets as units travel to the Platoon and Company objectives. Timber thinning of approximately 500 acres will be necessary within the 750 meter boundary for line-of-sight to observe high explosive impact.

This alternative is located largely within an existing range (Luzon) in Natural Resource Management Units (NRMUs) B19.4, B20.1, B20.3, and B20.4. These locations are within the exclusionary area for archaeological surveys per the terms of the PA due to the presence of UXO. A portion of the Maneuver area located in NRMU B20.3 has been previously surveyed for cultural resources (Ambrosino, et al. 2001). One Isolated Find (9BN217) is within the Area of Potential Effect in B203 and has been determined ineligible for the NRHP.

## CONCLUSION

For all three alternatives, this cultural resource analysis has determined that there will be no unmitigated adverse effects to historic properties as defined under the National Historic Preservation Act. No areas of tribal interest (i.e. Sacred Sites, properties of religious importance, and/or Native American Graves Protection and Repatriation Act related resources) have been identified with all three alternatives. In regard to significant impacts to cultural resources under the National Environmental Policy Act, the threshold level of significance is defined as any unmitigated adverse impact to historic properties or areas of tribal interest. No unmitigated adverse effects to cultural resources are anticipated as a result of the proposed undertaking. Therefore, the threshold level of significance for cultural resources has not been met for the proposed actions under all three alternatives. Cumulative impacts to cultural resources are considered negligible under all three alternatives.

## REFERENCES CITED

- Ambrosino, James N., Dale L. Sadler, and Rebecca K. Turley  
2001 *An Intensive Archaeological Survey of 9,892 Acres (NRMUs B20.3, C7.1, C9.1 C9.3, E3.1, E3.2, E3.3, E10.1, E10.2, E10.3, E22.4, E22.5, F2.2, F2.3, F3.2, and F3.3 in Bryan, Liberty, Long, and Tattnall Counties) at Fort Stewart, Georgia.* Prepared for the National Park Service
- Greer, Brian K., Jennifer E. Grover, Joseph Paul Maggioni, Thomas E. Jeanquart, and Erin Westfall  
2005 *Investigation and Evaluation of the Savannah Southern Railroad (a.k.a. Tuten Railroad), Dunlevie Tramlines and Other Associated Tram Lines at Fort Stewart, Georgia.* Environmental Division, Fort Stewart, Georgia.

Healey, Martin; Dwight Kirkland; Wendy Drennon; David Conklin; Elizabeth Zieschang; Inger Wood; and Dan Boylan

2016 *Phase I Archaeological Survey of 10,445 Acres and Delineation of 28 Selected Sites at Fort Stewart Military Reservation (NRMUs A3.3, B4.1, B4.2, B4.3, B4.4, B4.5, B4.6, B4.8, B4.9, B4.10, B4.13, B4.15, B4.17, B4.18, B4.19, B12.1, B12.2, B13.2, C4.1, C10.2, C10.3, C16.1, C16.2, C16.3, C16.4, C17.1, E8.1, E8.3, E11.1, E11.2, E11.3, E11.4, E11.5, E11.6, E15.1, E16.1, E16.2, and E16.3) in Bryan, Liberty, and Long Counties, Georgia.* Submitted by LG2 Environmental Solutions, Jacksonville, Florida. Submitted to the US Army Corps of Engineers, Savannah, Georgia and Fort Stewart, Georgia.

# **APPENDIX C**

## **USFWS CONSULTATION RECORD**



# United States Department of the Interior

## Fish and Wildlife Service

105 West Park Drive, Suite D  
Athens, Georgia 30606  
Phone: (706) 613-9493  
Fax: (706) 613-6059

West Georgia Sub-Office  
Post Office Box 52560  
Fort Benning, Georgia 31995-2560  
Phone: (706) 544-6428  
Fax: (706) 544-6419

Coastal Sub-Office  
4980 Wildlife Drive  
Townsend, Georgia 31331  
Phone: (912) 832-8739  
Fax: (912) 832-8744

June 7, 2016

Mr. Robert R. Baumgardt  
U.S. Army Installation Management Command  
Directorate of Public Works  
1587 Veterans Parkway  
Fort Stewart, Georgia 31314-5048  
Attention: Mr. Tim Beaty

Re: USFWS Log Number 2016-I-1267

Dear Mr. Baumgardt:

Thank you for your May 20, 2016, letter and attached Biological Assessment concerning your proposal to construct a Combined Arms Live Fire Exercise Facility (CALFEX) in training area B13 in Bryan County, Georgia. The construction of this facility will require clearcutting, grubbing, and grading of 27.5 acres. We have reviewed the information you provided and submit the following comments under provisions of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 et seq.).

According to the information you provided, the project will have live fire activity south of the Artillery Impact Area Buffer (AIA) and therefore the timber that lies south of the AIAB will suffer mortality cause by bullet impacts. Therefore, it will be necessary to remove 188.5 acres of habitat from the Fort Stewart red-cockaded woodpecker (RCW) Habitat Management Unit, although some timber in the stand will remain to provide foraging resources for the RCW. The project lies within the eastern indigo snake (*Drymarchon corais couperi*) HMU, with one active gopher tortoise (*Gopherus polyphemus*) burrow that was occupied. This gopher tortoise was trapped and relocated. Clearcutting of the project will occur during warm weather months when eastern indigo snakes are not using gopher tortoise burrows.

The nearest historical sighting of a frosted flatwoods salamander (*Ambystoma cingulatum*) is 5.2 miles south of the proposed project. The nearest known sighting of foraging wood storks is at least 4.5 miles west of the project site. The nearest smooth coneflower population is 12.5 miles northwest of the project area.

Therefore, we agree with your determination that this proposed project is not likely to adversely affect any federally listed endangered or threatened species. Also, we believe that the requirements of section 7 of the ESA have been satisfied and no further consultation is required.

However, obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

We appreciate the opportunity to comment during the planning stages of your project. If you have any questions, please contact Robert Brooks of our Coastal Georgia Office at 912-832-8739, extension107.

Sincerely,



Strant Colwell  
Coastal Georgia Supervisor



DEPARTMENT OF THE ARMY  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

REPLY TO  
ATTENTION OF

Directorate of Public Works

20 MAY 16

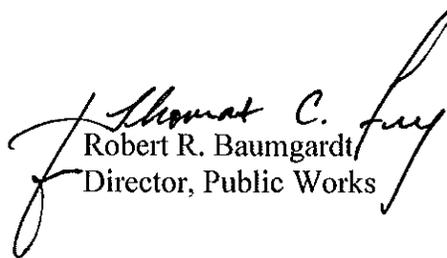
U.S. Department of the Interior  
Fish and Wildlife Service  
ATTN: Strant Colwell  
4980 Wildlife Drive, NE  
Townsend, GA, 31331

Dear Mr. Colwell:

Fort Stewart proposes to establish a Combined Arms Live Fire Exercise Facility in Training Area Bravo 13, Bryan County, Georgia. A Biological Assessment has been prepared in accordance with the requirements of the Endangered Species Act. The conclusion reached in this Biological Assessment is that the proposed action may affect, but is not likely to adversely affect, the red-cockaded woodpecker, wood stork, or eastern indigo snake, and will not affect the frosted flatwoods salamander, smooth coneflower, or the Atlantic and shortnose sturgeons. Fort Stewart achieved its red-cockaded woodpecker recovery goal of 350 potential breeding groups during the breeding season of 2012 and has enough suitable or potentially suitable habitat to support 657 red-cockaded woodpecker clusters post project.

If additional information is needed, please contact Mr. Tim Beaty, DPW, Fish and Wildlife Branch at telephone (912) 767-7261. Your continued cooperation and assistance are appreciated.

Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosures

# BIOLOGICAL ASSESSMENT

## Construction of a Combined Arms Live Fire Exercise Facility

Fort Stewart, Georgia

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Prepared By:



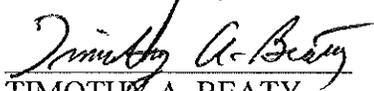
GARY C. HART  
Wildlife Biologist  
Fish and Wildlife Branch  
Environmental Division  
Directorate of Public Works  
Fort Stewart, GA

Reviewed By:



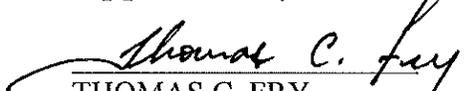
LAWRENCE D. CARLILE  
Chief, Planning and Monitoring  
Fish and Wildlife Branch  
Environmental Division  
Directorate of Public Works  
Fort Stewart, GA

Submitted By:



TIMOTHY A. BEATY  
Chief, Fish and Wildlife Branch  
Environmental Division  
Directorate of Public Works  
Fort Stewart, GA

Approved By:



THOMAS C. FRY  
Chief, Environmental Division  
Directorate of Public Works  
Fort Stewart, GA

## PROJECT DESCRIPTION

A Combined Arms Live Fire Exercise Facility (CALFEX) is a non-standard Army range, and the layouts used to establish them are site dependent. The components necessary to create a CALFEX include a helicopter landing zone (HLZ), a maneuver space with small arms targets, the ability to observe fires from close combat attack and indirect fire from a maneuver element (which may include smoke and high explosive munitions), a Platoon Objective Area (POA) with bunkers and obstacles, a Company Objective Area (COA) with trenches and bunkers, vehicle platforms for fire, maneuver areas for armored military fighting vehicles, stand-alone shock absorbing concrete structures that allow for the use of high explosive grenades, and a 750-meter line-of-site to an Artillery Impact Area (AIA). The HLZ, POA, and COA must be cleared of all trees. Land disturbance, including timber removal, grubbing, and grading activities will be required on 27.5 acres to establish the CALFEX facility. Live fire activity will occur south of the AIA Buffer (AIAB) and the timber that lies south of the AIAB will suffer mortality caused by bullet impacts. For this reason, it will be necessary to remove 188.5 acres of habitat from the Fort Stewart RCW Habitat Management Unit (HMU) (Figure 1).

## SITE DESCRIPTIONS

Forested upland habitats within the proposed action area comprises a canopy dominated by longleaf pine (*Pinus palustris*), slash pine (*P. elliottii*), and loblolly pine (*P. taeda*), with a mid-story of sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), live oak (*Q. virginiana*), wax myrtle (*Myrica cerifera*), and red bay (*Persea borbonia*). The groundcover is characterized by wiregrass (*Aristida stricta*), saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), shiny blueberry (*Vaccinium myrsinites*), huckleberry (*Gaylussacia frondosa*), runner oak (*Q. pumila*), and fetterbush species (*Lyonia*). Wetland systems adjacent to the proposed project are dominated by pond cypress (*Taxodium ascendens*), blackgum (*Nyssa sylvatica*), pond pine (*P. serotina*), red maple (*Acer rubrum*), and red bay. The soil types within the project area are Chipley fine sand, Lakeland sand, Ellabelle loamy sand, and Mascotte fine sand.

## SPECIES CONSIDERED

The following species occur, or may occur, in the proposed action area and were considered in this assessment:

Red-cockaded woodpecker (*Picoides borealis*) – Endangered  
Wood stork (*Mycteria americana*) – Threatened  
Eastern indigo snake (*Drymarchon couperi*) – Threatened  
Frosted flatwoods salamander (*Ambystoma cingulatum*) – Threatened  
Atlantic sturgeon (*Acipenser oxyrinchus*) – Endangered  
Shortnose sturgeon (*Acipenser brevirostrum*) – Endangered  
Smooth coneflower (*Echinacea laevigata*) – Endangered

## DISCUSSION

### Red-cockaded Woodpecker

Fort Stewart Fish and Wildlife Branch personnel surveyed the project area for red-cockaded woodpeckers (RCW) and RCW cavity trees, with the exception of the area that lies south of the AIAB boundary. This area cannot be surveyed due to safety hazards presented by the presence of unexploded ordnance (Figure 1). There were no RCW cavity trees detected within the action area other than known trees in existing RCW clusters. Clearing and grubbing of the HLZ will impact 5.3 acres of the foraging partition of RCW Cluster 101 and 4.2 acres of foraging partition of Cluster 293, for a total impact of 9.5 acres of RCW HMU (Table 1) as identified in Fort Stewart's Integrated Natural Resources Management Plan (INRMP; Directorate of Public Works 2001). Due to projected timber mortality and construction of the COA and POA, it will be necessary to remove 188.5 acres of RCW HMU (93.6 acres from Cluster 99's foraging partition and 94.9 acres of additional RCW HMU that does not lie within a foraging partition) from RCW management. However, we expect some timber in the stand to remain and to provide a foraging resource for the Cluster 99 group for an unspecified period of time (Figure 2; Table 1).

A May 2005 memorandum from Noreen Walsh, Assistant Regional Director, Ecological Services, U.S. Fish and Wildlife Service, Atlanta, GA, entitled "Implementation Procedures for Use of Foraging Habitat Guidelines and Analysis of Project Impacts under the Red-cockaded Woodpecker (*Picoides borealis*) Recovery Plan: Second Revision" (USFWS 2003) describes parameters and concepts to be considered when federal properties analyze projects that may affect RCWs. There are potentially 5 levels of analysis to consider in the preparation of biological assessments, with the analyses conducted in the following order: 1) foraging partition, 2) group, 3) neighborhood, 4) population, and 5) recovery unit. The results of each level of analysis predicates the necessity to conduct subsequent analyses.

#### Foraging Partition Level Analysis

The RCW Recovery Plan requires that a foraging analysis be performed for all active RCW clusters that may be impacted by a project using the Foraging Matrix (hereafter, Matrix) analysis tool. Federal agencies must perform an analysis of all affected foraging partitions to determine if they meet the RCW Recovery Standard (RS) of Good Quality Foraging Habitat (GQFH). If foraging partitions do not meet the RS, then the foraging partitions must be analyzed to determine if they meet the Managed Stability Standard (MSS). The pre-project foraging partitions of Clusters 99, 101, and 293 were analyzed and no stand within the project area met the RS (i.e., there were no acres of GQFH). Therefore, we analyzed the post-project stands receiving direct impact (i.e., loss of habitat in a foraging partition) using the MSS. The result was that Clusters 99, 101, and 293 had 83.8 acres, 186.0 acres, and 148.1 acres, respectively, of potential GQFH. The foraging partitions of all 3 clusters failed to meet the MSS because the basal area per acre (BAA) for pines greater than 10 inches was 38.9, just shy of the required 40 BAA (Table 2).

## RCW Group Level Analysis

Since 1995, Fort Stewart's RCW population demographics have been intensively monitored. Additionally, we band many chicks opportunistically in order to provide juvenile birds for translocations. Specifically, Fish and Wildlife Branch biologists and interns account for the number of RCW adults, eggs, chicks, fledglings, and helpers in each of the clusters either by capture, or by colored leg band identification with a spotting scope.

Cluster 99: This cluster has been active with a PBG since 1994. It nested every year but 2005 and 2006. The nest failed in 2002, 2004, and twice in 2007. It fledged juveniles from 1995-2001, 2003, 2008, and 2010-2015. It is active for 2016 with a PBG but is not monitored. Cluster 99 budded in 1999, forming cluster 279, which has been active since then.

Cluster 101: This cluster has been active since 1994. It nested from 1994-2004, and in 2006-2009. This cluster had a failed nest in 2007. Nest success was not monitored in 1995-2006, 2010-2014, and 2016. The cluster was monitored completely for 2008 and 2009 and fledged juveniles. Presence of a PBG was confirmed every year since 1994, except in 2015, when the cluster was not monitored for PBG presence/absence.

Cluster 293: The cluster has been active since 1999, when it budded from Cluster 100. It nested from 1999-2003, 2005, 2007, 2010, 2012, and 2014. It fledged juveniles from 2000-2003 and 2005. Nest success was not monitored in 2004, 2006-2014, and 2016. Presence of a PBG was confirmed every year since 1994, except in 2015, when the cluster was not monitored for PBG presence/absence.

To summarize the impacts of the proposed project on the RCW; 198 acres of RCW HMU will be lost (93.6 acres in Cluster 99, 5.3 acres in Cluster 101, 4.2 acres in Cluster 293, and 94.9 acres of RCW HMU outside of any foraging partition (Table 1). Although all 3 affected clusters are post-project deficient with regard to the MSS, it is important to note that they fail by a very thin margin (38.9 pine BAA versus the MSS requirement of 40 BAA), and that they were pre-project deficient in the same regard. All 3 clusters have not only persisted with <40 BAA of pine with a DBH of >10 inches, but they have thrived. Since monitoring began in 1994, both Clusters 99 and 100 have budded, and these 2 clusters and their resulting buds have remained active and productive at or below a BAA of 38.9 for pines >10 inches. Therefore, we think all 3 clusters will persist long term because all will have greater than minimum of 75 acres of habitat required under the MSS. Additionally, Conner and Rudolph (1991) determined that an active cluster that has < 2.5 active clusters within 1.25 miles has a low probability of persistence due to a critically low density of neighboring RCWs. They also implied that an active cluster with > 4.7 active clusters within 1.25 miles has a high probability of persistence due to a high density of neighboring RCWs. Clusters 99, 101, and 293 will have 4, 7, and 9, respectively, active clusters within 1.25 miles (Table 3), which supports the position that the affected clusters are likely to persist on the landscape.

Fort Stewart reached its recovery goal of 350 potential breeding groups during the breeding season of 2012 and has enough suitable or potentially suitable RCW HMU to support 657 RCW clusters post project. Since the foraging partitions do not pass MSS, the group level analysis was

used to illustrate our belief that these clusters will persist post project and will have adequate foraging resources available to them post-project. The neighborhood and population analyses are not warranted. The proposed action may affect, but is not likely to adversely affect, the RCW.

### Wood Stork

No wood storks were observed in the proposed project area, nor have they been observed foraging in the action area. The nearest area where foraging wood storks have been observed is approximately 4.5 miles west of the action area in FSTA F-17 (Figure 3). Because of its distance from confirmed wood stork sightings and the implementation of erosion and sedimentation control measures, the proposed action may affect, but is not likely to adversely affect, the wood stork.

### Eastern Indigo Snake

The project area lies within eastern indigo snake HMU. One eastern indigo snake was captured in 2008 and 2009 in the area that will become the HLZ. The project clearing will affect 27.5 acres of gopher tortoise habitat. The HLZ was surveyed for gopher burrows and 8 burrows were discovered. All burrows were scoped and 1 burrow was found to be occupied. This gopher tortoise was trapped and relocated within the same gopher tortoise population, but some distance away from the proposed HLZ. The POA and COA are within the Artillery Impact Area (AIA) buffer and cannot be surveyed due to safety hazards presented by the presence of unexploded ordnance (Figure 3). Observations by Installation biologists following similar projects (timber removal followed by military maneuver and live fire) indicate that gopher tortoises are likely to repopulate the project areas. Clear-cutting of the HLZ, POA, and COA will occur during warm weather months when eastern indigo snakes are not using gopher tortoise burrows. Tortoise burrows are abundant in the landscape surrounding the areas to be cleared, and it is likely that eastern indigo snakes that may currently use burrows in the area to be cleared will find other burrows to use elsewhere in the project area. The proposed project may affect, but is not likely to adversely affect, the eastern indigo snake.

### Frosted Flatwoods Salamander

The project area does not lie within frosted flatwoods salamander (FFS) HMU nor does it impact any primary or secondary buffers of potential FFS breeding ponds as identified in a FFS habitat review project (Palis 2002). The nearest known occurrence of a FFS is 5.2 miles south of the action area in FSTA B-4 (Figure 4). Project design will incorporate delineation of wetland areas and protection measures as required by the Clean Water Act and the Georgia Erosion and Sedimentation Control Act to ensure appropriate wetland protection. Therefore, the proposed actions will not result in significant erosion, run-off, or other off-site impacts that might affect FFS habitat or ponds. Due to the distance of the FFS sighting, no impacts to FFS HMU from the project area and the implementation of previously mentioned control measures, the proposed action will not affect the FFS.

### Atlantic and Shortnose Sturgeon

Telemetry and capture data, which was collected as part of Fort Stewart's shortnose sturgeon monitoring program (1991-2000), indicate that these fish do not travel >2 miles up the Canoochee River or 20 miles up the Ogeechee River from the Canoochee/Ogeechee River confluence. The Canoochee River flows diagonally through the Installation while the Ogeechee River forms much of the Installation's eastern boundary. The proposed project lies >15 miles west-southwest of the nearest Atlantic and shortnose sturgeon occurrences on the Canoochee River. Due to unsuitable habitat and the distance between the proposed project area and documented sturgeon sightings, this project will not affect the Atlantic and shortnose sturgeons.

### Smooth Coneflower

No smooth coneflowers were observed in the proposed project area and the soils types are unsuitable for this species (USFWS 1995). Fort Stewart's population of the smooth coneflower is located in FSTA F-11, approximately 12.5 miles northwest of the project area (Figure 5). Because of its distance from the confirmed smooth coneflower population and the fine sandy soil types present in the action area, the proposed action will not affect the smooth coneflower.

### **CUMULATIVE EFFECTS**

There are no foreseeable state, local, tribal, or private actions that would have a cumulative adverse effect when combined with impacts associated with the proposed action.

### **CONCLUSION**

The proposed action may affect, but is not likely to adversely affect, the RCW, wood stork, and eastern indigo snake. The proposed action will not affect the FFS, smooth coneflower, or Atlantic and shortnose sturgeons, because habitat in the action area is not suitable for these species. Critical habitat has been proposed for the FFS, but no FFS critical habitat was proposed for designation on Fort Stewart. Other listed species that occur on Fort Stewart have no critical habitat designated, so no critical habitat will be destroyed or modified adversely. The Army did not draw on the regulatory definition of destruction or adverse modification of critical habitat at 50 CFR 402.02 with respect to the conclusions and analysis made in this BA. Instead, the Army has incorporated into the critical habitat effects analysis the conservation of species principals found in the statutory provisions of the Endangered Species Act.

Figure 1. Location of Proposed CALFEX, Fort Stewart, Georgia.

Figure Redacted

Figure 2. Red-cockaded Woodpecker Habitat Management Unit and Clusters Affected by the Proposed Project, Fort Stewart, Georgia.

Figure Redacted

Figure 3. Wood Stork, Eastern Indigo Snake, and Gopher Tortoise Occurrences Near the Project Area, Fort Stewart, Georgia.

Figure Redacted

Figure 4. Frosted Flatwoods Salamander Habitat Near the Project Area, Fort Stewart, Georgia.

Figure Redacted

Figure 5. Smooth Coneflower Population, Fort Stewart, Georgia.

Figure Redacted

Table 1. Red-cockaded Woodpecker Habitat Management Unit Acres Affected per Partition.

Cluster	Meets MMS		Acreage Impacts		
	Pre-project	Post-project	Total RCW Partition Acres Impacted	RCW HMU Partition Acres	
				Pre-Project	Post-Project
99	No	No	93.6	177.4	83.8
101	No	No	5.3	191.3	186.0
293	No	No	4.2	152.2	148.1
Non-Partition RCW HMU			94.9		

Table 2. Managed Stability Partition Stand Values for Affected Red-cockaded woodpecker Partitions, Post-project.

### Partition 99 - Stand Values (MS)

5/17/2016  
2:48:25PM

Stand ID	Age	PBA >10	PBA <10	Hdwd Midstory	Total BA	% Groundcover*	Burn Interval*	Burn Season*	Total Acres
B1302_14	75	38.94	12.96	3.00	54.9	16.39	0	0	83.8

\* = Recommended Categories

### Partition 101 - Stand Values (MS)

5/17/2016  
2:49:26PM

Stand ID	Age	PBA >10	PBA <10	Hdwd Midstory	Total BA	% Groundcover*	Burn Interval*	Burn Season*	Total Acres
B1302_14	75	38.94	12.96	3.00	54.9	16.39	0	0	186.0

\* = Recommended Categories

### Partition 293 - Stand Values (MS)

5/17/2016  
2:50:20PM

Stand ID	Age	PBA >10	PBA <10	Hdwd Midstory	Total BA	% Groundcover*	Burn Interval*	Burn Season*	Total Acres
B1302_14	75	38.94	12.96	3.00	54.9	16.39	0	0	148.1

\* = Recommended Categories

Table 3. Density analyses of active RCW clusters within 1.25 miles of proposed CALFEX, Fort Stewart, Georgia.

Clusters	Number of Clusters w/in 1.25 miles of impacted cluster	Post-Project Density Rating: Dense - >4.7 Clusters w/in 1.25miles Moderate - 2.5-4.7 w/in 1.25 miles Low - <2.5 w/in 1.25 miles
99	4	Moderate
101	7	Dense
293	9	Dense

## LITERATURE CITED

- Conner, R.N., and D.C. Rudolph. 1991. Forest habitat loss, fragmentation, and red-cockaded woodpecker populations. *Wilson Bulletin*. 103(3), pp. 446-457.
- Directorate of Public Works. 2001. Integrated Natural Resources Management Plan, 2001-2005. 172 pp. plus appendices.
- Palis, John G. 2002. Distribution of Potential Habitat of the Federally Threatened Flatwoods Salamander (*Ambystoma cingulatum*) on Fort Stewart, Georgia. Contract #DAKF10-01-P-0265.
- U.S. Fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*): second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296 pp.
- USFWS. 1992. Endangered and threatened wildlife and plants; *Echinacea laevigata* (smooth coneflower) determined to be endangered. 57 Federal Register, pp. 46340-46344.

## **APPENDIX D**

### **REGULATORY CORRESPONDENCE AND MEDIA**

July 6, 2016

Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works  
1587 Veterans Parkway  
Fort Stewart, Georgia 31314  
**Attn: Amber McCormick**

RE: Fort Stewart: Establish Combined Arms Live Fire Exercise Facility  
Chatham County, Georgia  
**HP-160621-002**

Dear Mr. Fry,

The Historic Preservation Division (HPD) has received initial information concerning the above referenced project requesting comments pursuant to the National Environmental Policy Act of 1969. Our comments are offered to assist the US Department of the Army and Fort Stewart in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Thank you for notifying us of this federal undertaking. We look forward to receiving Section 106 compliance documentation, in accordance with the programmatic agreement between Fort Stewart and our office, as applicable.

Please refer to project number **HP 160621-002** in future correspondence regarding this project. If we may be of further assistance, please contact me at (770) 389-7851 or [Jennifer.dixon@dnr.ga.gov](mailto:Jennifer.dixon@dnr.ga.gov).

Sincerely,



Jennifer Dixon, MHP, LEED Green Associate  
Program Manager  
Environmental Review & Preservation Planning

AFFIDAVIT OF PUBLICATION  
SAVANNAH MORNING NEWS

STATE OF GEORGIA  
COUNTY OF CHATHAM

Personally appeared before me, Alaina Fincher, to me known,  
who being sworn, deposes and says:

That he/she is the authorized agent of Southeastern Newspapers  
Company, LLC d.b.a. Savannah Morning News, a Georgia corporation,  
doing business in Chatham County, Georgia as a daily newspaper published  
in said county;

That he/she is authorized to make affidavits of publication on behalf  
of said company;

That said newspaper is of general circulation in said county  
and in the area adjacent thereto;

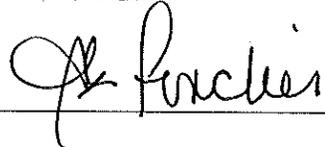
That said newspaper is the legal organ for publication  
in Chatham County, Georgia

That he/she has reviewed the regular editions of the  
Savannah Morning News, published on:

June 13, 2016 \_\_\_\_\_, 2016,  
\_\_\_\_\_, 2016, \_\_\_\_\_, 2016,

and finds that the following advertisement, to-wit:

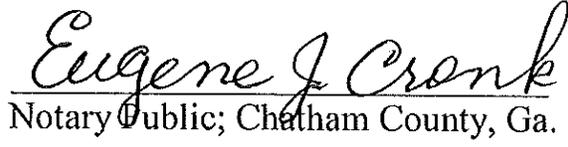
**NOTICE OF AVAILABILITY**  
DRAFTING OF NO  
CALIFORNIA IMPACT (FNSI),  
DRAFTING OF NO  
PRACTICABLE ALTERNATIVE  
(FNPACT) AND DRAFT  
ENVIRONMENTAL ASSESSMENT  
(EA)  
Establishing a Combined Arms  
Live Fire Exercise (CALFEX)  
Facility on Fort Stewart, Georgia  
As the 3rd Infantry Division and  
the 1st Airborne Division are  
home to numerous deployable  
units, Fort Stewart must provide  
sufficient land and facilities for  
Soldiers to train to meet Army  
national security objectives. While  
Fort Stewart has land and range  
infrastructure, it is appropriate for  
standardized Army qualification  
and maneuver training. It does not  
have a range capable of supporting  
an area to conduct CALFEX.  
A CALFEX facility is unlike a  
typical Army range on Fort  
Stewart which focuses on weapon  
systems qualification. Instead, a  
CALFEX facility allows of  
military units to focus on shooting,  
moving, and communicating  
together as a platoon or  
company-sized units in order to  
stop a simulated enemy force. The  
Draft EA analyzes the potential  
environmental impacts of  
implementing this proposed action  
at two alternative locations on Fort  
Stewart and compares those  
potential impacts to a no action  
alternative.  
The Draft EA and its associated  
FNSI/FNPA can be accessed via  
the Fort Stewart National  
Environmental Policy Act  
webpage: <http://www.stewart.army.mil/info?id=512>  
and hard copies will be available at  
the Live Oak and Oglethorpe Water  
Branches of the Savannah Public  
Library, the Live Oak Public  
Library in Hinesville, and at the  
Post Library on Fort Stewart.  
Please submit comments during  
the public comment period,  
June 13 - July 12, 2016, to  
[amber.e.mccormick.civ@mail.mil](mailto:amber.e.mccormick.civ@mail.mil)  
or by calling 912-67-2010.



(Deponent)

appeared in each of said editions.  
Sworn to and subscribed before me

This 16 day of June, 2016

  
Notary Public; Chatham County, Ga.

EUGENE J. CRONK  
Notary Public, Chatham County GA  
My Commission Expires Jan. 24, 2018

## NOTICE OF AVAILABILITY

**Draft Finding of No Significant Impact (FNSI), draft finding of no practicable alternative (FNPA), and Draft Environmental Assessment (EA)**

*Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*

As the 3rd Infantry Division and the home to numerous deployable units, Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives.

While Fort Stewart has land and range infrastructure appropriate for standardized Army qualification and maneuver training, it does not have a range capable of supporting an area to conduct a CALFEX.

A CALFEX facility is unlike a typical Army range on Fort Stewart which focuses on weapon systems qualification.

Instead, a CALFEX facility allows for military units to focus on shooting, mov-

ing, and communicating together as Platoon- or Company-sized units maneuver to stop a simulated enemy force.

The Draft EA analyzes the potential environmental impacts of implementing this proposed action at two alternative locations on Fort Stewart and compares those potential impacts to a no action alternative.

The Draft EA and its associated FNSI /FNPA can be accessed via the Fort Stewart National Environmental Policy Act webpage: [www.stewart.army.mil/info?id=512](http://www.stewart.army.mil/info?id=512), and hard copies will be available at the Live Oak and Oglethorpe Mall Branches of the Savannah Public Library, the Live Oak Public Library in Hinesville, and at the Post Library on Fort Stewart.

Please submit comments during the public comment period, through July 12, to [amber.e.mccormick.civ@mail.mil](mailto:amber.e.mccormick.civ@mail.mil) or by calling 912-767-2010.



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*Fort Stewart, Georgia*

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Date 6-10-16

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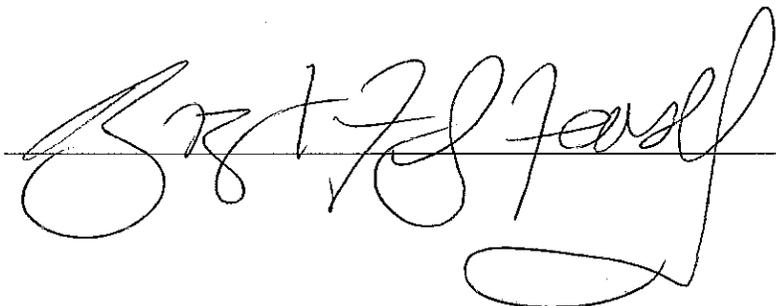
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*Draft Finding of No Significant Impact, Draft Finding of No Practicable  
Alternative, and Draft Environmental Assessment*

*for Establishing a Combined Arms Live Fire Exercise Facility,*

*Fort Stewart, Georgia*

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A handwritten signature in cursive script, appearing to read "Sgt. J. J. Ford", written over a horizontal line.

Date 6/10/2016

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*Fort Stewart, Georgia*

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M. Stonecipher

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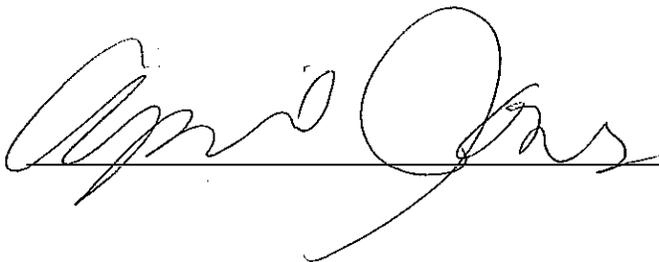
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*Draft Finding of No Significant Impact, Draft Finding of No Practicable Alternative, and Draft Environmental Assessment*

*for Establishing a Combined Arms Live Fire Exercise Facility,*

*Fort Stewart, Georgia*

**Signature** (signature acknowledges receipt of document for public viewing, not responsibility, lost or stolen copies will be replaced)

A handwritten signature in black ink, appearing to read "George P. Hays", written over a horizontal line.

Date 6/13/16



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Georgia Department of Natural Resources  
Environmental Protection Division  
Attn: Mr. Jud Turner  
2 Martin Luther King Jr. Drive, SE  
Atlanta, GA 30334-9000

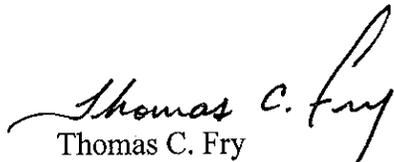
Dear Mr. Turner:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

As the 3<sup>rd</sup> Infantry Division and the home to numerous deployable units, Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. While Fort Stewart has land and range infrastructure appropriate for standardized Army qualification and maneuver training, it does not have a range capable of supporting an area to conduct a CALFEX. A CALFEX facility is unlike a typical Army range on Fort Stewart which focuses on weapon systems qualification. Instead, a CALFEX facility allows for military units to focus on shooting, moving, and communicating together as Platoon- or Company-sized units maneuver to stop a simulated enemy force. The Draft EA analyzes the potential environmental impacts of implementing this proposed action at two alternative locations on Fort Stewart and compares those potential impacts to a no action alternative.

The Draft FNSI/FNPA and EA are enclosed on CD. Please submit comments during the public comment period, June 13 – July 12, 2016, to Amber E. McCormick using the following email address: [amber.e.mccormick2.civ@mail.mil](mailto:amber.e.mccormick2.civ@mail.mil), or by calling 912-767-2010.

Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Chatham County Commission  
Attn: Albert J. Scott  
P.O. Box 8161  
Savannah, GA 31412

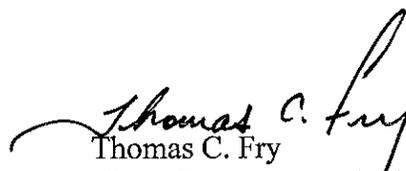
Dear Mr. Scott:

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Liberty County Consolidated Planning Commission  
Attn: Mr. Jeff Ricketson  
The Historic Courthouse  
100 Main Street, Suite 7520  
Hinesville, GA 31313

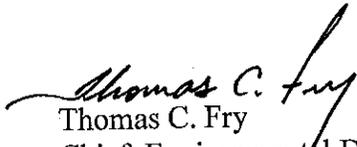
Dear Mr. Ricketson:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

City of Richmond Hill  
Attn: Linda Phillips  
40 Richard R. Davis Dr.  
Richmond Hill, GA 31324

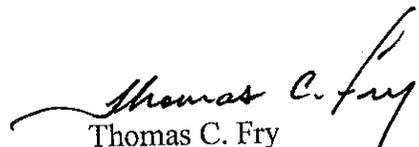
Dear Ms. Phillips:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

As the 3<sup>rd</sup> Infantry Division and the home to numerous deployable units, Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. While Fort Stewart has land and range infrastructure appropriate for standardized Army qualification and maneuver training, it does not have a range capable of supporting an area to conduct a CALFEX. A CALFEX facility is unlike a typical Army range on Fort Stewart which focuses on weapon systems qualification. Instead, a CALFEX facility allows for military units to focus on shooting, moving, and communicating together as Platoon- or Company-sized units maneuver to stop a simulated enemy force. The Draft EA analyzes the potential environmental impacts of implementing this proposed action at two alternative locations on Fort Stewart and compares those potential impacts to a no action alternative.

The Draft FNSI/FNPA and EA are enclosed on CD. Please submit comments during the public comment period, June 13 – July 12, 2016, to Amber E. McCormick using the following email address: [amber.e.mccormick2.civ@mail.mil](mailto:amber.e.mccormick2.civ@mail.mil), or by calling 912-767-2010.

Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

City of Glennville  
Attn: Ms. Amy W. Murray  
134 South Downing Musgrove Highway  
Glennville, GA 30457

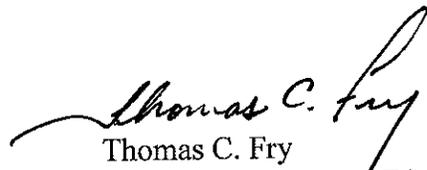
Dear Ms. Murray:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

U.S. Environmental Protection Agency  
Federal Activity Branch  
Attn: Mr. Heinz J. Mueller  
61 Forsyth Street, SW  
Atlanta, GA 30303-3104

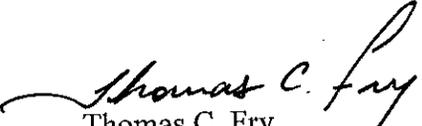
Dear Mr. Mueller:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Liberty County Commission  
Attn: Mr. Donald Lovette  
112 N. Main Street  
Hinesville, GA 31313

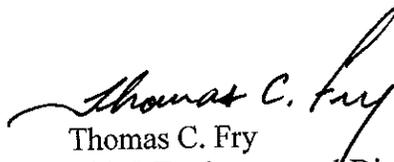
Dear Mr. Lovette:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Savannah District Corps of Engineers  
Wetland Regulatory Division  
Attn: Jared Lopes  
100 W. Oglethorpe Avenue  
Savannah, GA 31401

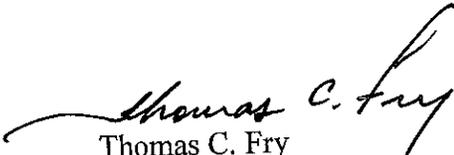
Dear Mr. Lopes:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Long County Board of Commissions  
Attn: Robert A. Long  
459 S. McDonald Street  
Ludowici, GA 31316

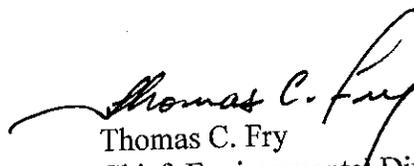
Dear Mr. Long:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



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US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

City of Statesboro  
Attn: R. Shane Haynes  
City Manager  
50 East Main Street  
Statesboro, GA 30458

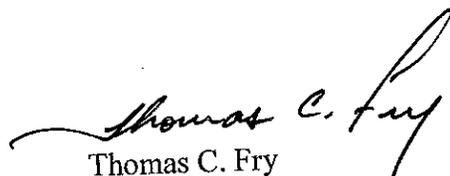
Dear Mr. Haynes:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

City of Hinesville  
Attn: Billy Edwards  
115 East M. L. King Jr. Drive  
Hinesville, GA 31313

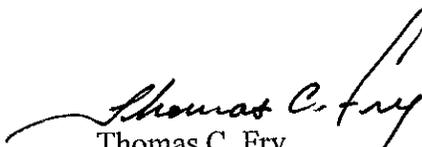
Dear Mr. Edwards:

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Tattnall County Commission  
Attn: Ms. Ashley Durrence  
P.O. Box 25  
Reidsville, GA 30453

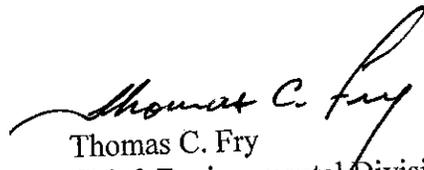
Dear Ms. Durrence:

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

City of Savannah  
Attn: Ms. Stephanie Cutter  
P.O. Box 1027  
Savannah, GA 31402

Dear Ms. Cutter:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Evans County Board of Commissioners Office  
Attn: Del Beasley  
3 Freeman Street  
Claxton, GA 30417

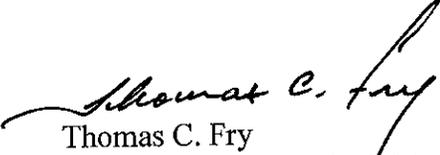
Dear Mr. Beasley:

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Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

U.S. Forest Service  
Chattahoochee-Oconee National Forest  
Attn: Mr. George Bain  
1755 Cleveland Highway  
Gainesville, GA 30501

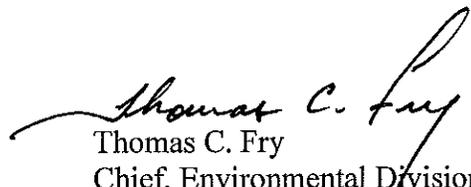
Dear Mr. Bain:

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Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Georgia Department of Natural Resources  
Environmental Protection Division  
Watershed Protection Branch  
Attn: Ms. Jennifer H. Welte  
4220 International Parkway, Suite 101  
Atlanta, GA 30334-9000

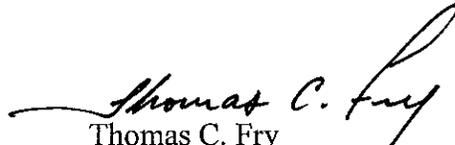
Dear Ms. Welte:

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Chief, Environmental Division  
Directorate of Public Works



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US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Georgia Department of Natural Resources  
Environmental Review Coordination  
Attn: Karen Anderson-Cordova  
254 Washington Street, SW  
Atlanta, GA 30334

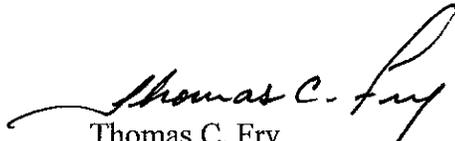
Dear Ms. Anderson-Cordova:

Enclosed is a copy of the *Draft Finding of No Significant Impact (FNSI)*, *Draft Finding of No Practicable Alternative (FNPA)*, and *Draft Environmental Assessment (EA)* for *Establishing a Combined Arms Live Fire Exercise (CALFEX) Facility on Fort Stewart, Georgia*.

As the 3<sup>rd</sup> Infantry Division and the home to numerous deployable units, Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. While Fort Stewart has land and range infrastructure appropriate for standardized Army qualification and maneuver training, it does not have a range capable of supporting an area to conduct a CALFEX. A CALFEX facility is unlike a typical Army range on Fort Stewart which focuses on weapon systems qualification. Instead, a CALFEX facility allows for military units to focus on shooting, moving, and communicating together as Platoon- or Company-sized units maneuver to stop a simulated enemy force. The Draft EA analyzes the potential environmental impacts of implementing this proposed action at two alternative locations on Fort Stewart and compares those potential impacts to a no action alternative.

The Draft FNSI/FNPA and EA are enclosed on CD. Please submit comments during the public comment period, June 13 – July 12, 2016, to Amber E. McCormick using the following email address: [amber.e.mccormick2.civ@mail.mil](mailto:amber.e.mccormick2.civ@mail.mil), or by calling 912-767-2010.

Sincerely,

  
Thomas C. Fry  
Chief, Environmental Division  
Directorate of Public Works



**DEPARTMENT OF THE ARMY**  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD  
DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314

Office of the Directorate

Bryan County Commission  
Attn: Jimmy Burnsed  
51 North Courthouse Street  
Pembroke, GA 31321

Dear Mr. Burnsed:

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