

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

**FOR  
CONSTRUCTION, OPERATION, AND MAINTENANCE OF A  
QUALIFICATION TRAINING RANGE**

**AT  
FORT STEWART, GEORGIA**



**AUGUST 2016**

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**FINDING OF NO SIGNIFICANT IMPACT AND  
FINDING OF NO PRACTICABLE ALTERNATIVE  
FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE  
OF A QUALIFICATION TRAINING RANGE AT 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 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 is able to provide the facilities necessary for Soldiers to train to meet Army standards, there continues to remain a shortfall in meeting the number of live-fire ranges for units to qualify on weapon systems without delay. This demand for immediate throughput capability of Soldiers training for the warfighting mission is a part of the range scheduling process. A hindrance occurs when the number of Soldiers needing to qualify on weapon systems to meet Army standards exceeds the current available range capacity at Fort Stewart. This in turn causes units to delay their ability to qualify Soldiers until live-fire ranges are available for training to Army standards. Realizing this, the Army prepared an Environmental Impact Statement (EIS) in 2010 to evaluate potential impacts from the construction and operation of 12 new live-fire ranges planned for Fort Stewart over a period of several years. These ranges represent the Army's solution to the live-fire training capacity shortfall on Fort Stewart; however, they also represent a considerable investment in time, land, and fiscal resources. As the Department of Defense began absorbing significant impacts from a \$487 billion, ten-year cut in spending due to caps instituted by the Budget Control Act of 2011 (DoD, 2014), the Army cancelled construction of 6 of the 12 ranges programmed for Fort Stewart. The Army also delayed the planned construction of 1 of the 6 ranges, the Qualification Training Range (QTR), from 2013 to 2017. The remaining 5 approved new ranges have been constructed on Fort Stewart and are in operation.

Two recently constructed qualification ranges, the Multipurpose Machine Gun Range (MPMGR) and the Automated Sniper Field Fire Range (ASFFR), have overlapping live-fire Surface Danger Zones (SDZs) occurring in both QTR site alternatives evaluated in the 2010 EIS (Environmental Assessment (EA) Figure 2). The SDZ is a temporary safety boundary that surrounds the firing range and associated impact area to protect personnel from ammunition rounds that may ricochet during operation of the range. This is also intensified given the proximity of the 2010 EIS alternatives to the existing nearby firing lines of the MPMGR, ASFFR, and a Legacy MPMGR; seen as causing an unnecessary safety risk to construction personnel if these ranges remained operational during the QTR construction period. Eliminating the use

of these existing ranges during the QTR construction period was also considered but is problematic given that building a multifaceted range like the QTR necessitates a two-year period. Consequently, these existing ranges could not be utilized while the QTR is under construction. As such, constructing at either of the 2010 EIS locations no longer satisfies the Army's mission and instead intensifies the live-fire training capacity shortfall Fort Stewart is working to prevent. Fundamentally, removing existing ranges from training use for this length of time does not support Soldier readiness to meet national security objectives. Therefore, the Army must build the QTR at a new location on Fort Stewart that ensures safe and reliable training to Soldiers so that they are prepared to meet the nation's present and future warfighting requirements.

### **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. With the exception of the No Action Alternative, there are three alternatives considered unfeasible and are not carried forward for analysis. The screening process is discussed in EA Section 2.2. The proposed action, No Action Alternative, and feasible action alternatives are described below.

**Proposed Action.** The Army proposes to construct, operate, and maintain a 250-acre QTR at Fort Stewart. The 250-acre footprint is the range floor itself for which targets and supporting infrastructure are placed in order for the QTR to be operable. Beyond the 250-acre footprint is the range's weapon SDZ which is a much larger area encompassing approximately 4,000 acres. The SDZ area is not disturbed through construction activities but serves as a safety buffer for use of specified munitions, although the majority of the rounds will land in the range floor.

Prior to the start of timber harvest and range construction, the Army will conduct an unexploded ordnance survey (UXO) to determine if munitions of explosive concern exist at subsurface construction depth. Munitions of explosive concern will be removed upon UXO survey completion. Environmental permitting and mitigation measures necessary to implement the proposed action at a given alternative location will also be completed prior to timber harvest and range construction.

Construction will consist of the following activities: demolition, tree removal, grubbing and grading, earthwork involving excavation and introducing fill dirt material for target berms and low-lying areas, control tower, range classroom building, storage building, bleacher enclosure and covered eating area, ammunition breakdown building, latrine with both potable water and a septic tank (250 people/day capacity), underground electric lines and fiber optic cable, fencing, parking area, range maintenance roads, erosion and sedimentation control measures, storm drainage, and the placement of targets at specified distances.

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 will utilize this process to schedule associated requirements. This means that Military units must schedule time with the Installation Range Control Office to train on the QTR. As areas within the QTR SDZ are shut down during operation of the range, natural resource management personnel will also utilize the range scheduling 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 QTR itself supports a multitude of small arms weapon systems and has 16 firing lanes with targetry at specified distances. All targets are fully automated and the event-specific

target scenario is computer-driven and scored from the control tower. The range operating system is fully capable of providing immediate performance feedback to the using participants. The QTR also supports night fire operations.

The QTR will be maintained for target line-of-sight by controlling vegetation on an as-needed basis through mowing, prescribed burning, and herbicide treatment.

**Alternative I: No Action/Status Quo.** The Council on Environmental Quality (CEQ) regulations that implement the National Environmental Policy Act (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 construct a QTR.

**Alternative II: D-5, South.** This alternative is located in a previously undisturbed area near the Installation's southern boundary in the Delta Small Arms Impact Area (EA Figure 6). The site is generally a pine forest with heavy underbrush. The entire footprint will require tree clearing but is relatively flat and can support a developable footprint. Low areas within the QTR footprint will require fill material to achieve line-of-sight from the firing line to the target. Existing tank trails and road systems will be utilized where feasible, but new target maintenance roads will be necessary as described in the proposed action description. There are no existing facilities on the site. The potential for UXO discovery at the site is considered low; however, a characterization survey would be conducted prior to QTR construction to confirm munitions of explosive concern risk. The site supports small arms training considering it is located within an existing impact area. The SDZ would cause minor interference with operation of the existing MPMGR and the MPMGR SDZ to the QTR D-5, South location. For safety reasons, this alternative would require more restrictive use and maintenance of the downrange portion of the footprint and would likewise cause the same restrictions to the downrange portion of the MPMGR. This is a manageable communication process, however, established through safety briefings to occupying units presented by the Range Control Office prior to every scheduled use of any range. The Range Control Office explains any unique risk that may exist with a particular range and outlines those safety restrictions to the occupying unit.

**Alternative III: D-5, Zulu (Preferred).** This alternative is located on top of an existing Small Arms range known as the Zulu Range within the Delta Small Arms Impact Area (EA Figure 7). The existing Zulu Range was used as a sub-caliber round armor training range and as a non-standard infantry battle course. There are no known dud-producing ammunition rounds located on this existing range. However, a UXO survey will be conducted prior to QTR construction to assess the risk of encountering munitions and explosives of concern. There are four existing facilities located behind the firing line of Zulu Range. Those structures will be demolished during construction activities and include a classroom building, a control tower, a bleacher cover, and an ammunition issue point. Low areas within the QTR footprint will require fill material to achieve line-of-sight from the firing line to the target. There are existing drainage ditches that will be utilized, allowing the existing drainage pattern to remain. Existing tank trails and road systems will be utilized in addition to new target maintenance roads as described in the proposed action description. Gravel will be used for parking and service roads.

## **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 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, Biological Resources, Cultural Resources, and Operational Noise. Resources whose impacts resulted in no effect are summarized in Appendix A. Table 1 summarizes the findings of EA 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 (D-5, South)	Alternative III, Preferred (D-5, Zulu)
<b>Water Resources</b>			
<b>Direct / Indirect</b>	None	Moderate	Minor
<b>Cumulative</b>	None	Moderate	Moderate
<b>Biological Resources</b>			
<b>Direct / Indirect</b>	None	Minor	Minor
<b>Cumulative</b>	None	Minor	Minor
<b>Cultural Resources</b>			
<b>Direct / Indirect</b>	None	Negligible	Negligible
<b>Cumulative</b>	None	Minor	Minor
<b>Operational Noise</b>			
<b>Direct/Indirect</b>	None	Moderate	Negligible
<b>Cumulative</b>	None	Minor	Minor

**Table 1. Summary of Environmental Impacts**

## **5.0 MITIGATION AND MONITORING MEASURES**

Implementation of the preferred alternative (Alternative III) 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. State groundwater well and septic tank permitting will also occur prior to construction of associated infrastructure. These features will support low flow water fixtures and will be designed in accordance with State of Georgia expectations.

Implementation of the project at the D-5, Zulu site will require permanent loss of up to 9.65 acres of wetlands. Due to the spacing of the wetland areas on the site and the facility requirements, it is impossible to avoid all of the wetland impacts. While avoidance and minimization will be incorporated during engineering and design, any wetland loss will be mitigated through the purchase of wetland credits. Up to 100 credits are estimated to be needed for compensation for anticipated losses; however, specific wetland credit numbers and the wetland mitigation bank location will be finalized once designs are completed during the Savannah District U.S. Army Corps of Engineers (USACE) permitting process.

A formal mitigation plan noting mitigation details is a necessary component of any Department of Army 404 permit submittal. Permitting of these actions with the USACE and State Water Quality Certification (Section 401 of the Clean Water Act) will be completed prior to the initiation of any construction activities. All required mitigation and impact minimization protocols laid out in the wetland permit process will be implemented by the Army.

Impacts to 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 construction 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 III is in part located within the 100-year floodplain of Taylor's Creek. The Army will take all practicable measures to minimize potential harm to or within the floodplain and wetlands as described above. Additional features to facilitate drainage at the site (culverts, roadside ditches) may be required and will be incorporated during site design and layout. 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 Taylor's Creek.

**Biological Resources.** Concurrence from the U.S. Fish and Wildlife Service (USFWS) for Alternative III was received in 2014. The USFWS concluded that the proposed action at the D-5, Zulu site will adversely affect the red-cockaded woodpecker (RCW) through the permanent removal of 132 acres of habitat including the take of one cluster and that Alternative III will not adversely affect the frosted flatwoods salamander or any other threatened or endangered species at Fort Stewart. Prior to timber harvest, Fort Stewart will translocate RCWs that may exist in the identified cluster.

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

**Cultural Resources.** Fort Stewart concluded that Alternative III will not cause direct adverse impacts to archaeological resources or any other historic property and has satisfied its obligations under Section 106 of the National Historic Preservation Act through the use of its Programmatic Agreement with the State Historic Preservation Office. While no ground disturbing activities are required within the SDZ outside of the range footprint proper, the Golden Family Cemetery (approximately 3.5km down-range) will be monitored periodically for potential indirect impacts during operation of the QTR. Should adverse effects to the cemetery occur, mitigation measures may be necessary to protect it from further harm.

**Operational Noise.** In coordination with the U.S. Army Public Health Command, the Alternative III location will result in similar noise impacts as is currently experienced at the existing Zulu range; therefore, the QTR does not change the off-Installation Noise Zone II contour. Fort Stewart, however, will continue its collaboration with local planning and governmental agencies surrounding the Installation through its established outreach programs to encourage Army compatible land-use.

## 6.0 PUBLIC REVIEW AND COMMENTS

The *Draft Finding of No Significant Impact; Draft Finding of No Practicable Alternative; and Draft EA for the Construction, Operation, and Maintenance of a Qualification Training Range at Fort Stewart, Georgia* were available for a 30-day public review (June 27 – July 26, 2016) at the local public libraries in Hinesville and Savannah and at the Post Library on Fort Stewart. The draft documents were also mailed to regulators and community stakeholders for comment. Fort Stewart did not receive any negative comments during the public review period.

## 7.0 FINDINGS

### 7.1 FINDING OF NO PRACTICABLE ALTERNATIVE

Executive Order 11990, *Protection of Wetlands*, and Executive Order 11988, *Floodplain Management*, provides that if a Federal Government agency proposes to conduct an activity in a wetland or 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 wetlands and floodplains. The Army considered all reasonable site alternatives to construct, operate, and maintain the QTR on Fort Stewart. As the action alternatives are within or in close proximity to the Taylor's Creek floodplain, other than the No-Action Alternative, no practicable alternative exists to entirely avoid the floodplain or wetlands 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 Orders 11988 and 11990, I find that there is no practicable alternative to implementing the Preferred Alternative (Alternative III) within wetlands and the 100-year floodplain and the Proposed Action includes all practicable measures to minimize and mitigate impacts to wetlands and the 100-year floodplain.

### 7.2 FINDING OF NO SIGNIFICANT IMPACT

In accordance with CEQ regulations, 40 CFR 1500-1508, implementing NEPA, as amended, and Environmental Analysis of Army Actions; Final Rule, 32 CFR 651, based on the environmental analysis included in the Final EA for the construction, operation, and maintenance of a QTR on Fort Stewart, Georgia, I conclude that the Preferred Alternative (Alternative III) will have no significant or potential significant environmental impacts; thus, an Environmental Impact Statement is not warranted.

  
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TOWNLEY R. HEDRICK  
COL, IN  
Commanding

25 AUG 16  
Date

In compliance with the National Environmental Policy Act of 1969

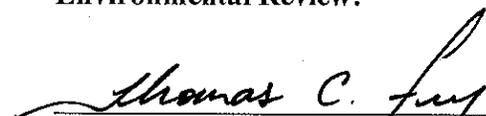
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**AT FORT STEWART, GEORGIA**

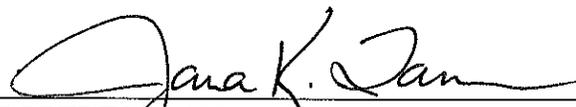
**Environmental Review:**

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

Date: 08/05/2016

**Reviewed by:**

  
\_\_\_\_\_

SR ROBERT R. BAUMGARDT  
Director, Public Works

Date: 8/8/2016

**Approval:**

  
\_\_\_\_\_

TOWNLEY R. HEDRICK  
COL, IN  
Commanding

Date: 25 AUG 16

## TABLE OF CONTENTS

Chapter		Page Number
<b>1.0</b>	INTRODUCTION	1
<b>1.1</b>	Installation Background	1
<b>1.2</b>	Purpose and Need	2
<b>2.0</b>	DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES	5
<b>2.1</b>	Proposed Action	5
<b>2.2</b>	Screening Criteria	7
<b>2.3</b>	Alternatives	13
<b>2.3.1</b>	Alternative I: No Action / Status Quo	13
<b>2.3.2</b>	Alternative II: D-5, South	13
<b>2.3.3</b>	Alternative III: D-5, Zulu (Preferred)	13
<b>3.0</b>	AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	14
<b>3.1</b>	Resources Analyzed	14
<b>3.2</b>	Water Resources	15
<b>3.2.1</b>	Affected Environment	15
<b>3.2.1.1</b>	Existing Water Resources Specific to Alternatives II and III	16
<b>3.2.2</b>	Environmental Consequences	17
<b>3.2.2.1</b>	Water Resource Impacts from Alternative I	17
<b>3.2.2.2</b>	Overview of Direct and Indirect Water Resource Impacts from Alternatives II and III	17
<b>3.2.2.3</b>	Specific Direct and Indirect Water Resource Impacts from Alternatives II and III	19
<b>3.2.2.4</b>	Cumulative Water Resource Impacts from Alternatives II and III	20
<b>3.3</b>	Biological Resources	21
<b>3.3.1</b>	Affected Environment	21
<b>3.3.1.1</b>	Existing Biological Resources Specific to Alternatives II and III	23
<b>3.3.2</b>	Environmental Consequences	23
<b>3.3.2.1</b>	Biological Resource Impacts from Alternative I	23
<b>3.3.2.2</b>	Overview of Direct and Indirect Biological Resource Impacts from Alternatives II and III	23
<b>3.3.2.3</b>	Specific Direct and Indirect Biological Resource Impacts from Alternatives II and III	24
<b>3.3.2.4</b>	Cumulative Biological Resource Impacts from Alternatives II and III	25
<b>3.4</b>	Cultural Resources	26
<b>3.4.1</b>	Affected Environment	26
<b>3.4.1.1</b>	Existing Cultural Resources Specific to Alternatives II and III	27
<b>3.4.2</b>	Environmental Consequences	28
<b>3.4.2.1</b>	Cultural Resource Impacts from Alternative I	28
<b>3.4.2.2</b>	Specific Direct and Indirect Cultural Resource Impacts from Alternatives II and III	28
<b>3.4.2.3</b>	Cumulative Cultural Resource Impacts from Alternatives II and III	29
<b>3.5</b>	Operational Noise	30
<b>3.5.1</b>	Affected Environment	30

<b>3.5.1.1</b>	Existing Operational Noise Environment Specific to Alternatives II and III	33
<b>3.5.2</b>	Environmental Consequences	33
<b>3.5.2.1</b>	Operational Noise Impacts from Alternative I	33
<b>3.5.2.2</b>	Specific Direct and Indirect Operational Noise Impacts from Alternatives II and III	33
<b>3.5.2.3</b>	Cumulative Operational Noise Impacts from Alternatives II and III	34
<b>4.0</b>	CONCLUSIONS	35
<b>5.0</b>	ABBREVIATIONS AND ACRONYMS	36
<b>6.0</b>	REFERENCES	38
<b>APPENDIX A: Resources Considered but Eliminated from Further Review</b>		39
<b>APPENDIX B: Water Resources Impact Figures</b>		46
<b>APPENDIX C: USFWS Consultation Record</b>		55
<b>APPENDIX D: Cultural Resources Figures</b>		63
<b>APPENDIX E: Operational Noise Figures</b>		66
<b>APPENDIX F: Regulatory Correspondence and Media</b>		70

## **1.0 INTRODUCTION**

This EA will analyze the potential environmental impacts associated with the construction, operation, and maintenance of a Qualification Training Range (QTR) 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 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 would 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.

The existing small arms ranges are primarily around the Small Arms Impact Area north of the cantonment area and the Delta Small Arms Impact Area west of the cantonment area. The 15 ranges are used for small arms weapons training, including M16 rifles, M60 machine guns, M2 machine guns, M249 Squad Assault Weapons (SAW), M9 pistols, M21 rifles, M24 rifles, and 12-gauge shotguns.

## **1.2 PURPOSE AND NEED**

While Fort Stewart is able to provide the facilities necessary for Soldiers to train to meet Army standards, there continues to remain a shortfall in meeting the number of live-fire ranges for units to qualify on weapon systems without delay. This demand for immediate throughput capability of Soldiers training for the warfighting mission is a part of the range scheduling process. A hindrance occurs when the number of Soldiers needing to qualify on weapon systems to meet Army standards exceeds the current available range capacity at Fort Stewart. This in turn causes units to delay their ability to qualify Soldiers until live-fire ranges are available for training to Army standards. Realizing this, the Army prepared an Environmental Impact Statement (EIS) in 2010 to evaluate potential impacts from the construction and operation of 12 new live-fire ranges planned for Fort Stewart over a period of several years. These ranges represent the Army's solution to the live-fire training capacity shortfall on Fort Stewart; however, they also represent a considerable investment in time, land, and fiscal resources. As the Department of Defense began absorbing significant impacts from a \$487 billion, ten-year cut in spending due to caps instituted by the Budget Control Act of 2011 (DoD, 2014), the Army cancelled construction of 6 of the 12 ranges programmed for Fort Stewart. The Army also delayed the planned construction of 1 of the 6 ranges, the QTR, from 2013 to 2017. The remaining 5 approved new ranges have been constructed on Fort Stewart and are in operation.

Two recently constructed qualification ranges, the Multipurpose Machine Gun Range (MPMGR) and the Automated Sniper Field Fire Range (ASFFR), have overlapping live-fire Surface Danger Zones (SDZs) occurring in both QTR site alternatives evaluated in the 2010 EIS (Figure 2). The SDZ is a temporary safety boundary that surrounds the firing range and associated impact area to protect personnel from ammunition rounds that may ricochet during operation of the range. This is also intensified given the proximity of the 2010 EIS alternatives to the existing nearby firing lines of the MPMGR, ASFFR, and a Legacy MPMGR; seen as causing an unnecessary safety risk to construction personnel if these ranges remained operational during the QTR construction period. Eliminating the use of these existing ranges during the QTR construction period was also considered but is problematic given that building a multifaceted range like the QTR necessitates a two-year period. Consequently, these existing ranges could not be utilized while the QTR is under construction. As such, constructing at either of the 2010 EIS locations no longer satisfies the Army's mission and instead intensifies the live-fire training capacity shortfall Fort Stewart is working to prevent. Fundamentally, removing existing ranges from training use for this length of time does not support Soldier readiness to meet national security objectives. Therefore, the Army must build the QTR at a new location on Fort Stewart that ensures safe and reliable training to Soldiers so that they are prepared to meet the nation's present and future warfighting requirements.

Figure Redacted

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

Figure Redacted

**Figure 2. 2010 EIS Alternatives no longer feasible.**

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

This chapter will describe the proposed construction, operation, and maintenance of an Army standard QTR at Fort Stewart. A discussion of the screening criteria developed to measure the feasibility of QTR alternatives considered is also provided. Additionally, QTR alternatives carried forward for environmental impact analysis are described.

### **2.1 PROPOSED ACTION**

The Army proposes to construct, operate, and maintain a 250-acre QTR at Fort Stewart. The 250-acre footprint is the range floor itself for which targets and supporting infrastructure are placed in order for the QTR to be considered operable. Beyond the 250-acre footprint is the range's weapon SDZ which is a much larger area encompassing approximately 4,000 acres. The SDZ area is not disturbed through construction activities but serves as a safety buffer for use of specified munitions, although the majority of the rounds will land in the range floor. The probability of a hazardous fragment escaping the SDZ boundary is approximately equal to one in one million. This area is closed to all unauthorized personnel during each training exercise on the range.

Prior to the start of timber harvest and range construction, the Army will conduct an unexploded ordnance (UXO) survey to determine if munitions of explosive concern exist at subsurface construction depth. Munitions of explosive concern will be removed upon UXO survey completion. Environmental permitting and mitigation measures necessary to implement the proposed action at a given alternative location will also be completed prior to timber harvest and range construction.

Construction will consist of the following activities: demolition, tree removal, grubbing and grading, earthwork involving excavation and introducing fill dirt material for target berms and low-lying areas; a Range Operations and Control Area (ROCA) incorporating a control tower, range classroom building, storage building, bleacher enclosure and covered eating area, ammunition breakdown building, parking area latrine with both potable water and a septic tank (250 people/day capacity); underground electric lines and fiber optic cable, fencing, range maintenance roads, erosion and sedimentation control measures, storm drainage, and the placement of targets at specified distances shown in the standard design (Figure 3).

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 that Military units must schedule time with the Installation Range Control Office to train on the QTR. As areas within the QTR SDZ are shut down during operation of the range, natural resource management personnel will also utilize the range scheduling 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 QTR itself supports 5.56mm, 7.62mm, 40mm, 9mm, and .50 caliber ammunition and supports the following weapons systems: M2 HB Machine Gun (MG), Mk-19, 40mm grenade, M60 MG, M240B MG, M249 Squad Automatic Weapon, M240 Automatic Rifle, M24 Sniper Rifle, M16A1/A2 Rifle, M4 Carbine, and the M9 Pistol. The range has 16 lanes, each 30 meters wide. These lanes are used for rifle



## 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 established 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; D-5, South; and D-5, Zulu.

<b>SCREENING CRITERIA:</b>		
<ol style="list-style-type: none"> <li>1. Can the Army QTR standard design be supported by the alternative proposed?</li> <li>2. Can the range SDZ be accommodated without problematically infringing on adjacent training facilities or ranges?</li> <li>3. Does the alternative maximize use of the Installation's Training Area (i.e., does not take away from maneuver training or large-caliber range space and utilizes existing impact areas)?</li> <li>4. Is the terrain susceptible to wildfires which could cause safety issues?</li> <li>5. 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>2010 EIS Alternatives (Figure 2)</b>	<b>N</b>	The existing MPMGR and ASFFR have overlapping live-fire SDZs occurring in these QTR site alternatives. There is also a Legacy MPMGR that interferes with these former alternatives. The proximity of these existing ranges at their firing lines would require them to shut down during the QTR's 2-year construction period. Removing any of these existing ranges from the training cycle for such an extended period of time was seen as a detrimental impact to the warfighting preparedness of Soldiers. The MPMGR and ASFFR are both new ranges that meet current Army warfighting requirements and are heavily utilized. As such, these QTR site alternatives are not discussed in this EA as they are no longer feasible. Refer to EA Section 1.2 for additional detail.
<b>C-15 (Figure 4)</b>	<b>N</b>	This area of Fort Stewart is infrequently burned through the Installation's prescribed burn program due to proximity to major highways. If a live-fire range were sited at this location, the safety risk increases from the likelihood of wildfires that could erupt in the SDZ and cause visibility concerns from smoke to motorists traveling on adjacent major highways. Considering the magnitude of such a risk, this alternative was dismissed as unfeasible.
<b>D-9 (Figure 5)</b>	<b>N</b>	Wetland impacts are projected at 115 acres. Avoidance and minimization measures cannot be met if other feasible site alternatives have lesser wetland impacts (Section 404 of the Clean Water Act). There are two

		potentially feasible alternative site locations with lesser wetland impacts; therefore, the D-9 alternative was eliminated from further consideration.
<b>D-5, South (Figure 6)</b>	<b>Y</b>	The D-5, South site alternative minimally meets the screening criteria. SDZs from the existing MPMGR would overlap the downrange portion of the QTR at this site. The QTR at this location would also have SDZs that would overlap the downrange portion of the existing MPMGR. For safety reasons, an added layer of range scheduling management at times of downrange maintenance / operation would be necessary at both range locations. As it relates to minimizing adverse environmental impacts, while more feasible than the discounted alternatives, the QTR at this location would have a greater severity of impact when compared to the Installation's Preferred Alternative, although minimization and mitigation efforts are possible. This QTR alternative is considered feasible and evaluated in this EA.
<b>D-5, Zulu (Preferred) (Figure 7)</b>	<b>Y</b>	The D-5, Zulu site alternative meets the screening criteria. From an operational perspective, the site is located on top of an existing Small Arms range although land clearing activities in previously undisturbed areas would be required. The QTR SDZs are supported by this alternative without impact to any other ranges. Environmental impacts anticipated under this alternative are acceptable because they are minimized where possible and mitigation is also possible. The D-5, Zulu alternative is the Installation's preferred alternative, evaluated in this EA.

**Table 1: Screening Criteria Matrix.**

Figure Redacted

**Figure 4. C-15 Alternative not feasible due to wildfire safety risks.**

Figure Redacted

**Figure 5. D-9 Alternative not feasible due to operationally feasible alternatives with lesser wetland impacts.**

Figure Redacted

**Figure 6. D-5, South Alternative is feasible because it meets site screening criteria.**

Figure Redacted

**Figure 7. D-5, Zulu Alternative is Fort Stewart's preferred location as it best meets the site screening criteria.**

## **2.3 ALTERNATIVES**

This section describes each QTR 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 build the QTR on Fort Stewart.

### **2.3.2 ALTERNATIVE II: D-5, SOUTH**

This alternative is located in a previously undisturbed area near the Installation's southern boundary in the Delta Small Arms Impact Area. The site is generally a pine forest with heavy underbrush. The entire footprint will require tree clearing but is relatively flat and can support a developable footprint. Low areas within the QTR footprint will require fill material to achieve line-of-sight from the firing line to the target. Existing tank trails and road systems will be utilized where feasible, but new target maintenance roads will be necessary as described in the proposed action description (EA Section 2.1). There are no existing facilities on the site. The potential for UXO discovery at the site is considered low; however, a characterization survey would be conducted prior to QTR construction to confirm munitions of explosive concern risk. The site supports small arms training considering it is located within an existing impact area. The SDZ would cause minor interference with operation of the existing MPMGR and the MPMGR SDZ to the QTR D-5, South location. For safety reasons, this alternative would require more restrictive use and maintenance of the downrange portion of the footprint and would likewise cause the same restrictions to the downrange portion of the MPMGR. This is a manageable communication process, however, established through safety briefings to occupying units presented by the Range Control Office prior to every scheduled use of any range. The Range Control Office explains any unique risk that may exist with a particular range and outlines those safety restrictions to the occupying unit.

### **2.3.3 ALTERNATIVE III: D-5, ZULU (PREFERRED)**

This alternative is located on top of an existing Small Arms range known as the Zulu Range within the Delta Small Arms Impact Area. The existing Zulu Range was used as a sub-caliber round armor training range and as a non-standard infantry battle course. There are no known dud-producing ammunition rounds located on this existing range. However, a UXO survey will be conducted prior to QTR construction to assess the risk of encountering munitions and explosives of concern. There are four existing facilities located behind the firing line of Zulu Range. Those structures will be demolished during construction activities and include a classroom building, a control tower, a bleacher cover, and an ammunition issue point. Low areas within the QTR footprint will require fill material to achieve line-of-sight from the firing line to the target. There are existing drainage ditches that will be utilized, allowing the existing drainage pattern to remain. Existing tank trails and road systems will be utilized in addition to new target maintenance roads as described in the proposed action description (EA Section 2.1). Gravel will be used for parking and service roads.

### **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 EIS.

### **3.1 RESOURCES ANALYZED**

Environmental analysis determined that the implementation of either action alternative has the potential to result in impacts to Water Resources, Biological Resources, Cultural Resources, and impacts from Operational Noise which are discussed in detail in the remainder of this chapter. There are no adverse impacts predicted to Overall Installation Environmental Resource Management; 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 A.

## 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. Taylor's Creek is a major tributary of the Canoochee and flows through the Delta Small Arms Impact Area, which is the region of Fort Stewart where Alternatives II and III are located.

**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 location instead of through field studies as was conducted with the preferred location (Alternative III). This is 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. When comparing the NWI at feasible alternative locations, the site with the least amount of wetlands shown are carried forward for field verification and barring other preventative constraints, result in a preferred site selection that avoids and minimizes wetland impacts to a greater extent than other potentially feasible locations.

**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.* Upon review of historic aerials and overlaying U.S. Geological Survey surface water layers in the Army’s mapping software, there are two streams contained in the proposed action footprint at the D-5, South location. Given the lack of site disturbing activities that has occurred over the last 40 years at this location, the 85 acres of wetland identified through an evaluation of the NWI are considered broad-leaved deciduous, forested, palustrine systems that have largely maintained their natural connections. According to 2014 FEMA floodzone data maps, the D-5, South site contains 100-year floodplain on the southern portion of the footprint, encompassing roughly 50 acres.

*Alternative III (Preferred).* Several relict drainage ditches exist that flow to Taylor’s Creek. Upon review of historic aerials and overlaying the NWI, it appears these ditches were excavated entirely within upland areas but may contain surface waters. Fort Stewart conducted a 615-acre wetlands field study of the preferred alternative location and surrounding area. The wetland delineation identified a total of 137.23 acres of jurisdictional systems of which approximately 13.62 acres exist within the construction footprint. Three types of jurisdictional wetlands were identified: early successional, emergent wetlands; old growth forested wetlands associated with Taylor’s Creek; and cypress/tupelo dominated forested wetlands. Early successional, emergent wetlands found within the active range were all dominated by herbaceous wetland plants, exhibited strong hydrological indicators and the soils also showed hydric indicators; however, they are diminished in function as the existing range at this location has been in operation since the late 1960’s. Impacts have occurred over time in the existing Zulu range footprint from operation of the facility as well as maintenance mowing for line-of-sight to target areas.

The forested wetlands associated with the Taylor’s Creek system exhibit old growth bottomland hardwoods along with hydric soil indicators. The cypress/tupelo dominated depressions contained hydric soil indicators and had strong wetland plant communities dominated by bald cypress (*Taxodium distichum*), black tupelo (*Nyssa sylvatica*), sweet-bay (*Magnolia virginiana*), shiny leaf (*Lyonia lucida*), and southern waxy sedge (*Carex glaucescens*). The downrange portion of the D-5, Zulu site contains 130

acres of 100-year floodplain. The area proposed for ROCA facility construction, however, is not within the 100-year floodplain.

### **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 harvest, grading, grubbing, or other land disturbance because the Army would not establish a QTR 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. Of the 250-acre QTR construction footprint, approximately 5-10 acres will consist of impervious surfaces mostly resulting from ROCA facilities. Less wetland avoidance areas, the remaining range footprint will consist of compacted soil material where range maintenance roads will consist of rock / gravel material. Therefore, runoff rates post-construction will be much less than traditional development practices covering large areas of ground with impervious surfaces such as roads, sidewalks, and buildings.

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 QTR construction. These BMPs must be utilized by the contractor and will be inspected by the Army periodically for adequacy and to have the contractor 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 project's executing agency (U.S. Army Corps of Engineers) or contractor will provide a copy of the fee submission to the Installation Environmental Office along with a prepared and initialed Notice of Intent (NOI) for coverage under the State's National Pollutant Discharge Elimination System (NPDES) Permit. Land disturbance, inclusive of timber harvesting 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. The contractor is expected to comply with this requirement. 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. The Installation must agree that the project site meets necessary site stabilization parameters as required by the State of Georgia prior to project acceptance by the Army.

During operation of the range, military units are expected to ensure all washouts of trucks 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 stormwater conveyance systems. 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. Discussed in EA Chapter 2.0, *Description of the Proposed Action and Alternatives*, the Army considered measures to avoid unnecessary wetland impacts by eliminating alternatives that would likely result in a greater amount of aquatic resource loss than when compared to Alternatives II and III. Unfortunately, total avoidance of impacts to U.S. Waters is not practical when considering the screening criteria described in EA Chapter 2.0; however, within each Alternative II and III footprint, site-specific wetland avoidance measures are likely through the design phase.

Because the QTR is a qualification range, target placement flexibility to 800 meters is not possible and requires existing wetland areas within this area of the proposed footprint at either Alternative II or Alternative III locations to be filled to give Soldiers the ability to have line-of-sight to each target within specific positions and distances. Fort Stewart will apply for an Individual Permit to seek approval from the Savannah District U.S. Army Corps of Engineers (USACE) to fill unavoidable wetland areas within the proposed action footprint. Wetland impact minimization efforts will also be documented during the proposed action design phase to assist with completion of the Individual Permit application.

Wetland mitigation will consist of utilizing the Savannah District USACE's standard operating procedure for calculating compensatory mitigation requirements. Wetland credits and/or stream credits will be utilized from either the primary or secondary service area to adequately offset losses in aquatic function that would result in unavoidable impacts to wetlands and other waters of the U.S. associated with the

proposed action. The primary or secondary service area compensatory mitigation banks have aquatic resources similar in function to those at the Alternative II and III locations, along with credits available.

**Groundwater.** As described in EA Chapter 2.0, *Description of the Proposed Action and Alternatives*, the proposed action will include a latrine facility with a capacity to serve up to 250 individuals per day. Potable water will be made available through a water well accessing one of the three groundwater aquifers within the Fort Stewart region. Prior to construction, the Army will obtain necessary permitting in accordance with the Georgia EPD Chapter 391-3-5 Rules For Safe Drinking Water (OCGA § 12-5-170), Georgia's Minimum Standards for Public Water Systems, and Georgia EPD Chapter 391-3-2 Groundwater Use (OCGA § 12-5-90), including but not limited to, identifying the specific groundwater aquifer as the source of water supply; the means and methods of treating, purifying, storing and distributing the water; and obtaining a permit to operate the water system. As such, Fort Stewart will require the designer or contractor to complete a Georgia EPD drinking water project submittal form and an application for a permit to use groundwater. Detailed engineering well construction plans and specifications must be stamped by a Georgia certified Professional Engineer and submitted to Georgia EPD through the Installation Environmental Office. Potable water conservation measures as explained in Section 8 of the Georgia Water Stewardship Act must also be incorporated into the design.

The septic system must be designed and constructed in accordance with the Georgia Department of Human Resources Manual for On-site Sewage Management Systems (Chapter 290-5-26). The septic system will also require Georgia EPD permitting since it will serve more than 20 individuals per day. The designer will be required to prepare a permit application for mixed waste non-domestic septic system. Detailed engineering septic system construction plans and specifications must be stamped by a Georgia certified Professional Engineer and submitted to Georgia EPD through the Installation Environmental Office.

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

*Alternative II.* Moderate direct and indirect water resource impacts are anticipated under Alternative II. Land cover changes that result from site development at the D-5, South location include increased imperviousness, soil compaction, loss of 250-acres of vegetation, and loss of natural drainage patterns, which result in increased runoff volumes and peak runoff rates. Total wetland impact would require 63.56 acres of fill and rerouting 4,600 linear feet of stream within the first 800 meters of the range. The 21.33 acres of wetland area beyond 800 meters (2,400 feet) will involve vegetation removal with selective fill impacts. The wetlands Individual Permit application would follow the Savannah District USACE guidelines for preparing permit applications pursuant to Section 404(B)(1) of the CWA. The ESPC Plan would address how the project at this location would 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. Refer to Appendix B for water resources impact maps associated with Alternative II.

*Alternative III (Preferred).* Minor direct and indirect water resource impacts are anticipated under the Alternative III location. The QTR footprint at the D-5, Zulu site will result in filling a total of 9.65 acres

of wetlands to facilitate construction and operation of the range. Targets to be constructed beyond 800 meters downrange have more flexibility in their placement, allowing Fort Stewart to avoid filling 4.06 acres of wetlands in these areas, although vegetation removal will be required for target line-of-sight. A wetlands Individual Permit application will be prepared in accordance with the Savannah District USACE guidelines for preparing permit applications pursuant to Section 404(B)(1) of the CWA. The ESPC Plan will address how the proposed action 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. Refer to Appendix B for associated water resources impact maps and Section 404(B)(1) documentation associated with the Alternative III location.

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

Long-term moderate cumulative water resource effects in the Delta Small Arms Impact Area associated with the Canoochee watershed are anticipated from either of the Alternative II or III locations. Expected cumulative impacts include increased erosion rates due to training and other human activities, e.g., timbering; sources of chemicals and excess nutrients such as stormwater runoff from surrounding facilities and tank trails.

Cumulative effects on 90,000 acres of wetlands within the Installation boundary are expected, due to some filling required for the proposed action and other potential military projects that may be proposed in the future. Long-term minor adverse cumulative effects on groundwater withdrawals could also occur in the region over the next 10-20 years when non-military growth and encroachment activities are added to the proposed action. Such changes could lead to an increased use of groundwater resources in the vicinity that are not widely used at present.

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 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, RCW and FFS habitats exist in both 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.

**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.* Approximately 200 acres of RCW habitat and two RCW clusters exist in the D-5, South location. Two FFS ponds are within the Alternative II footprint but are considered unlikely breeding sites. Approximately 200 acres of the QTR footprint at this location contains interspersed mature pine trees including longleaf pine. These trees are beyond the reaches of the vast amount of SDZs that encompass the Delta Small Arms Impact Area; therefore, they are considered merchantable given their relative low likelihood of metal contamination from small arms ammunition firing.

*Alternative III (Preferred).* Approximately 130 acres of RCW habitat and one RCW cluster exists in the D-5, Zulu site. Primary (10 acres) and secondary (64.4 acres) buffer areas from a FFS pond are located within this QTR footprint. Approximately 100 acres of the Alternative III footprint contains interspersed mature pine trees. The timber located downrange of the existing Zulu small arms range is likely contaminated with lead bullets from previous live-fire training.

## **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 QTR 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.

In an attempt to minimize direct impacts to RCW birds occupying affected clusters, Fort Stewart will translocate RCWs to suitable but unoccupied habitat. Potential indirect effects (e.g., noise, dust, traffic, etc.) caused by the construction, operation, and maintenance in the action area is not expected to adversely impact RCW populations due to the existence of stable or increasing RCW populations on similar landscapes for many years. Due to Fort Stewart's ongoing monitoring efforts for the FFS, no FFS have been observed in the Alternative II and III locations; therefore, direct impacts to the FFS are not expected. Potential indirect effects to FFS ponds are expected to be minimized through project protection measures as required by the CWA and the Georgia Erosion and Sedimentation Control Act.

**Forest Management.** Prescribed burning and timber thinning to improve RCW and FFS habitats will continue within the forested areas of the Delta Small Arms Area, with the entire QTR footprint cleared of timber through harvesting. With either action alternative, a timber cruise of the proposed action footprint will be conducted to determine which trees are merchantable and which trees will remain on site for use as possible erosion control BMPs or disposed of off-Post in a suitable permitted landfill by the construction contractor. The timber cruise will be conducted at such time as the USACE finalizes its civil survey, marking the limits of disturbance on the ground. The Army will require up to 120 days of continuous access to the site from the time all necessary environmental permitting is completed. All remaining timber on the site that the Army will not harvest must be disposed of properly or utilized as appropriate on site by the contractor and cannot be sold by the contractor.

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

*Alternative II.* Minor direct and indirect impacts to biological resources are expected from Alternative II. 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 D-5, South location. It is expected that the Alternative II location would yield similar impacts as was described in the Army's original biological assessment and formal USFWS consultation conducted for the 2010 EIS expected location (D-7). The Alternative II location would result in the removal of approximately 200 acres of RCW habitat, two RCW clusters, and two FFS ponds. Fort Stewart would be required to conduct follow-up consultation with the USFWS to verify no change in the original conclusion, i.e., the proposed action will adversely affect the RCW, but not adversely affect the FFS or any other threatened or endangered species at Fort Stewart. This would have to be conducted prior to action implementation at the D-5, South site. Operation of the QTR at the Alternative II location would result in the possibility of metal contamination in the timber contained within the SDZ. The timber beyond the QTR footprint at this location is not within existing range SDZs even though it is within the Delta Small Arms Impact Area.

*Alternative III (Preferred).* Minor direct and indirect impacts to biological resources are expected from Alternative III. The Army consulted with the USFWS after the Installation determined its preferred location for QTR construction to be the D-5, Zulu site. Because the Army had previously consulted formally with the USFWS on the 2010 EIS expected location (D-7), the biological assessment submitted for the Alternative III site provided a comparative analysis with respect to RCW and FFS impacts. The

USFWS agreed that the Alternative III site posed lesser impacts when compared to the 2010 EIS expected location resulting in a conclusion that the proposed action at the D-5, Zulu site will adversely affect the RCW, but will not adversely affect the FFS or any other threatened or endangered species at Fort Stewart. As such, RCW will be translocated prior to construction; however, habitat in this footprint will be permanently removed. Refer to Appendix C for USFWS concurrence and corresponding biological assessment. The timber beyond the QTR footprint at the D-5, Zulu location contained an SDZ from previous range use and thus may contain metal in some trees. 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 minor cumulative impacts to biological resources are expected from either the Alternative II or III locations when added to the military mission at Fort Stewart. However, properly planned and designed activities will minimize the impacts on wildlife habitats and ecosystem damage. Army activities are not expected to impede recovery of the Fort Stewart RCW as opportunities continue to exist to manage these species. As such, the RCW population is expected to persist near the ranges and infrastructure as they have historically persisted adjacent to existing developed areas.

## **3.4 CULTURAL RESOURCES**

### **3.4.1 AFFECTED ENVIRONMENT**

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources are divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural properties. The Integrated Cultural Resources Management Plan (ICRMP) for Fort Stewart / Hunter Army Airfield contains the most comprehensive information regarding cultural and historic resources on the Installation. Unless stated otherwise in Section 3.4.1, the below information is from this document.

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on historic properties eligible or potentially eligible for the National Register of Historic Places (NRHP). Section 106 established a review procedure required for all federal undertakings, including any federally funded, assisted, licensed or administered projects and all undertakings that occur on federal land. If the undertaking is a type of activity that has the potential to affect cultural resources (regardless of their known absence/presence), further review is required. If it is determined that an undertaking will have no effect on a historic property, then the action can proceed.

If an undertaking will potentially affect a historic property, then federal agencies must identify and evaluate historic properties within the area of potential effect in consultation with the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Office (SHPO). Once historic properties are identified, the review process is continued. The federal agency will either find alternatives to the undertaking or, failing this, will mitigate the affected resources. This involves further consultation with the ACHP, the SHPO, the general public, and the Tribes.

Section 106 procedures can be exhaustive and it is best to avoid repetitive consultation. The Section 106 regulation, 36 CFR § 800, encourages federal agencies to adopt alternative methods of Section 106 compliance (such as enacting a Programmatic Agreement). Fort Stewart currently operates under a streamlined Section 106 Review process through a Programmatic Agreement (PA) developed between the Installation and the SHPO. As it applies to Section 106, proposed land management activities and mission construction and maintenance proposals are coordinated with the Installation's cultural resources staff. Through this review process, if the proposed action will have no effect or no adverse effect to historic properties, the Installation cultural resources staff will document the findings within the Annual Report, and the undertaking may proceed.

If the Installation cultural resources staff finds that there is a potential for an adverse effect, the Installation cultural resources staff will devise a mitigation plan to eliminate or minimize the effects of the property. If this is not possible, then a mitigation plan for data recovery will be developed. Fort Stewart will then notify the SHPO of the adverse effects and a proposed mitigation plan. If the adverse effect is to a site with religious or cultural significance to Native American groups, the same information will be provided to the Tribes.

**Architectural resources.** Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance. There are no buildings / structures within the Alternative II and III footprints or their associated SDZs that are eligible or potentially eligible for the NRHP. Therefore, architectural resources will not be discussed further in this EA.

**Traditional cultural properties.** Traditional cultural properties can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, or traditional hunting and gathering areas that Native Americans or other interested stakeholders consider essential to continue traditional cultures. Specific American Indian Tribal resources or sacred sites or areas on Fort Stewart where such sites may be situated have not all been identified to date. Fort Stewart consults with American Indian Tribes having an ancestral affiliation with the Fort Stewart area on a case-by-case basis, specifically when projects arise with the potential to affect Tribal resources. There are no known Tribal resources within the Alternative II and III footprints or their associated SDZs. As such, Tribal resources will not be discussed further in this EA.

**Archaeological resources.** Archaeological resources include any material remains of past human life or activities that can provide scientific or humanistic understandings of past human behavior and culture by applying scientific or scholarly techniques. For example, archaeological resources consist of sites, arrowheads, stone flakes, or bottles.

Per the terms of the PA, 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. Existing cultural resources identified within these areas continue to be taken into account for any proposed undertaking.

Fort Stewart encompasses approximately 280,000 acres, and 233,130 acres have been surveyed for archeological resources. Approximately 43,000 acres are excluded from survey through the PA due to previous disturbance or the danger of UXO. Fort Stewart has also excluded up to 10,681 acres from further survey due to elevated risk of UXO and a low probability of past human occupation. Factoring in the excluded UXO low probability acreage, there are up to 20,654 acres that will require survey.

The affected environment for archaeological resources includes any cultural resources eligible or potentially eligible for inclusion in the NRHP identified with the Alternative II and III locations, including their associated proposed SDZs.

### **3.4.1.1 Existing Cultural Resources Specific to Alternatives II and III**

*Alternative II.* The range footprint is located within Natural Resource Management Units D5.5, D5.6, and D5.8. These locations have been previously surveyed for cultural resources (Greer, 2016). Two archaeological sites (9LI1942 and 9LI885) are located within the range floor footprint. Both sites have been determined ineligible for the NRHP. The SDZs have also been previously surveyed for cultural resources through a variety of cultural resource surveys (Greer, 2016). 9LI1807 (Golden Family Cemetery) is located within eastern side of the SDZ approximately 3.4km from the firing line. No other

cultural resources of concern have been identified within the area of potential effect. Refer to Appendix D for cultural resources figure associated with Alternative II.

*Alternative III (Preferred).* The Zulu range floor has not been surveyed for cultural resources but is categorically excluded from archaeological survey requirements in accordance with the PA. One previously recorded site (9LI379) has been documented within the existing footprint. 9LI379 is the location of a former Dunlevie tramline that crosses the Zulu range northwest to southeast. This particular portion of 9LI379 is non-existent as it has been altered by the construction of the range decades ago. Most importantly, this tramline (along with other railroad and tramlines on the Installation) was determined eligible for the NRHP and mitigated for all adverse effects in accordance with the PA (Greer, 2016). This alternative also extends into NRMU D5.2 and D6.3. NRMU D5.2 has been previously surveyed for cultural resources and no archaeological sites were recorded (Greer, 2016). NRMU D6.3 has also been previously surveyed for cultural resources and no archaeological resources were documented (Greer, 2016). The SDZs associated with this alternative have also been previously surveyed for cultural resources through a variety of cultural resource surveys (Greer, 2016). Several cultural resources and four historic properties (9LI277; 9LI1807; 9LI2037; and 9LI2020) are located within the SDZ. Refer to Appendix D for cultural resources figure associated with Alternative III.

## **3.4.2 ENVIRONMENTAL CONSEQUENCES**

### **3.4.2.1 Cultural Resource Impacts from Alternative I**

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

### **3.4.2.2 Specific Direct and Indirect Cultural Resource Impacts from Alternatives II and III**

*Alternative II.* Alternative II will result in negligible direct and indirect impacts to cultural resources. Although several cultural resources and six historic properties (9LI277; 9LI1355, 9LI1687, 9LI1807; 9LI2037; and 9LI2020) are located within the SDZ, it has been determined that the QTR range will not adversely affect these archaeological resources. No ground disturbing activities are required within the SDZ's outside of the range footprint proper. Golden Family Cemetery is not anticipated to be affected by the Small Arms fire and/or maintenance of the facility. In addition, a substantial amount of forested lands exist between the firing line and the cemetery and thereby will provide a sufficient buffer to protect the five burial markers located within the cemetery. The cemetery currently exists downrange of other Small Arms ranges in the vicinity and no evidence of damage has been observed historically. In the unlikely event that impacts occur within the cemetery, appropriate mitigation measures would be considered for eliminating or minimizing the impacts (e.g., construction of a berm).

*Alternative III (Preferred).* Alternative III will result in negligible direct and indirect impacts to cultural resources. Although several cultural resources and four historic properties are located within the SDZ, it has been determined that the QTR range will not adversely affect these archaeological resources. No

ground disturbing activities are required within the SDZ's outside of the range footprint proper. Although the Golden Family Cemetery (9LI1807) is located within the SDZ approximately 3.5km down-range, it is not anticipated to be adversely affected (see Alternative II for discussion regarding 9LI807).

### **3.4.2.3 Cumulative Cultural Resource Impacts from Alternatives II and III**

Long-term minor cumulative impacts to cultural resources are expected from either Alternatives II or III when added to the military mission at Fort Stewart. Mission activities affect the Installation cultural resources and require continual project monitoring and review to prevent adverse impacts to historic properties. In addition to military training, activities involving range maintenance and expansion, road maintenance, natural resources management (particularly timber harvesting), and new construction of roads and other facilities supporting the overall military mission can adversely impact cultural resources. These actions create challenges in the management of cultural resources on the Installation which are met through interoffice coordination and proper planning. Examples include: clearly marking sensitive cultural resources as off-limits to training and / or ground disturbance; education of military and civilian work force on cultural resource responsibilities; and careful monitoring of cultural resources to ensure intentional and inadvertent damage is documented and measures to prevent future disturbance are in place. Indirect impacts may occur to nearby historic properties, if they exist, as a result of continued traffic, bivouac activities, and / or generalized training within adjacent training lands.

### 3.5 OPERATIONAL NOISE

#### 3.5.1 AFFECTED ENVIRONMENT

**Introduction and Metrics.** Noise is any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying. Human response to noise varies by the type and characteristics of the source of the noise, distance from the source, individual sensitivity, and time of day. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by stationary or mobile sources.

Sound levels are expressed in decibels (dB). Most commonly, A-weighting is applied or understood because the weighting scale is tied to the frequencies that humans hear best; however, for many military noise sources (such as large caliber weapons and small arms firing), the A-weighting ignores most of the low-frequency energy that is produced by these activities. Additionally, both small arms and large caliber weapons firing generate impulsive sounds, which are extremely short in duration (usually measured in milliseconds). The metrics, effects, and limits used for continuous sounds are not appropriate for assessing impacts of these impulsive noise sources. Therefore, the Army’s standards for assessing noise impacts is to only use A-weighting for transportation noise sources, such as aircraft.

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. For the short impulsive sounds, such as small arms firing, the Army uses unweighted decibel Peak (dBP) levels.

The Army has identified four planning categories or zones associated with noise level contours: Zone I, Zone II, Zone III, and the Land Use Planning Zones. The paragraphs below and Table 2 presents these zones and the types of activities considered compatible within these zones.

Noise zone	Noise limits (dB)		
	Aviation ADNL	Impulsive CDNL	Small arms – PK 15(met)
LUPZ	60-65	57-62	N/A
I	< 65	< 62	<87
II	65-75	62-70	87-104
III	>75	>70	>104
Legend: dB = decibel LUPZ = land use planning zone ADNL = A-weighted day-night levels CDNL = C-weighted day-night levels			

PK 15(met) = Single event peak levels exceeded by 15 percent of events  
< = less than  
> = greater than  
N/A = Not Applicable

- **Zone I** includes all areas around a noise source in which DNL is less than 65 dBA or 62 dBC. This area is usually suitable for all types of land use activities (such as homes, schools, and hospitals).

- **Zone II** consists of areas where the DNL is between 65 and 75 dBA or 62 and 70 dBC. Exposure to noise in this area is normally not recommended with noise-sensitive land uses (such as homes, hospitals, churches, and educational facilities). Land in these zones should be used for industrial, manufacturing, transportation, and resource production (such as industrial parks, factories, and highways). In situations where noise-sensitive land uses occur within Zone II, noise level reduction features should be incorporated in design and construction.

- **Zone III** is an area around the source of noise in which the DNL is greater than 75 dBA, 70 dBC, or 104 dBP. The noise level within this zone is never recommended with noise sensitive land uses, such as churches, schools, parks, playgrounds, homes, and hospitals.

- **Land Use Planning Zone (LUPZ)** is the DNL noise contours, 62 CDNL and 65 ADNL, which represent an annual average that separates Noise Zone II from the Noise Zone I. There is no LUPZ associated with small arms noise. Taking all operations that occur at Fort Stewart over the year and dividing by the number of training days generates the contours. The noise environment at Fort Stewart varies daily and seasonally because operations are not consistent for all 365 days of the year. For residential land uses, depending on attitudes and other factors, an ADNL of 60 dB or a CDNL of 57 dB “may be considered by the public as an impact on the community environment” and up to 9% of the residents may be highly annoyed. In order to provide a planning tool that could be used to account for days of higher than average operations and possible annoyance, the LUPZ contour is included on Installation noise contour maps.

Although the LUPZ is usually suitable for all types of land use activities, it can offer a better prediction of noise impacts when levels of operations are above average. For example, if operations are approximately three times more numerous than the normal daily firing, average noise levels increase approximately 5 dB. By setting the extent of the LUPZ contours at 57 CDNL and 60 ADNL, the variability in the Fort Stewart noise environment can be accounted for. The LUPZ can provide Fort Stewart with a buffer for land use planning and can reduce conflicts between Fort Stewart’s noise-producing activities and the civilian community. It encompasses areas where, during periods of increased operations, community annoyance levels can increase. By using the LUPZ, 57 CDNL and 60 ADNL, Fort Stewart has a more comprehensive view of areas where complaints may occur and can meet the public demand for a better description of what will exist during a period of increased operations.

**Noise Management.** To prevent the conflicts between military operations and civilian land use from reaching significant proportions, the Installation works with the local communities to prevent incompatible land use from occurring. The Installation also takes reasonable steps to protect the community from noise. Because the regulation of land use on adjoining land is the authority of local communities, Fort Stewart cannot solve these problems unilaterally.

The Installation encourages cooperative land-use planning and zoning to minimize noise impacts outside of its boundary. The Installation Joint Land Use Study (JLUS) is a cooperative land use planning initiative between Fort Stewart and surrounding cities and counties. Partners in the JLUS include Bryan, Effingham, Chatham, Liberty, Long, and Evans counties; the cities of Hinesville, Savannah, Pooler, Bloomingdale, Pembroke, Richmond Hill, Glennville, Gum Branch, Allenhurst, Flemington, and Walthourville; the Coastal Regional Commission; and the Heart of Georgia-Altamaha Regional Development Center.

As part of Fort Stewart's continuing efforts to increase communication between the military and local communities, a Memorandum of Understanding (MOU) has been or is in the process of being established between the Installation and each local community. The purpose of the MOU is to maintain mutual interest in sustaining Fort Stewart's ability to train Soldiers, project power, and modernize Installation ranges and other essential mission facilities as well as sustain the highest possible quality of life for area residents and provide for continued economic prosperity within the region. The Installation maintains mutually beneficial local city and county partnerships by encouraging development proposals that are compatible with adjacent military training activities (e.g. agricultural, limited commercial, low density residential with sound attenuation for NLR of 25dB) within the Army Compatible Use Buffer (ACUB).

The Installation has adopted a Fly Neighborly program to reduce noise by training Army helicopter pilots on ways to reduce noise complaints when flying in developed areas. The Installation has also developed a system of corridors and visual flight rule routes to promote the safe and expeditious flow of air traffic. These corridors/routes have been situated to minimize the effect of the noise produced by the using aircraft. Control procedures designed to avoid or reduce noise include avoidance of residences, buildings, and farm-related facilities; avoidance of towns, cities, and communities; and use of designated traffic patterns and altitudes.

**Training Area Airstrips, Landing and Drop Zones.** Fort Stewart has seven drop zones, eight landing zones, and three airstrips. Both fixed-wing and rotary-wing aircraft are the sources of noise at these locations. The use at these drop zones varies from two to 72 days annually with 2 to 218 missions each year at 250 to 6,000 feet altitude above ground level. Because of the limited drop zone activity, no noise contour above 48 ADNL is generated. This ADNL was calculated with the noisiest aircraft, the C-141 cargo aircraft, using the drop zones. The land use in and around the landing zones, airstrips, and drop zones is compatible.

**Small Arms Ranges.** The small arms ranges are primarily located north and southwest of the cantonment area within the Fort Stewart boundary. The noise from these small arms range activities of Fort Stewart is over shadowed by the large caliber noise activities. The land within Noise Zones II and III

is used for range and training operations. Land uses within the Noise Zones II and III meet the federal guidelines.

**Large Caliber Ranges.** The 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.

Appendix E contains an existing operational noise environment figure showing training area airstrips, landing and drop zones; small arms ranges; and large caliber ranges.

### **3.5.1.1 Existing Operational Noise Environment Specific to Alternatives II and III**

In 2013 Fort Stewart consulted with the U.S. Army Public Health Command (USAPHC) who prepared a noise assessment comparing the baseline conditions to several QTR site alternatives discussed in Chapter 2.0, *Description of the Proposed Action and Alternatives*. Based on the USAPHC assessment, current Army range training generates a Noise Zone II that extends beyond the Installation's southern boundary approximately 1 mile (Appendix E). Within the off-Installation Noise Zone II area, there are scattered residential properties; however, Noise Zone III remains within the Fort Stewart boundary. Noise Zones generated by current activity in the Delta Small Arms Impact Area do not extend into the Fort Stewart cantonment area.

*Alternative II.* The proposed QTR D-5, South location is in the southern area of Fort Stewart approximately 0.15 miles from the boundary.

*Alternative III (Preferred).* The proposed QTR D-5, Zulu location is an existing range in the southern area approximately 2.6 miles from the boundary.

## **3.5.2 ENVIRONMENTAL CONSEQUENCES**

### **3.5.2.1 Operational Noise Impacts from Alternative I**

This alternative will have no new noise impact to sensitive noise receptors because the Army would not establish a QTR at Fort Stewart.

### **3.5.2.2 Specific Direct and Indirect Operational Noise Impacts from Alternatives II and III**

*Alternative II.* Moderate direct and indirect impacts from operational noise to sensitive noise receptors are expected from the Alternative II location. The addition of a QTR at the D-5, South site increases the overall exposure area of the off-Installation Noise Zone II. Near the proposed QTR, Noise Zone II will

extend approximately 1.15 miles beyond the Fort Stewart boundary. This alternative will encompass additional scattered residences (approximately one dozen) that were not previously exposed to noise generated from small arms weapon firing. This does not mean, however, that these residences were not exposed to noise from other types of ongoing military operations (aircraft and existing large-caliber ranges). Considering the proximate distance of these homes to the existing Fort Stewart boundary, military operations may have been loud enough to be heard or even judged loud on occasion. Noise Zone III extends beyond the Fort Stewart boundary approximately 0.20 miles. Based on available imagery, there are no residential land uses within the area. Noise zones generated by the proposed activity do not extend into the Fort Stewart cantonment area (Appendix E).

*Alternative III (Preferred).* Negligible direct and indirect impacts from operational noise to sensitive noise receptors are expected. The current range activity at Zulu is similar to the proposed QTR activity. The upgrade of the existing Zulu range to a QTR does not change the off-Installation Noise Zone II. The land within the off-Installation Noise Zone II is primarily undeveloped with scattered residential properties. Even though the residences are existing “noise-sensitive” land uses that could be defined as non-conforming within the Noise Zone II areas, in most cases, this is not a risk to community quality of life or mission sustainment. Noise Zone III would increase in size within the range area; however, Noise Zones generated by the proposed activity do not extend into the Fort Stewart cantonment area. The existing environment figure in Appendix E is comparable to noise expected from the proposed action at the D-5, Zulu location.

### **3.5.2.3 Cumulative Operational Noise Impacts from Alternatives II and III**

Long-term minor cumulative noise impacts are expected to occur to nearby communities as a result of the proposed action at either the Alternative II or III locations when added to current Army training on Fort Stewart. Cumulative noise effects are generated by a variety of existing Army actions including firing and release of munitions from aircraft and artillery and arms firing during training exercises. Army training over the past decades has resulted in minor effects on noise levels. Effects from the past activities on noise levels were short-term, minor, and localized. Noise impacts under Alternatives II and III will stem primarily from live-fire training and not from military vehicle training and ordnance impulse noise. Current land uses within Noise Zones II and III for existing large-caliber and small arms weapons operations meet the guidelines for compatible land use. Incompatible development outside of the Installation boundary within the 3,000-foot buffer or ACUB buffer are not expected, as consultation and collaboration with local planning and governmental agencies interact with Fort Stewart.

## 4.0 CONCLUSIONS

This EA was prepared to analyze the potential environmental impacts associated with the construction, operation, and maintenance of a Qualification Training Range on Army land at Fort Stewart. Following an analysis and comparison of impacts, the proposed action at Alternative II or Alternative III will not result in potentially significant impacts. Table 3 presents a summary of anticipated environmental impacts resulting from each alternative.

Type of Impact	Alternative I (No Action)	Alternative II (D-5, South)	Alternative III, Preferred (D-5, Zulu)
<b>Water Resources</b>			
Direct / Indirect	None	Moderate	Minor
Cumulative	None	Moderate	Moderate
<b>Biological Resources</b>			
Direct / Indirect	None	Minor	Minor
Cumulative	None	Minor	Minor
<b>Cultural Resources</b>			
Direct / Indirect	None	Negligible	Negligible
Cumulative	None	Minor	Minor
<b>Operational Noise</b>			
Direct/Indirect	None	Moderate	Negligible
Cumulative	None	Minor	Minor

**Table 3: Summary of Environmental Impacts.**

## 5.0 ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
ACUB	Army Compatible Use Buffer
ADNL	A-Weighted Day-Night Levels
AR	Army Regulation
ASFFR	Automated Sniper Field Fire Range
BMP	Best Management Practice
CAA	Clean Air Act
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
EPAct 2005	Energy Policy Act of 2005
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
IONMP	Installation Operational Noise Management Plan
JLUS	Joint Land Use Study
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LUPZ	Land Use Planning Zone
MBTA	Migratory Bird Treaty Act
MG	Machine Gun
MOU	Memorandum of Understanding
MPMGR	Multipurpose Machine Gun Range
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NLR	Noise Level Reduction
NOA	Notice of Availability
NOI	Notice of Intent

NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
ODC	Ozone Depleting Compound
PA	Programmatic Agreement
PSD	Prevention of Significant Deterioration
ROCA	Range Operations and Control Area
QTR	Qualification Training Range
RCW	Red-Cockaded Woodpecker
RICE	Reciprocating Internal Combustion Engine
R.O.C.K.	Resources, Optimize, Compliance, Keep Improving
SAW	Squad Assault Weapons
SDZ	Surface Danger Zone
SHPO	State Historic Preservation Office
SMS	Sustainability Management System
USACE	U.S. Army Corps of Engineers
USAPHC	U.S. Army Public Health Command
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance

## 6.0 REFERENCES

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**APPENDIX A**

**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; Overall Environmental Resource Management; 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.

***Overall Environmental Resource Management.***

*Sustainability.* All contracts shall include Contract Clause 52.223-19, *Compliance with Environmental Management Systems*: “The Contractor’s work under this contract shall conform with all operational controls identified in the applicable agency or facility Environmental Management Systems and provide monitoring and measurement information necessary for the Government to address environmental performance relative to the goals of the Environmental Management Systems.”

The operational controls identified in FSGA/HAAF’s Environmental Management System include the contractor’s adherence to the Installation’s Sustainability Policy (R.O.C.K. = Resources, Optimize, Compliance, Keep Improving) and support the Installation’s 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/>. Please generate a training roster to document this training.

REQUIRED SUBMITTAL ITEM: During contract kick-off meetings, the KO/COR must confirm the contractor and their on-site workers have completed the SMS General Awareness Training. The KO / COR shall submit a copy of the contractor’s training roster to the SMS Coordinator.

*Green Procurement.* In accordance with AR 70-1, the KO shall ensure that construction and procurement contracts meet Federal Green Procurement requirements and source reduction strategies.

REQUIRED SUBMITTAL ITEM: The KO shall report the number of contracts that include the FAR Part 23 clauses to the SMS Coordinator. These clauses include:

- 52.223-1, Bio based Product Certification
- 52.223-2, Affirmative Procurement of Bio based Products Under Service and Construction Contracts
- 52.223-3, Hazardous Material Identification and Material Safety Data

- 52.223-4, Recovered Material Certification
- 52.223-5, Pollution Prevention
- 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Items
- 52.223-10, Waste Reduction Program
- 52.223-11, Ozone Depleting Substances
- 52.223-12, Refrigeration Equipment and Air Conditioners
- 52.223-15, Energy Efficiency in Energy-Consuming Products
- 52.223-16, IEEE 1680 Standard for Environmental Assessment of Personal Computer
- 52.223-17, Affirmative Procurement of EPA-designated Items in Service and Construction Contracts
- 52.223-19, Compliance with Environmental Management Systems

Contracts should specify the purchase of goods and services that use sustainable environmental practices (acquisition of bio-based, environmentally preferable, energy-efficient, water-efficient, and recycled-content products) with a minimum packing and packaging materials for items shipped. Printer Paper should be of at least a 30 percent post-consumer fiber content. Refer to [www.epa.gov/cpg/products.html](http://www.epa.gov/cpg/products.html) for the current EPA guidance.

REQUIRED SUBMITTAL ITEM: The KO shall provide the number of green procurement purchases to the SMS Coordinator.

***Solid Waste Management.*** Fort Stewart has a mandatory recycling program. Unless otherwise specified, the Government retains all salvage rights. Contractors shall recycle construction & demolition debris as required by the Installation's recycling clause, 52.000-4061: RECYCLING, SALVAGE, AND DISPOSAL OF MATERIALS FORT STEWART AND HUNTER ARMY AIRFIELD.

Source Reduction is required to reduce the initial input to the solid waste stream. Ensure minimum packing and packaging materials are used for items shipped to the Installation. Also, all military construction, renovation and demolition projects shall include performance requirements for a 60% minimum diversion of C&D waste by weight. Contractor must provide all weight tickets to demonstrate meeting the performance standard. Specifications must include submission of a contractor's C&D Waste Management Plan.

Concrete and asphalt material shall be hauled and disposed of off of government property. Recycle materials will be broken down when delivered to the Recycling Center (to include metal equipment). Scrap metal will be cut down to no larger than 4 square feet in size.

REQUIRED SUBMITTAL ITEM: The Contractor shall (a) submit a C&D Waste Management Plan (b) submit copies of all disposal weight/landfill scale tickets to the COR as described in the Referenced Recycling Clause for any off-post disposal or approved Contractor-retained salvage items within 10 days of removal; and (c) turn in all recyclables generated during the entire term of the Contract (unless otherwise approved for off-site disposal/salvage). Contractor, through COR, will coordinate with the

Installation Environmental Office (912-767-2010 or 767-8880) to arrange for turn-in of recyclable/salvageable materials.

Chillers, pumps, HVAC units, and similar equipment must be logged on an applicable inventory/certification document prior to turn-in to recycling yard (on DD Form 1348). The form will be used to track the removal of units from facilities, refrigerant removal certification (if applicable), and a chain of custody from removal technician thru supply manager to recycling technician. The serial number and facility number will be listed on each form and one form may contain more than one like item. Recycling Yard personnel will verify document to items turned in, sign the document, and retain a file copy. Contractor shall submit this form to the KO. Additionally, damaged HVAC system may be accepted as scrap metal at the FSGA Recycling Scrap Metal Yard, Building 1143, provided any and all freon has been certified as being removed from the system.

***Hazardous Materials / Hazardous Wastes.*** The buildings proposed for demolition under the preferred alternative do not contain asbestos or lead-based paint. The Installation's Hazardous Waste Management Plan available at <http://www.stewart.army.mil/375/downloads/Hazardous%20Waste%20Management%20Plan.pdf> addresses spill prevention and response of hazardous materials and proper waste storage and disposal during construction and training activities. As this is a standard practice addressed in contractor environmental management plans and Soldier training briefings, adverse impacts are not expected from hazardous materials and wastes.

***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, landscaping will be conducted after the range is constructed, further minimizing impacts to global warming.

It is also important to place these carbon emissions in the context of the federal government's overall plan to reduce carbon emissions. Executive Order 13423 sets as a goal for all federal agencies the improvement of energy efficiency and the "reduc[tion] of greenhouse gas emissions of the agency, through reduction of energy intensity by (i) 3 percent annually through the end of fiscal year 2015, or (ii)

30 percent by the end of fiscal year 2015, relative to the baseline to the agency's energy use in fiscal year 2003." The U.S. Army Energy Strategy for Installations (U.S. Army Energy Strategy for Installations, 8 July 2005, available at <http://army-energy.hqda.pentagon.mil/docs/strategy.pdf>), also contains strategies to reduce energy waste and improve efficiency. Taking these policies into account, this action does not represent a net incrementally addition to the global climate change problem.

#### HVAC/Refrigerant Requirements:

Only a certified refrigerant technician is authorized to perform work on a unit containing ozone depleting compounds (ODCs).

Prior to removal and disposal of an existing refrigerant containing unit, all liquid refrigerant must be evacuated using refrigerant recycling/recovery equipment that meets the requirement below.

Recovery Equipment: Refrigerant recycling or recovery equipment manufactured after 15 NOV 1993 must be tested, certified, and labeled: "THIS EQUIPMENT HAS BEEN CERTIFIED BY [LIST APPROVED EQUIPMENT TESTING ORGANIZATION] TO MEET EPA'S MINIMUM REQUIREMENTS FOR RECYCLING AND RECOVERY EQUIPMENT INTENDED FOR USE WITH [APPROVED CATEGORY OF APPLIANCE]."

Replacement of Class I or II ODC containing units. ***Note to Engineer - Phase out of Class I or II ODC refrigerant will increase lifecycle costs as refrigerant becomes harder to obtain. To that end, and to the maximum extent practicable, Class I and Class II substances shall be replaced with units that use non-ozone depleting compounds.***

Containers used to store or transport Class I or Class II ODCs for any length of time, require this warning statement: "WARNING: Contains (list name of ODC), a substance which harms public health and environment by destroying ozone in the upper atmosphere."

Disposition of Recovered Refrigerant: Refrigerant that will not be reused in the replacement unit must be handled as follows:

Usable refrigerant must be turned over to the Installation Operations and Maintenance Office for re-use (cascading) in like units. Unusable refrigerant must be turned in to the Installation Environmental Office for proper disposal.

**REQUIRED SUBMITTAL ITEM:** The following information shall be submitted to the Installation Environmental Office regarding removal or installation of a refrigerant containing unit within 7 days of removal or installation: Manufacturer name, model number, serial number, refrigerant used (R-11, R-22, etc.) and charge of refrigerant (in lbs). All service records and copies of leak rate calculations performed (as required by 40 CFR 82) for refrigerant containing units must be submitted to the Installation Environmental Office within 7 days.

#### Generators:

A stationary Reciprocating Internal Combustion Engine (RICE) with a rated horsepower of 500 or greater triggers National Emission Standards for Hazardous Air Pollutants (NESHAP) applicability for this source category. Therefore, a construction permit would be required for

generators with a rated horsepower of 500 or greater and coordination with the Installation Environmental Office is required prior to installation of such equipment to ensure permitting requirements are properly documented and maintained up-to-date. Emergency generators do not require permitting.

**REQUIRED SUBMITTAL ITEM:** For any generator to be installed or removed; provide the manufacturer, model #, serial #, kW rating, and type of fuel used.

***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 Delta Small Arms Impact Area and the 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. Local construction expenditures have the potential for beneficial impact to the local communities. This construction project could be accommodated by the existing workforce, and few new jobs would be created. In addition, it is probable, though not certain, that a local construction company would be contracted, with the majority of the construction materials purchased outside the local region and transported on-site. Because few jobs would be created or affected through implementation of this proposed action and any impact would be slightly beneficial, 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 existing Delta Small Arms Impact 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. Construction of a QTR 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 at Fort Stewart include electrical power, natural gas, potable water supply systems, and wastewater systems. Note: Stormwater and potable water systems are discussed in Section 3.2 (Water Resources) of the Environmental Assessment (EA). In January 2008, the Department of the Army (DA) established the Leadership in Energy and Environmental Design (LEED) Implementation Guide and required its use by all DA Installations. The DA also determined that all vertical construction projects with climate controlled facilities must achieve the silver level of LEED for New Construction. This requirement applies worldwide to all construction on permanent Army Installations regardless of the funding source; therefore, it is a required part of the proposed action.

Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, dated January 24, 2007, also provides guidance for purchasing supplies and materials for operations and contracts, in addition to requiring the use of recoverable and renewable energy implemented to the maximum practical extent.

**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. All of the locations are located outside of current explosive safety quantity distance clear zones and the inhabited building distance clear zones. An unexploded ordnance survey will be completed prior to site disturbing activities which will reduce risk of UXO discovery during timber harvest and construction.

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 and its alternatives; therefore, they will not be exposed to any hazardous materials or wastes. No impacts are predicted.

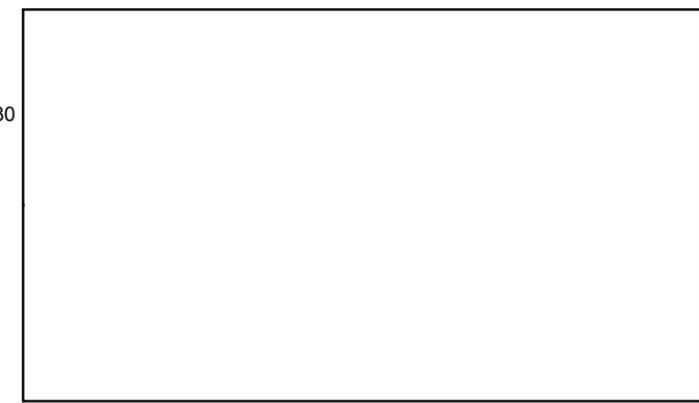
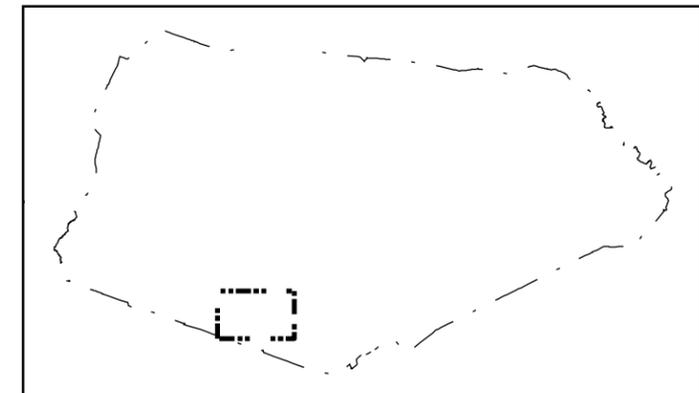
**APPENDIX B**

**WATER RESOURCES IMPACT FIGURES**

## *Wetlands*

# Qualification Training Range (QTR) Preferred Alternative Likely Impacts

Figure Redacted



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48

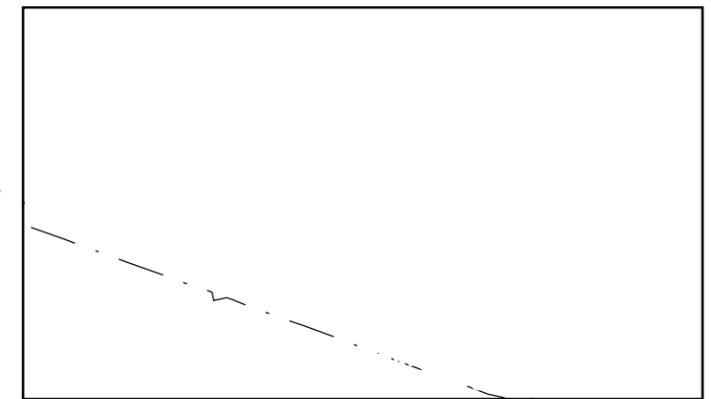
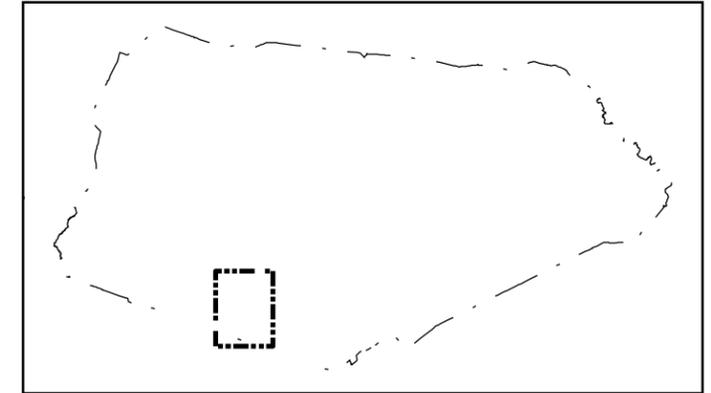
37

3530

# D-5 South Qualification Training Range (QTR) Alternative (Feasible)

## Likely Impacts

Figure Redacted



-27

-26

434<sup>000m</sup> E

35 49

*100-year Floodplain*

Figure Redacted

Figure Redacted

Figure Redacted

Figure Redacted

**APPENDIX C**  
**USFWS CONSULTATION RECORD**

**From:** [Brooks, Robert](#)  
**To:** [Hart, Gary C CIV USARMY USAG \(US\)](#)  
**Subject:** Re: update on biological assessments (UNCLASSIFIED)  
**Date:** Wednesday, March 19, 2014 05:59:00 PM

---

Gary,

The FWS has reviewed the QTR Relocation project sent on August 27, 2013, and we have no problems with your proposal. Thanks.

Robert Brooks  
Private Lands Coordinator  
U.S. Fish and Wildlife Service  
4981 Wildlife Drive, NE  
Townsend, GA 31331  
(912) 832-8739  
FAX: (912) 832-8744

On Wed, Mar 19, 2014 at 12:54 PM, Hart, Gary C CIV USARMY USAG (US) <[gary.c.hart4.civ@mail.mil](mailto:gary.c.hart4.civ@mail.mil)> wrote:

Classification: UNCLASSIFIED  
Caveats: NONE

Robert,

I would like to check on the status of the following assessments:

Pistol Range Modification sent on March 02, 2012; QTR Relocation sent on August 27, 2013; B-4 Solar Panel Site sent on December 31, 2013; and the Wright Army Airfield approach obstruction removal sent on September 11, 2013.

Please let me know if you need any more information about these projects.

Thank you,

Gary C. Hart

Wildlife Biologist

Fish and Wildlife Branch

Fort Stewart, GA 31314

Office: 912-767-6665 | Mobile: 912-704-3746 | FAX: 912-767-9433

[gary.c.hart4.civ@mail.mil](mailto:gary.c.hart4.civ@mail.mil)



**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

AUG 27 2013

U.S. Department of the Interior  
 Fish and Wildlife Service  
 Georgia Ecological Field Services Field Office  
 4980 Wildlife Drive, NE  
 Townsend, Georgia 31331

Dear Ms. Tucker:

Reference FWS Log No: 2010-0137, the Biological Opinion (BO) on the Proposed Construction of 12 New Ranges and an Unmanned Aerial System on Fort Stewart, Georgia. The proposed location for the Qualification Training Range (QTR) in Fort Stewart Training Area (FSTA) Delta 7 (Liberty County, GA) cannot be used. The QTR and Multi-Purpose Machine Gun Range (MPMGR) were to be built simultaneously, but due to budgetary constraints this did not happen. Construction of the QTR in its originally proposed location would shut down the Sniper Range, new MPMGR, and old MPMGR for at least 1 year. Under this circumstance, Fort Stewart would be unable to meet Soldier Training Requirements. A new QTR site has been proposed in FSTA Delta 5 (Liberty County, GA, Enclosure 1), overlaying the existing range footprint of Small Arms Zulu. This would prevent the shutdown of the 3 ranges and allow FS to meet Soldier Training Requirements. The impacts of the new QTR location on threatened and endangered species is less than the original location (Table 1).

Table 1.

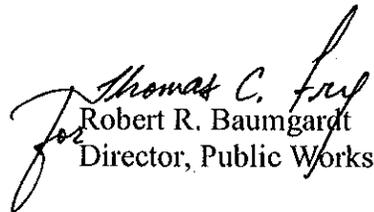
Proposed Range Location	RCW HMU Removed (acres)	RCW Clusters Taken	FFS Ponds Clear-cut	FFS Pond Basins Removed (acres)	FFS Primary Buffer Clear-cut (acres)	FFS Secondary Buffer Clear-cut (acres)
D7 (original location)	183.9	2	2	4.3	40.6	121.6
D5 (new location)	132.0	1	0	0	10.0	64.4

In summary, RCW Clusters 124 and 247 would remain and meet Managed Stability with 77.6 and 87.8 acres of foraging habitat respectively. Cluster 152 would be clear-cut. Cluster 276

would lose 34.1 acres of foraging habitat but would have 85.4 acres remaining that meets Managed Stability and passes the RCW Matrix (Enclosure 2 & 3). A net of 51.9 acres of RCW Habitat Management Unit (HMU) would be returned to the FS landscape in the vicinity of original D7 location of the QTR. Two FFS potential breeding ponds would be returned to the FS inventory (Enclosure 4).

Our original conclusion remains unchanged, i.e., the proposed action will adversely affect the RCW, but will not adversely affect the FFS, Wood Stork, or Eastern Indigo Snake. The proposed action will not affect the Shortnose or Atlantic Sturgeon because habitat for these species does not exist in the project area. The original conclusion regarding critical habitat also remains unchanged. If additional information is needed, please contact Mr. Tim Beaty, DPW, Environmental Division, Fish and Wildlife Branch, at telephone (912) 767-7261. Your continued cooperation and assistance are appreciated.

Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosures

Enclosure 1. Originally proposed location of the QTR and the new location.

Figure Redacted

Enclosure 2. Impacts to Clusters 152 and 276 resulting from the new location of the QTR.

Figure Redacted

Enclosure 3. Partition 276 Matrix Report:

**RCW Partition: 276**

Forage Habitat Analysis Summary

8/13/2013

1:33:40PM

Values in the 1/2 Mile Partition	Pre-Removal	Removals	Post-Removal
Acres Non-Habitat	0.00	+34.09	34.09
Acres Non-Habitat due to Pines < 30 Years of Age	0.00	-0.00	0.00
Acres of PGQFH w/ Management	119.44	-34.09	85.35
Acres of GQFH	0.00	-0.00	0.00
Pine BA < 10"	1,144.89	-282.93	861.97
Pine BA between 10" - 14"	3,956.26	-1,193.04	2,763.22
Pine BA ≥ 14"	3,058.59	-824.93	2,233.66
Pine Stems < 10"	3,224.06	-698.80	2,525.26
Pine BA ≥ 10"	7,014.85	-2,017.97	4,996.88
Pines Stems ≥ 14" per Acre ≥ 60 Years of Age *	0.03	-0.03	0.00
Contiguous PGQFH Acres for Pines ≥ 30 Years of Age	0.00	-0.00	0.00
Partition Overall Score	1.00	N/A	1.00

Values in the 1/4 Mile Partition	Pre-Removal	Removals	Post-Removal
Acres Non-Habitat	0.00	+20.22	20.22
Acres Non-Habitat due to Pines < 30 Years of Age	0.00	-0.00	0.00
Acres of PGQFH w/ Management	73.93	-20.22	53.71
Acres of GQFH	0.00	-0.00	0.00
Pine BA < 10"	700.79	-167.85	532.94
Pine BA between 10" - 14"	2,509.68	-707.80	1,801.88
Pine BA ≥ 14"	1,870.69	-489.40	1,381.29
Pine Stems < 10"	1,928.16	-414.57	1,513.59
Pine BA ≥ 10"	4,380.37	-1,197.20	3,183.17
Pines Stems ≥ 14" per Acre ≥ 60 Years of Age *	0.00	-0.00	0.00
Contiguous PGQFH Acres for Pines ≥ 30 Years of Age	0.00	-0.00	0.00
Partition Meets Managed Stability	PASS	N/A	PASS

\* Average number of pine stems ≥ 14" dbh per acre calculated using only stands ≥ 60 years of age.

Enclosure 4. Frosted flatwoods salamander impacts resulting from the change in location of the QTR.

Figure Redacted

**APPENDIX D**  
**CULTURAL RESOURCES FIGURES**

Figure Redacted

**Alternative II Range Footprint (in red) and Associated Safety Danger Zones (in yellow).**

Figure Redacted

**Alternative III Range Footprint (in red) and Associated Safety Danger Zones (in yellow).**

**APPENDIX E**

**OPERATIONAL NOISE FIGURES**

Figure Redacted

**Existing Installation operational noise environment.**

Figure Redacted

Existing operational noise environment from the Delta Small Arms Impact Area.

Figure Redacted

Noise Zone increases from Alternative II location.

**APPENDIX F**  
**REGULATORY CORRESPONDENCE AND MEDIA**



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS  
COMMISSIONER

DR. DAVID CRASS  
DIVISION DIRECTOR

July 27, 2016

Robert R. Baumgardt  
Director, Public Works  
1587 Veterans Parkway  
Fort Stewart, Georgia 31314-5048  
**Attn: Amber E. McCormick**

RE: Fort Stewart: Construct Qualification Training Range, Savannah  
Chatham County, Georgia  
**HP-160712-002**

Dear Mr. Baumgardt,

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 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, as appropriate.

Please refer to project number **HP-160712-002** 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

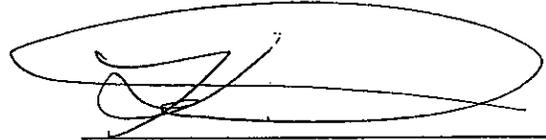
AFFIDAVIT OF PUBLICATION

STATE OF GEORGIA

COUNTIES OF LIBERTY AND LONG

Personally appeared before me, the undersigned Notary Public, Kathryn Fox, who after being duly sworn stated under oath that she is the Business Manager of the COASTAL COURIER, the official Legal Organ of Liberty and Long Counties, newspapers published in the city of Hinesville, Georgia, and who further states under oath that the advertisement attached hereto and made a part of this affidavit appeared in the COASTAL COURIER on the following date(s):

June 29, 2016



Kathryn Fox  
Business Manager

Sworn to and subscribed before me,

This 30 day of June 2016

Eddy Mattingly  
Notary Public

Commission expires November 22, 2019



**NOTICE OF AVAILABILITY**  
 DRAFT FINDING OF NO SIGNIFICANT IMPACT (FNISI)  
 DRAFT FINDING OF NO PRACTICABLE ALTERNATIVE (FNPA), AND  
 DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia. Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. Part of this expectation is to qualify Soldiers on Army small arms weapon systems. While Fort Stewart has a robust training complex, there remains a shortage of standardized live-fire ranges for Army units to qualify in a mission essential timeframe. A QTR supports a multitude of small arms weapon systems and will also provide immediate performance feedback to Army units thereby increasing Fort Stewart's capacity to qualify Soldiers. 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 FNISI / FNPA can be accessed via the Fort Stewart National Environmental Policy Act webpage:  
<http://www.stewart.army.mil/foi/?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, June 30 - July 29, 2016, to [amber.mccormick.civ@mail.mil](mailto:amber.mccormick.civ@mail.mil) or by calling 912-767-2010.

**41143**  
**6/29**

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:

July 1, 2016 \_\_\_\_\_, 2016,  
\_\_\_\_\_, 2016, \_\_\_\_\_, 2016,

and finds that the following advertisement, to-wit:

**NOTICE OF AVAILABILITY**  
**DRAFT FINDING OF NO SIGNIFICANT IMPACT (FNSI), DRAFT FINDING OF NO PRACTICABLE ALTERNATIVE (FNPA), AND DRAFT ENVIRONMENTAL ASSESSMENT (EA)**  
 Construction, Operation and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia  
 Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. Part of this expectation is to qualify Soldiers on Army small arms weapon systems. While Fort Stewart has a robust training complex, there remains a shortage of standardized live-fire ranges for Army units to qualify in a mission essential timeframe. A QTR supports a multitude of small arms weapon systems and will also provide immediate performance feedback to Army units thereby increasing Fort Stewart's capacity to qualify Soldiers. 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/infy2id=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 Hines Hill, and at the Post Library on Fort Stewart. Please submit comments during the public comment period, June 30 - July 29, 2016, to [amber.e.mccormick.civ@mail.mil](mailto:amber.e.mccormick.civ@mail.mil) or by calling 912-767-2010.

Al Fincher

(Deponent)

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

This 1 day of July, 2016

Eugene J Cronk  
Notary Public; Chatham County, Ga.

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

**Receipt of U.S. Army Publication**

**Library Name**

1LT George P. Hays Library

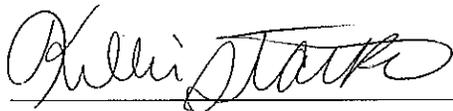
**Address**

316 Lindquist Rd., Fort Stewart, GA

**Name of document**

*Draft Finding of No Significant Impact, Draft Finding of No Practicable  
Alternative, and Draft Environmental Assessment  
for Construction, Operation, and Maintenance of a Qualification Training  
Range,  
Fort Stewart, Georgia*

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



Date 6-30-16

**Receipt of U.S. Army Publication**

**Library Name**

Liberty County Library

**Address**

236 Memorial Drive Hinesville, GA

**Name of document**

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

*for Construction, Operation, and Maintenance of a Qualification Training  
Range,*

*Fort Stewart, Georgia*

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



Date 7-1-16

**Receipt of U.S. Army Publication**

**Library Name**

Southwest Chatham Branch Library

**Address**

14097 Abercorn Street, Savannah, GA

**Name of document**

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

*for Construction, Operation, and Maintenance of a Qualification Training  
Range,*

*Fort Stewart, Georgia*

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

 Date 7/1/15

**Receipt of U.S. Army Publication**

**Library Name**

Mall Branch Library

**Address**

7 Mall Annex, Savannah GA

**Name of document**

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

*for Construction, Operation, and Maintenance of a Qualification Training  
Range,*

*Fort Stewart, Georgia*

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

*J. Patterson*

Date

*7/1/16*



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

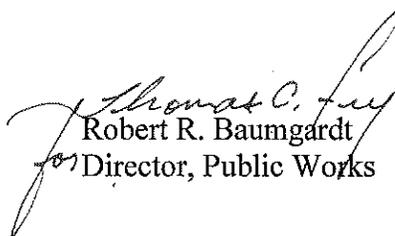
Dear Ms. Anderson-Cordova:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. Part of this expectation is to qualify Soldiers on Army small arms weapon systems. While Fort Stewart has a robust training complex, there remains a shortage of standardized live-fire ranges for Army units to qualify in a mission essential timeframe. A QTR supports a multitude of small arms weapon systems and will also provide immediate performance feedback to Army units thereby increasing Fort Stewart's capacity to qualify Soldiers. 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 30 – July 29, 2016, to Amber E. McCormick, of the DPW Environmental Division, 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,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

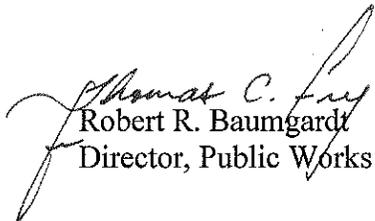
Dear Mr. Beasley:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia.*

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

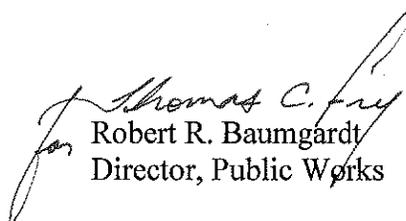
Dear Mr. Burnsed:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

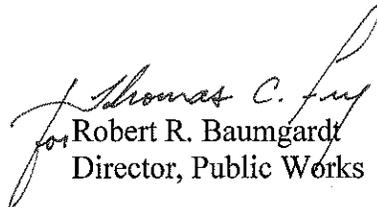
Dear Ms. Cutter:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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Sincerely,

  
for Robert R. Baumgardt  
Director, Public Works

Enclosure



REPLY TO  
ATTENTION OF

**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 31314-5048

Office of the Directorate

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

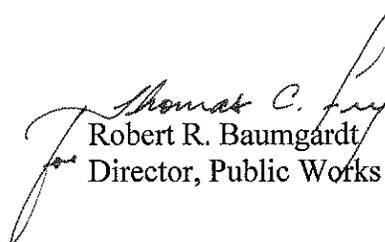
Dear Ms. Durrence:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



REPLY TO  
ATTENTION OF

**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 31314-5048

Office of the Directorate

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

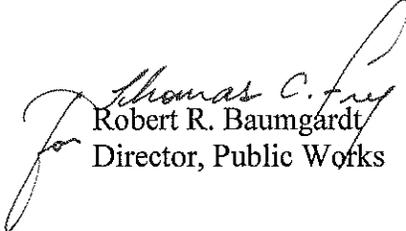
Dear Mr. Edwards:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

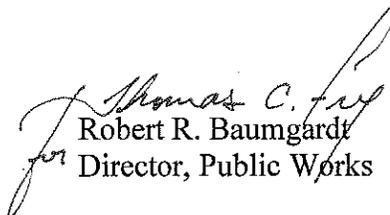
Dear Mr. Haynes:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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Sincerely,

  
for Robert R. Baumgardt  
Director, Public Works

Enclosure



REPLY TO  
ATTENTION OF

**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 31314-5048

Office of the Directorate

U.S. Forest Service  
Chattahoochee-Oconee National Forest  
Attn: Ms. Betty M. Jewett  
1755 Cleveland Highway  
Gainesville, GA 30501

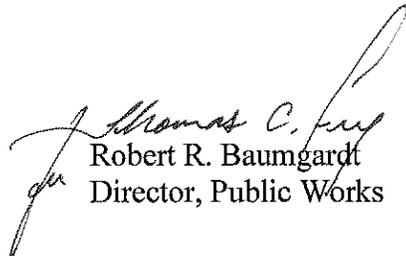
Dear Ms. Jewett:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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The Draft FNSI/FNPA and EA are enclosed on CD. Please submit comments during the public comment period, June 30 – July 29, 2016, to Amber E. McCormick, of the DPW Environmental Division, 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,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

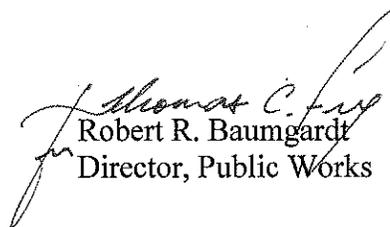
Dear Mr. Lopes:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

Fort Stewart must provide sufficient land and facilities for Soldiers to train to meet Army national security objectives. Part of this expectation is to qualify Soldiers on Army small arms weapon systems. While Fort Stewart has a robust training complex, there remains a shortage of standardized live-fire ranges for Army units to qualify in a mission essential timeframe. A QTR supports a multitude of small arms weapon systems and will also provide immediate performance feedback to Army units thereby increasing Fort Stewart's capacity to qualify Soldiers. 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.

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

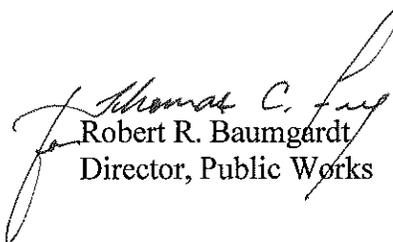
Dear Mr. Lovette:

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 Construction, Operation, and Maintenance of a Qualification Training Range (QTR) on Fort Stewart, Georgia*.

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Sincerely,

  
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Director, Public Works

Enclosure



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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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

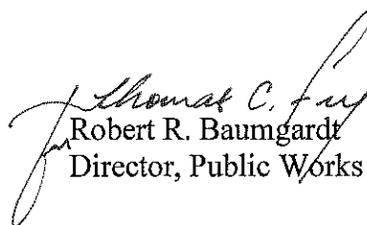
Dear Mr. Mueller:

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Sincerely,

  
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Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

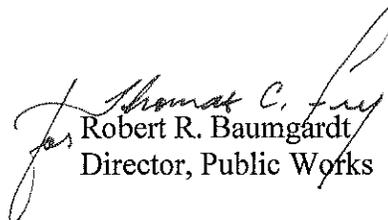
Dear Ms. Murray:

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



REPLY TO  
ATTENTION OF

**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 31314-5048

Office of the Directorate

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

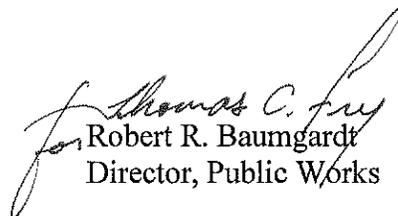
Dear Ms. Phillips:

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Sincerely,

  
for Robert R. Baumgardt  
Director, Public Works

Enclosure



REPLY TO  
ATTENTION OF

**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 31314-5048

Office of the Directorate

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

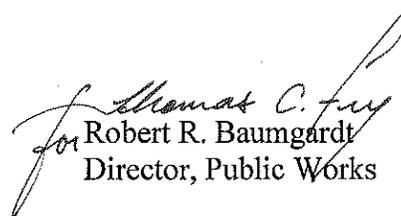
Dear Mr. Ricketson:

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Sincerely,

  
for Robert R. Baumgardt  
Director, Public Works

Enclosure



**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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

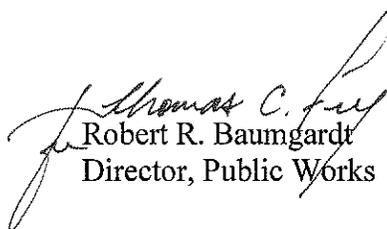
Dear Mr. Scott:

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Sincerely,

  
Robert R. Baumgardt  
Director, Public Works

Enclosure



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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 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

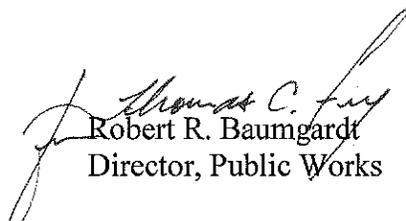
Dear Mr. Turner:

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DIRECTORATE OF PUBLIC WORKS  
1587 VETERANS PARKWAY  
FORT STEWART, GEORGIA 31314-5048

REPLY TO  
ATTENTION OF

Office of the Directorate

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

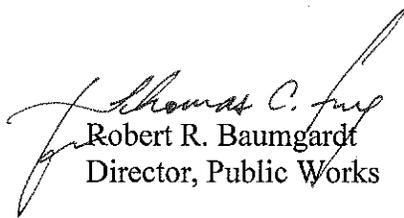
Dear Ms. Welte:

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