ENVIRONMENTAL ASSESSMENT
for the
PROPOSED ARMY LODGING FACILITY

Fort Benning, Georgia

OCTOBER 2011

Prepared for:
Environmental Management Division
Fort Benning, Georgia

Prepared by:
ECW Environmental Group, LLC

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Review and Approval

Environmental Assessment for the Proposed Army Lodging Facility
Fort Benning, Georgia

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SUMMARY

PROPOSED ACTION

Fort Benning proposes to replace and improve the short term and extended stay lodging facilities on-post for Soldiers and their Families, and other personnel. The Proposed Action includes the construction of a new 860-room Army lodging facility in the MPCA. The location of the Army Lodge should be in close proximity to classroom training, food establishments, chapels, and other support facilities.

NEED FOR ACTION

The continued use of existing lodging facilities, which no longer meet Army lodging standards, would require the Garrison to invest significant funds to renovate these buildings to current standards. Continued use of the facilities by Soldiers and their Families, even with ongoing maintenance, would continue to accelerate already failing systems (3D/I 2003, and USACE 2005) to unacceptable, unsafe conditions. Any facility system failures would require the use of off-post accommodations. This would adversely affect the mission, safety, and quality of life for Soldiers and their Families when they are moved off-post, into areas that lack military support services and amenities.

PURPOSE OF THIS ENVIRONMENTAL ASSESSMENT

The Army prepared an environmental assessment (EA) of the potential environmental consequences of constructing the proposed lodge. The purpose of the EA is to:

- analyze and compare environmental impacts of implementing any of the alternatives,
- provide an opportunity for public comments, and
- use the environmental information and public comments for the Army to make an informed decision for a course of action on the Proposed Action.

This EA has been completed pursuant to the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) regulations implementing NEPA; and 32 CFR 651 (Army Regulation [AR] 200-2), “Environmental Analysis of Army Actions,” which implements these regulations.

ALTERNATIVES CONSIDERED

Fort Benning considered a range of alternatives as part of the planning process for replacing and improving lodging facilities on-post including a No-Action Alternative. The first phase of planning identified four potential sites for a preliminary concept design.
One alternative was immediately eliminated from further consideration due to the Army's continual agreement with Residential Communities Initiative (RCI) housing.

The second phase of planning included submission of a seven-story concept design to Fort Benning, thereby starting the environmental evaluation of all alternative sites. The action alternatives included the construction of a lodging facility on the three alternative sites from the first phase of planning, as well as the addition of three other alternative sites. These included the construction of a new seven-story building on one site, and the renovation of existing lodging facilities and construction of a new four story lodging facility on two alternative sites.

The draft EA began the third phase of planning. Fort Benning staff evaluated and considered the six action alternatives and the No-Action alternative. This evaluation process in combination with the initial review of the draft EA resulted in one site being eliminated from further consideration because the soils were inadequate to support a building greater than two stories.

The continued planning process included early coordination via technical assistance with the State Historic Preservation Office (SHPO) as prescribed by the Historic Properties Component of the Integrated Cultural Resources Plan (ICRP). The SHPO advised the originally proposed seven-story lodge would have significant adverse effects to the cultural historic viewshed.

The Installation then contracted for an outside firm to conduct a 'Balloon Test' to simulate height and mass at preferred locations. The 'Balloon Test' confirmed the SHPOs opinion that the proposed seven-story lodge would result in adverse effects to adjacent historic properties. In addition, Fort Benning contracted for a 3-D modeling simulation to be done to further analyze and recommend possible solutions to projected significant impact at alternative site. The modeling confirmed the findings of the earlier 'Balloon Test' results that the viewshed would have a significant impact to the Installations Historic District. However, the model also indicated that by reducing the height of the structure the impact should be further reduced to less than significant.

Consequently, the Army reduced the permissible height of the Proposed Action to no more than five occupied (resided in) stories on the remaining alternative sites that originally included the proposed seven-story facility. In addition, the Army moved forward with the Request for Proposal (RFP) (i.e. contracting) process in order to obtain a 35% design of the facility for use in this analysis along with public review and comment for this EA.

The fourth and final phase of planning combines the preparation of the environmental assessment with the 35% design of the facility. Due to the size of the new layout and minimum requirements of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X) and

asbestos (40 CFR part 763) not being met, three of the five remaining alternatives were eliminated from further consideration.

In conclusion, two reasonable alternatives are assessed, along with the No-Action/"status-quo" alternative, in this EA. The two alternatives remaining are the preferred alternative site, Alternative B, on the east side of Ingersoll Street, north of Canby Park, and Alternative C, located between Sightseeing Road and Edwards Street directly across from newly renovated Building 4, the Maneuver Center of Excellence.

SUMMARY OF EFFECTS

This EA evaluated the potential environmental effects of the Proposed Action on the following valued environmental components (e.g., resources):

- Land Use
- Socioeconomics
- Transportation
- Noise
- Solid Waste
- Water Resources and Wetlands
- Biological Resources
- Cultural Resources
- Environmental Justice and Safety
- Utilities
- Air Quality
- Hazardous and Toxic Material Waste
- Soils

Potential impacts of the Proposed Action to each environmental resource are summarized below. Table ES-1 provides a snapshot of effects to each environmental component at each respective alternative. All of the environmental impacts are minor, negligible, or no effect, with the exception of potential adverse effects to cultural resources in a historic housing area. These adverse effects would be reduced from potentially significant to moderate at the preferred alternative site if required mitigation measures are funded and implemented.

Cultural Resources – The environmental analysis of the Proposed Action found that the greatest potential impact and most challenging concern is the adverse effect on cultural resources. The initial visual analysis of effects to cultural resources was conducted within the area of potential effect (APE) with the original design concept of a seven-story structure in mind. This analysis demonstrated that construction of a seven-story Army lodging facility at one of the alternative sites (Alternatives B – Preferred Alternative) would result in significant adverse effects to the Main Post Historic District. Through internal interdisciplinary review of the draft EA and consultation with the SHPO, some mitigation measures were adopted which changed the Proposed Action to help reduce the impacts on the viewshed. A supplemental 2-dimensional/3-dimensional "fly-over" or geospatial modeling tool was used for a secondary analysis of visual effects based on the adopted mitigation. The results of this analysis show a reduction of impacts at the two alternative sites. However, under the Preferred Alternative without further mitigation measures, significant adverse effects would occur to the viewshed of the historic housing area within the Main Post Historic District according to a July

Table ES-1. Comparison of Potential Impacts by Alternative

VALUED ENVIRONMENTAL COMPONENT	A – NO-ACTION ALTERNATIVE	B – OLD FAITH SCHOOL (PREFERRED ALTERNATIVE)	C – STEWART FIELD
LAND USE	No effect	Negligible	Minor adverse effect due to Stewart Field being the only lighted running and walking track currently on Fort Benning used by military, retirees, and civilians for their daily exercise program.
CULTURAL RESOURCES	No effect	Moderate adverse impact based upon the required mitigation within the body of this document.	Minor
SOCIOECONOMICS	Negligible	Minor, there is a potential for lost occupation and hotel/motel taxes to the outlying community based upon the build-out of the proposed Army lodge.	Minor, there is a potential for lost occupation and hotel/motel taxes to the outlying community based upon the build-out of the proposed Army lodge.
ENVIRONMENTAL JUSTICE AND SAFETY	Negligible	Negligible	Negligible
TRANSPORTATION	Negligible	Negligible	Negligible
UTILITIES	No effect	Minor adverse effect due to utility upgrades and operations of the new Army lodging facility.	Minor adverse effect due to utility upgrades and operations of the new Army lodging facility.
NOISE	No effect	Short-term minor adverse effect due the construction of the lodging facility.	Short-term minor adverse effect due the construction of the lodging facility.
AIR QUALITY	Negligible	Minor adverse effect from construction equipment, vehicles, and land disturbance activities.	Minor adverse effect from construction equipment, vehicles, and land disturbance activities.
SOLID WASTE	No effect	Minor adverse effect because of the normal generation of waste due to the operation of the lodging facility.	Minor adverse effect because of the normal generation of waste due to the operation of the lodging facility.
WATER RESOURCES AND WETLANDS	No effect	Minor adverse effect due to storm water runoff associated with on-going construction activities.	Minor adverse effect due to storm water runoff associated with on-going construction activities.
SOILS	No effect	Negligible	Negligible
BIOLOGICAL RESOURCES	No effect	Negligible	Negligible

2011 letter from the SHPO (Correspondence from HPD, 2011). The following reasonable mitigation actions are required to reduce the adverse effect to less than significant at Alternative B:

- Use of a low diffused intensity bulb, for street and parking lights, that points downward or has shielding to minimize light pollution into the historic housing area.
- Eliminate any traffic cut-through possibilities through the historic housing area with the use of bollards.
- Install and maintain a combination of 8-foot high fencing and tree and shrub landscaping that will provide an adequate visual screen during all seasons such that it will reduce impacts to historic family housing to less than significant. Once this design is available the specifics on this visual barrier will be available upon request Fort Benning will monitor that the screen is being appropriately implemented and maintained, and any adjustments will be made accordingly.
- A comprehensive land use plan[1] should be produced to guide development for this area including design and scale of construction, traffic control, providing safe pedestrian pathways, and ensuring/maintaining adequate green space.

The SHPO listed another mitigation measure - moving the perimeter road and/or partial deletion of the eastern side of the road adjacent to the residential area. This mitigation measure was considered, but will likely be eliminated because this road is a life-safety requirement for emergency response vehicles to have access to all parts of the facility.

No-Action Alternative - The conditions and characteristics anticipated under the No-Action alternative for each of the valued environmental components at Fort Benning would continue at levels equal to those occurring under the existing condition. No significant impacts would be expected for the No-Action alternative.

[1] SHPO is requesting an addendum to the Installations Master Plan for this specific area to describe in detail the design and scale of construction, traffic control, providing safe pedestrian pathways, and ensuring/maintaining adequate green space.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Section 1

PURPOSE AND NEED FOR ACTION

PURPOSE AND NEED FOR THE PROPOSED ACTION

Fort Benning proposes to construct and operate a lodging facility with 860 rooms to replace and improve the short term and extended stay facilities. The purpose of the Proposed Action is to provide adequate and quality Army Lodging on-post to accommodate Soldiers attending training, Soldiers and their Family members traveling on official orders to the Fort Benning area, conference attendees, official visitors, etc. The lodging needs to be located in close proximity to military and Family support services and amenities.

The Army Family Covenant (Covenant) pledges support to Soldiers and their Families while they defend the nation. This Covenant recognizes that, while Soldiers may be the strength of the nation, their strength is in their Families. The readiness of our all-volunteer force depends on the health and well-being of Army Families. Soldiers and their Families are severely "stretched" during extended periods of training and during periods of Temporary Duty and Permanent Change of Station actions. The co-location of these Soldiers and their Families in an on-post setting facilitates mutual family support and access to shared on-post support and services. If off-post lodging is used, these families are more widely dispersed and must endure considerably more travel and other inconveniences in order to access on-post support and services. Soldiers and their Families should be provided with a level of support commensurate with their level of service, and the Covenant is in direct response to concerns from Army Families…focused on Family programs, physical and mental

The Army Family Covenant

We recognize the commitment and increasing sacrifices that our Families are making every day.
We recognize the strength of our Soldiers comes from the strength of Their Families.
We are committed to providing Soldiers and Families a Quality of Life that is commensurate with their service.
We are committed to providing our Families a strong, supportive environment where they can thrive.
We are committed to building a partnership with Army Families that enhances their strength and resilience.
We are committed to improving Family readiness by:

- *Standardizing and funding existing Family programs and services*
- *Increasing accessibility and quality of healthcare*
- *Improving Soldier and Family housing*
- *Ensuring excellence in schools, youth services, and child care*
- *Expanding education and employment opportunities for Family members*

healthcare, housing, education, and child care facilities. These facilities should be readily available and easily accessible to Army Families (www.armymwr.com/family).

While many of these student Soldiers may be housed in military housing, temporary barracks, or quarters, others will require temporary lodging for themselves and their Families.

At this time Fort Benning uses 3 facilities (Table 1-1) to meet the temporary lodging requirements for Soldiers and their Families. A condition analysis (3D/I 2003) and Feasibility Study (USACE 2005) found that two of the lodging facilities, buildings 83 and 399 respectively, have major deficiencies that without costly renovations make them no longer suitable for use as lodging facilities. The form for military construction (form 1391) states that these buildings "…are not capable of being economically renovated to meet the required lodging standards" (IMCOM, 2009). The continued use would also fail to meet standards committed to in the Covenant.

Table 1-1. Current and Future Temporary Lodging Facility Capacity

Building #	Status	Current # of Rooms	Future # of Rooms
96	Army Lodging	60	60
83	Advance Student Barracks	231	0
399	Army Lodging	597	0

Building 96 was constructed in 1996 and renovated in 2006. It meets current Army Lodging standards (personal communication, Patterson 2010) and will be retained by Army Lodging as a temporary lodging facility. Building 83 is being renovated for instructional classroom and administrative support use. Building 399 will primarily be used for billeting for the Western Hemisphere Institute for Security Cooperation (WHINSEC) which provides professional education and training to eligible military, law enforcement, and civilian personnel (https://www.benning.army.mil/tenant/whinsec/mission.html).

The Proposed Action would replace the capacity lost by the conversion of some buildings to more feasible reuse (USACE 2005) and provide on-post lodging facilities that meet the current lodging standards as well as standards committed to in the Covenant.

IMPACT IF NOT PROVIDED

The continued use of existing lodging facilities would require the Garrison to invest significant funds to renovate these buildings to current lodging standards. Continued use by Soldiers and their Families, even with ongoing maintenance, would continue to accelerate already failing systems (3D/I 2003, and USACE 2005) to unacceptable, unsafe conditions for lodging. Facility system failures would require the emergency use of off-post facilities. This would adversely affect the mission, safety, and quality of life for Soldiers and their Families when they are moved off-post, into areas that lack military and Family support services and amenities. The exception is Building 96, built in 1996 and renovated in 2006.

DECISIONS TO BE MADE

This EA process helps Fort Benning make the following types of decisions regarding the Proposed Action:

- Determining whether or not significant impacts may occur under any of the alternative courses of action;
- Selection of any mitigation actions to reduce adverse environmental effects; and
- Selection of the alternative for implementation

Some of the factors that go into a decision may include, but are not limited to:

- military mission requirements
- construction and operation costs,
- safety,
- community needs,
- public comments,
- energy and water use reduction,
- logistics/operation of the lodge,
- environmental effects,
- cultural resources effects and comments from the State Historic Preservation Office (SHPO) along with regulatory agencies, federally recognized American Indian Tribes, and any interested or affected citizens.

PUBLIC AND STAKEHOLDER INVOLVEMENT

Fort Benning considers all public, Tribal, and agency comments prior to making decisions on which alternative to implement, which mitigation actions will be implemented, and determining whether significant impacts may occur under any of the alternatives. Consideration of the views and information of all interested or affected persons promotes open communication and enables better decision-making. Fort Benning invites public participation in the National Environmental Policy Act (NEPA) process through review of the EA during the 30 day comment period commencing with the public notice in the Columbus Ledger-Enquirer newspaper.

This EA and appendices are available to download online at the Fort Benning website (http://www.benning.army.mil/garrison/DPW/EMD/legal.htm). The EA is also available for review at the Fort Benning Main Post Library, Columbus Public Library, and four other area libraries. See Appendix D for the Distribution List for Public Notice of the EA.

All agencies, organizations, American Indian Tribes and members of the public having a potential interest in the Proposed Action, including minority, low-income, and disadvantaged groups, are urged to participate in the decision-making process. All comments received are considered in decisions regarding the alternative selected, and the mitigation that will be implemented.

APPLICABLE REGULATORY REQUIREMENTS

This EA complies with the NEPA, Council on Environmental Quality regulations and the Army NEPA implementation regulation (32 CFR 651, Environmental Analysis of Army Actions). The analysis in this EA also evaluates applicable laws, regulations, and other requirements including, but not limited to, the following:

- National Historic Preservation Act (NHPA),
- Archeological Resources Protection Act (ARPA),
- Clean Air Act (CAA),
- Clean Water Act (CWA),
- Energy Independence and Security Act (EISA)
- Endangered Species Act (ESA),
- Pollution Prevention Act (PPA),
- Resource Conservation and Recovery Act (RCRA),
- Migratory Bird Treaty Act (MBTA),
- EPA Noise Control Act regulations (40 CFR 201-211),
- Native American Graves Protection and Repatriation Act (NAGPRA).

ADDITIONALLY, ARMY POLICY REQUIRES THAT ALL NEW CONSTRUCTION MEET:

- Leadership in Energy and Environmental Design (LEED) Silver, a national green building standard (Department of Defense 2006)[2], and
- Low Impact Development (LID) methods (Department of Defense 2004).

FOCUS OF THE ENVIRONMENTAL ANALYSIS

This environmental assessment (EA) analyzes environmental effects of the Proposed Action and alternatives considered to provide quality, on-post accommodations that would meet the varying needs of a mobile military community at Fort Benning. The analysis of the Proposed Action and the associated environmental setting indicated that potential impacts could occur to the following Valued Environmental Components (VECs):

- Land Use
- Socioeconomics
- Transportation
- Noise
- Solid Waste
- Biological Resources
- Hazardous and Toxic Materials and Waste
- Cultural Resources (including aesthetics and viewshed)
- Environmental Justice and Safety
- Utilities
- Air Quality
- Water Resources and Wetlands
- Soils

[2] The Army uses LEED as a standard for sustainable design of their facilities. Any reference to LEED in this EA is referring to the current LEED version 3.0.

ORGANIZATION OF THE ENVIRONMENTAL ANALYSIS

The affected environment, environmental consequences, mitigation, and cumulative impacts are described in each VEC section. The cumulative impacts were evaluated based on those previously addressed in the 2009 Environmental Impact Statement (EIS) for the Maneuver Center of Excellence (MCOE) (USACE 2009) Actions at Fort Benning, which is hereby incorporated by reference, and future actions identified subsequent to the MCOE EIS. Section 6 summarizes the mitigation and monitoring requirements.

Cumulative impact analysis determines whether, and to what degree the actions proposed in this EA may result in either adverse or beneficial incremental impacts when considering effects of other past, present, and future projects in a defined area near the Proposed Action location. For this EA, the defined area or region of influence (ROI) evaluated is generally the Main Post Cantonment Area (MPCA) unless the VEC defines a more specific area.

The CEQ defines cumulative impacts as the "impact on the environment which results from the incremental impact of the action(s) when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (CEQ 1978). A cumulative impact analysis addresses the effects which result from the Proposed Action in combination with the effects of other actions taken during the duration of the Proposed Action in the same ROI. Whereas specific direct or indirect environmental effects may not be significant by themselves, the minor effects of the combined actions can accumulate over time. The action proposed in this EA, in addition to past, present or proposed projects in the MPCA of Fort Benning have the possibility to result in either negative or positive impacts in a cumulative manner.

Fort Benning is undergoing robust growth and development in response to multiple, Army-required initiatives including, but not limited to: BRAC-directed and discretionary stationing decisions, Transformation Actions (i.e., Army Modular Force (AMF) initiatives, Global Defense Posture Realignments (GDPR), and other Army Stationing activities.

Multiple development projects within the MPCA have been recently constructed, are underway, or are planned. The projects listed in Table 1-2 are those determined to have the greatest potential environmental impacts to the ROI and are considered within the cumulative impact analysis of this EA. These projects have been assessed in compliance with NEPA, and an appropriate decision document has been signed.

Table 1-2. Projects Considered for the Cumulative Effects Analysis

Project Date	Project #	Project Description
2008	65439 (67457/76080)	Utility Infrastructure Support Increment 1 (Water and Sewer Upgrades)
2009	65322	General Instruction Building Complex (Phase 1) Convert Non-Unaccompanied Personnel Housing/Billeting Space to Transient/Infantry Basic Officers Course Headquarters Complex Building/Student Dining Facility
2010	65284	Maneuver Center HQ Building Expansion
2010	65250	Maneuver Battle Lab
2011	40839	Upgrade of the Conference Center

"Effect" and "impact" are used interchangeably in this EA; they are synonymous (40 CFR 1508.8). For brevity, when the EA states that an alternative would cause an impact, the assumption is that implementing the alternative would cause the potential impact/effect. Direct and indirect effects are considered and combined without noting which effects are direct or which effects are indirect.

The following criteria are used to describe the level of anticipated effect or impact to the relevant VECs. Note that all of these descriptors may be used to describe adverse or beneficial effects/impacts.

No Effect: There is no impact to the VEC at all OR there is no net effect to the VEC as a result of considering both the positive and negative impacts to the VEC.
Negligible: The impact is at the lowest level and is not detectible or cannot be distinguished from natural causes.
Minor: The impact is slight, but is measurable.
Moderate: The impact is obvious but does not exceed the threshold for significant impacts. Mitigation is required in some cases to avoid significant impacts.
Significant: The impact is exceptionally adverse and exceeds the stated threshold level for the VEC. If potential significant adverse impacts are identified, then a mitigated Finding of No Significant Impact (FNSI) or an EIS may be pursued.

Section 2

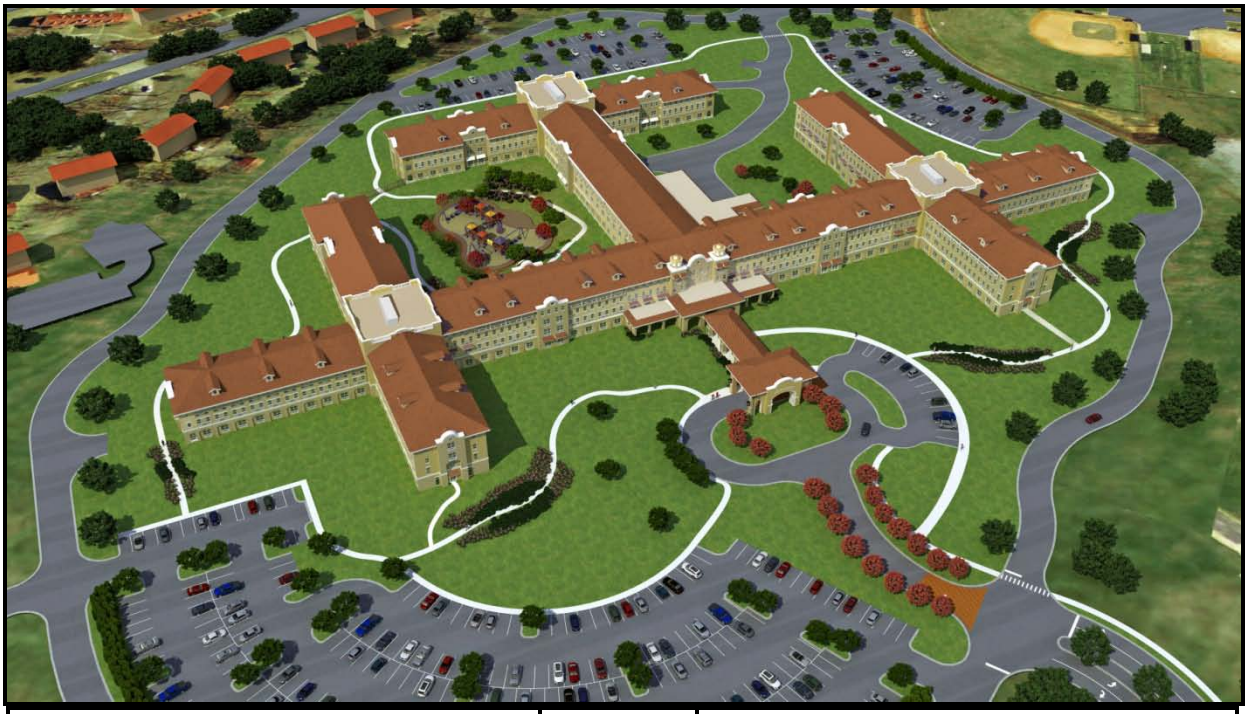
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

Fort Benning proposes to replace and improve the short-term and extended stay lodging facilities on-post for Soldiers and their Families, and other personnel. The facilities need to be located in close proximity to training and support facilities so they are readily available and easily accessible to Soldiers and their Families.

The Proposed Action includes construction of a new lodging facility at Fort Benning. The new facility would be comprised of at least 860 rooms (740 extended stay rooms, 60 standard rooms and 60 Family suites), a main entrance/lobby with front desk area, continental breakfast room and food storage/preparation room, in-house laundry areas, maintenance, administration, and storage. The permissible building height for the Proposed Action is five occupied (resided in) stories, which includes allowance for additional height limited to equipment (i.e. heating ventilation and air conditioning units) to support building system requirements (Fort Benning 2010). The Proposed Action also includes parking for over 500 vehicles, vehicle control gates to the loading/delivery dock, playground, and a separate (detached) grounds maintenance building of approximately 2,000 square feet. The lodging facility would require approximately 34-acres of construction disturbance limits based upon the 35% design of the proposed facility.

Construction activities would be performed under a “design/build” project contract award. Figure 1 shows the draft conceptual layout (35% design) of the new lodging facility used for this environmental analysis. The contractor will prepare the final design of the building, after the Army reviews and considers public and agency comments on the EA and draft mitigated FNSI if an action alternative is selected.



Environmental Assessment Army Lodge Fort Benning, GA 05/2011		**Figure 1. Aerial View of Proposed Action at the Preferred Location**

A Request for Proposals (RFP) for the Army Lodge was issued July 30, 2010 and the Army received multiple design options. Contractors' proposals were required to meet a number of criteria and conditions, including reducing effects to environmental, energy, cultural, and natural resources. Submittals were rated upon many factors including a creative design with the best solution to avoid any significant adverse impacts to the Fort Benning Main Post Historic District (MPHD). The following environmental protection measures to protect the MPHD are part of the Proposed Action:

- The exterior appearance/configuration of both the primary Lodge structure and the grounds building shall be reminiscent of, and blend with the adjacent historic buildings. Consideration shall be given to incorporating design elements of nearby non-historic buildings, historic Buildings 35 and 128, as well as the adjacent historic housing area.

- "…Landscaping design shall utilize existing and native landscaping materials that are compatible with the local setting, improve the environmental characteristics of the area, and consider the long-term costs of maintenance and watering. Environmentally sensitive, drought tolerant, low maintenance plantings are highly desirable. Earth berming and mounding to buffer sound and visual impacts from the adjacent historic housing area is encouraged…"

- Site and Landscaping plans shall clearly show 8-foot privacy fence grassed and planting areas, trees and shrubs, planting details, and a schedule of plants/trees indicating species, size, and quantity to help visually screen the lodge from the surrounding areas.

In addition to the above, the following environmental protection measure is part of the Proposed Action.

- Design the site grading to minimize standing water, excessive flows over sidewalks, ponding during storms where pedestrians must travel and drainage toward the building.

The new facility would be constructed and operated to meet the Silver level of the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) standards. The specific LEED points referenced within this EA are not mitigation commitments to reduce negative impacts, but are to inform the reader of the more common LEED points to consider toward achieving LEED Silver. The specific LEED points used to achieve LEED Silver will be determined during design and construction reviews after the EA process is complete. Appendix C shows the anticipated LEED points, for both action alternatives, that are currently planned for construction and operation of the lodge.

The Fort Benning Directorate of Public Works Environmental Management Division (EMD) and Cultural Resources Management staff have and will continue to participate in design reviews to verify that design requirements related to VECs are adequately addressed. Environmental mitigation monitoring during construction activities will be required based on design and construction activities associated with each of the alternatives considered. Any mitigation monitoring required to avoid or minimize significant environmental impacts are included as part of the applicable alternative or are discussed for each of the VECs, as appropriate.

CRITERIA FOR SCREENING ALTERNATIVES

Criteria used in screening reasonable alternatives are presented below. Only alternatives that meet these criteria would be carried forward for further analysis. Five major factors were applied for screening purposes.

- The site is located in close proximity to services and facilities necessary for Soldiers and their Families.
- The site is the appropriate size to accommodate the structure and required setbacks, between 30 and 40 acres.
- The site meets engineering standards to support the structure (soils, topography, etc.) and anti-terrorism and force protection setbacks.
- The site is ready and available for development (no demolition required).The Alternative must be able to comply with the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X) and asbestos (40 CFR part 763) requirements for the continued protection of children within reasonable costs.
- The Alternative does not significantly affect environmental resources.

- The site does not involve excessive costs for construction, operations and/or maintenance.

ALTERNATIVES CONSIDERED

The National Environmental Policy Act (NEPA) process commenced with the initial meeting of Family and Morale, Welfare and Recreation (FMWR), Garrison, and Department of Public Works (DPW) who came together to discuss the need for upgrade and improvement to lodging facilities. Fort Benning considered a range of alternatives as part of the planning process for replacing and improving lodging facilities on-post.

In the first phase of planning the Installation identified the following potential sites for preliminary concept design; Burr Avenue, old Faith School, Canby Park, and Stewart Field (figure 2). The Burr Avenue alternative was immediately eliminated from further consideration due to the Army's continual agreement with Residential Communities Initiative (RCI) housing because of a previously established lease.

The Army operates and maintains approximately 90,000 family housing units at its installations throughout the United States. At most installations demand for adequate housing on-post exceeds supply which forces many Soldiers and Their Families to live in housing off-post where the costs can be 15 to 20 percent greater than the costs to live on-post. The Army estimates that as much as $6 billion would be needed to address the deficit of housing (Fort Benning, 2005). In recognition of these problems, Congress enacted Section 2801 of the 1996 Defense Authorization Act (Public Law 104-106, codified at Title 10 of the United States Code [U.S.C.] Sections 2871-85). Also known as the Military Housing Privatization Initiative (MHPI), this provision of law creates alternative authorities for improvement and construction of military family housing.

The Army's implementation of the MHPI authorities is known as the Army Residential Communities Initiative (RCI). Consistent with the MHPI authorities, Fort Benning has transferred responsibility for providing housing and ancillary supporting facilities, (e.g. community centers, child care centers, etc.), to Fort Benning Family Communities (FBFC) LLC, a limited liability company (LLC) composed of the Army and Clark Pinnacle Realty. Fort Benning has conveyed all on-post military housing units and granted a 50-year ground lease for the land on which the housing and facilities are located to FBFC.

Implementation of RCI housing projects typically involves large numbers of family housing units which can represent a substantial financial commitment for both the private sector developer and the Army. Also, execution of RCI projects can be quite complex due to the extensive amount of planning and oversight that must occur between the functions of real estate, finance, engineering, law, and the local community. Due to the 50-year ground lease agreement under RCI, the current property holdings of FBFC and the land lease cannot be altered without approvals from both the Army and the private bond- and shareholders of Clark Pinnacle Realty. As such, revisions to the current lease agreement for RCI property holdings and lands can be difficult due to the expense and lengthy negotiation process as all parties with a vested interest must agree to changes in the terms of the lease (USACE, 2005a).

The second phase of planning included the delivery of a seven-story design conceptual drawing to Fort Benning which started DPW's environmental evaluation of all sites. The action alternatives included the construction of a new seven-story lodging facility on the three alternative sites from the first phase of planning, as well as the addition of three other alternative sites. These include the RCI leased land located at the north-east boundary of the MPCA, and the renovation of existing lodging facilities and construction of a new four story lodging facility on two alternative sites, old Faith School and Stillwell Field (figure 3).

The preparation of the draft EA began the third phase of planning (figure 4). Fort Benning staff evaluated and considered the six action alternatives and the No-Action alternative. This evaluation process in combination with the initial review of the draft EA resulted in the RCI leased land being eliminated from further consideration because the soils were inadequate to support a building greater than two stories, and the Army under the RCI initiative has leased the land and the process to return the use of the land to the Installation would have been extremely arduous.

The continued planning process included early coordination with the SHPO which advised that the originally proposed seven-story facility would have significant adverse effects to cultural resources. A 'balloon test' visual analysis confirmed the SHPO's opinion that the proposed seven-story lodge would result in significant adverse visual effects to adjacent historic properties.

For further analysis, a graphical 3-D simulation modeling based on the seven-story design was developed and presented. The modeling confirmed significant adverse impacts to the viewshed of historic housing from a seven-story lodge. Consequently, the Army reduced the permissible height of the Proposed Action to no more than five occupied (resided in) stories on the remaining alternatives that originally included a seven-story facility. In addition, the Army moved forward with the contracting process in order to obtain a 35% design of the facility for use in the analysis and public review and comment of this EA.

The fourth phase of planning combines the preparation of the final environmental assessment with the 35% design of the facility. Due to the size of the new layout and minimum requirements of the Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X) and asbestos (40 CFR part 763) not being met, three of the five remaining alternatives were eliminated from further consideration (figure 5). Specific reasons for their elimination are detailed in the following section.

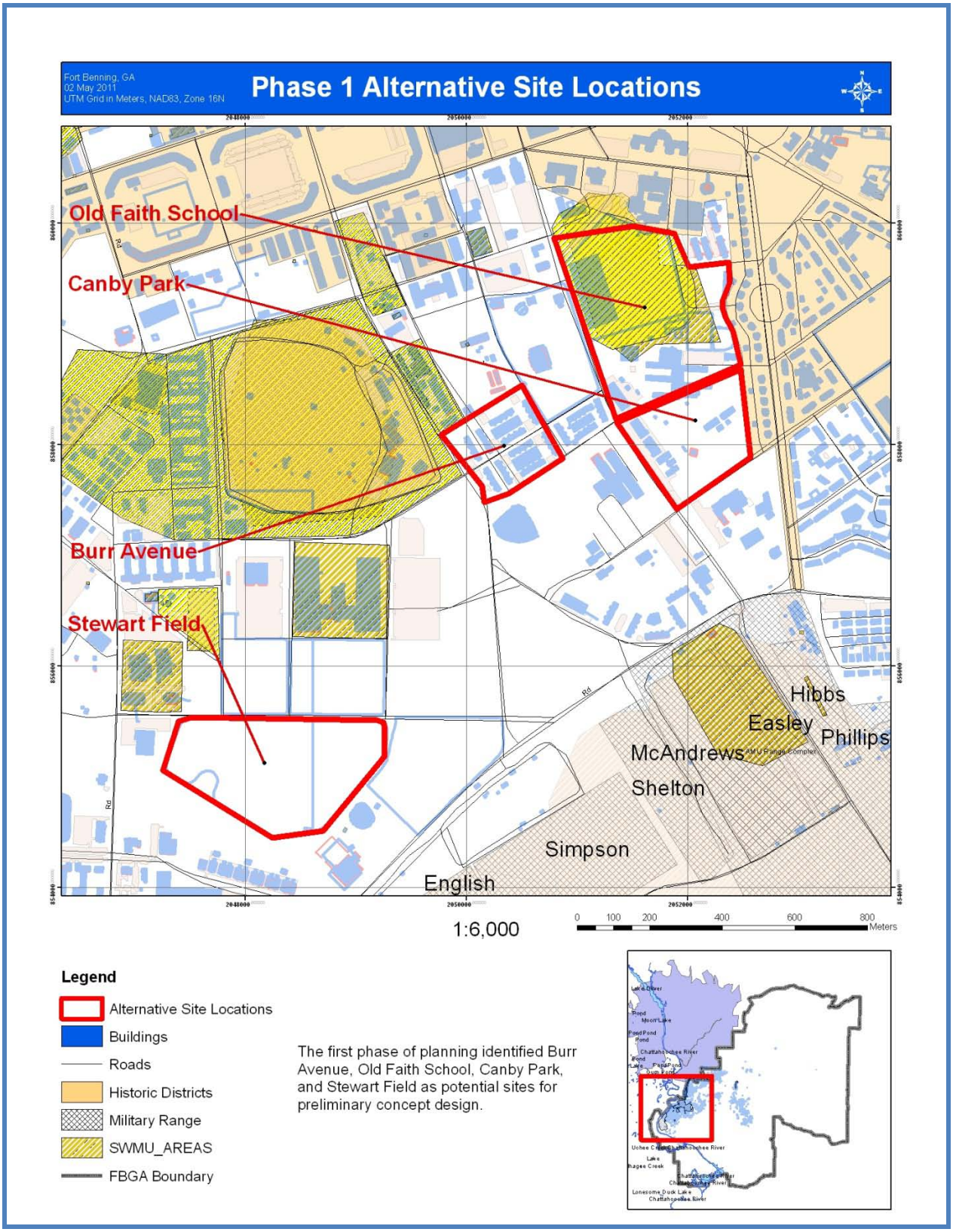


Figure 2. Phase 1 of Planning for Alternative Sites

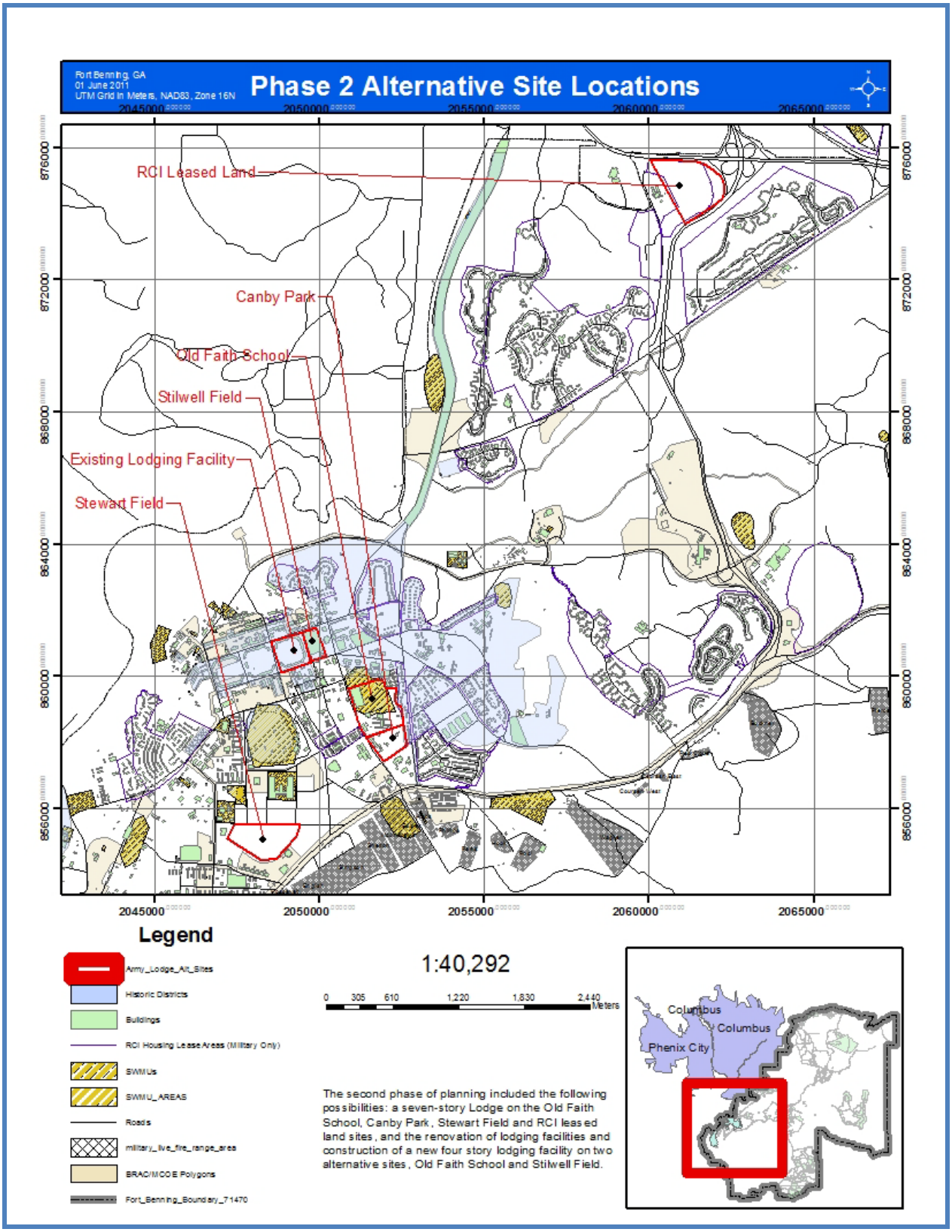


Figure 3. Phase 2 of Planning for Alternative Sites

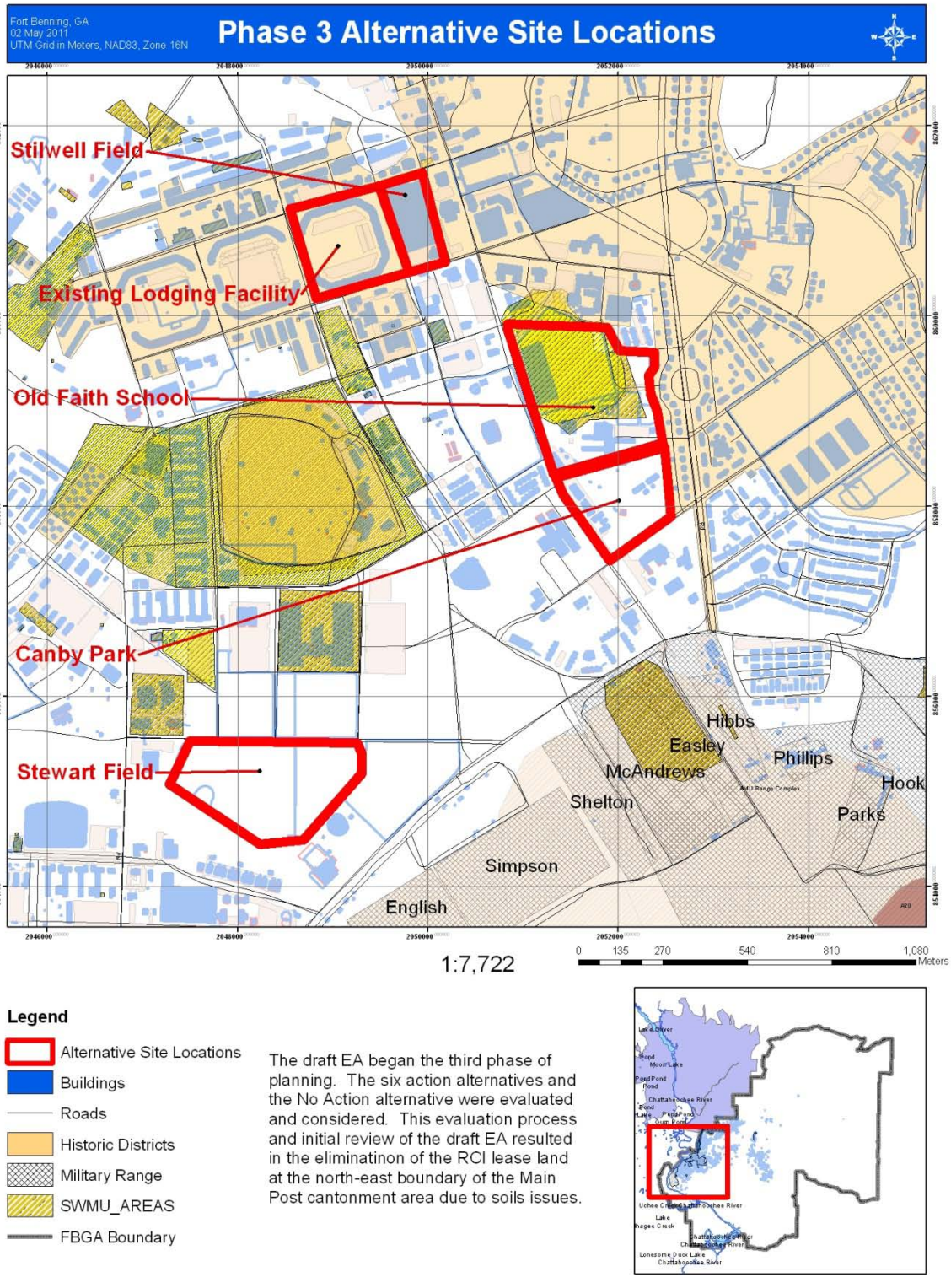


Figure 4. Phase 3 of Planning for Alternative Sites

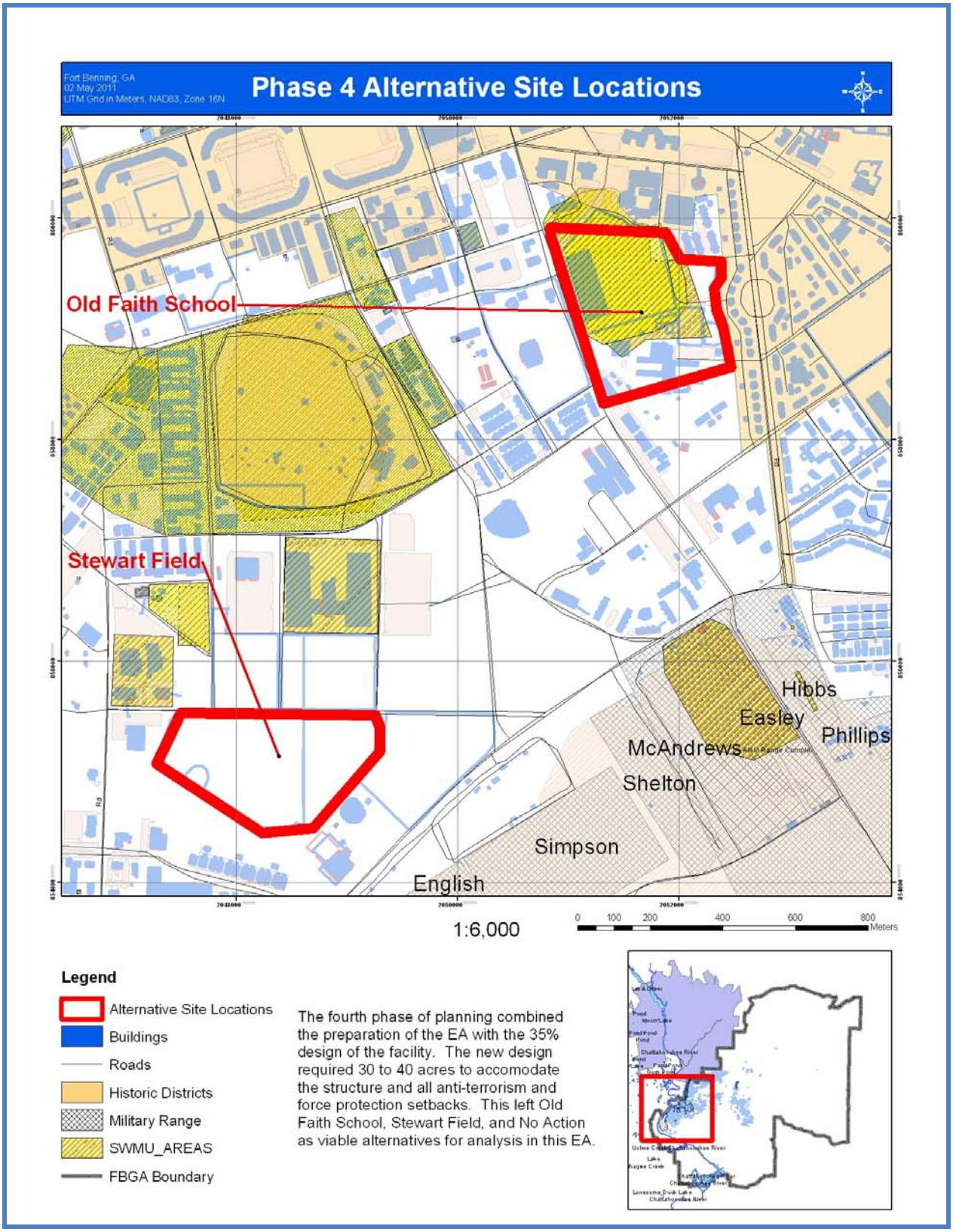


Figure 5. Phase 4 of Planning for Alternative Sites

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The Installation's phased interdisciplinary review of possible alternatives as described in the previous section considered environmental, socio-economic, and logistical factors. Through these phases the following alternatives were eliminated from further detailed analysis.

CANBY PARK

This alternative site, currently an active athletic field complex, is located directly south of the preferred alternative site at the intersection of Yeager Avenue and Ingersoll Street. The analysis eliminated this alternative due to the larger acreage (34) required for the new 35% layout to meet the Army's needs for lodging. At 15 acres, this site cannot accommodate a structure of this mass or the anti-terrorism and force protection setbacks.

RENOVATE BUILDING 399 AND CONSTRUCT A SMALLER LODGE ON PREFERRED ALTERNATIVE SITE

This alternative included the construction of a smaller facility with approximately 260 rooms with up to four floors at the preferred site (the old Faith School) along with the renovation of one of the historic Cuartels, building 399. The analysis eliminated this alternative due to the site having LBP and asbestos hazards that would be cost prohibitive. Therefore, this was not carried forward as an alternative.

Building 399 was constructed from 1925-1929, when lead-based paint and asbestos containing materials were common components of building construction. Over the years there have been a number of renovation and repair projects for Building 399 that have confirmed the presence of lead-based paint and asbestos. However, there have been no comprehensive surveys conducted to identify the locations or quantities throughout the building. Therefore, it is highly probable that there are still lead-based paint and asbestos containing materials present.

Federal Law 40 CFR, Subpart M, Section 61.145, *Standard for Demolition and Renovation*, requires the owner or operator to thoroughly inspect the affected facility where the demolition or renovation is to occur for the presence of asbestos. Additionally, any renovation activities that will disturb painted surfaces will require the affected surfaces to be analyzed for the presence of lead.

As Army Lodging will be used by Soldiers and their Families, Building 399 would be subject to compliance with 40 CFR 745 and Title X for the identification of "lead paint hazards" and abatement of those hazards when they exist. Lead-based paint hazard as defined by Title X, "Residential Lead-based Paint Hazard Reduction Act of 1992" as any condition that causes exposure to lead from lead-contaminated dust; bare, lead-contaminated soil; or lead-based paint that is deteriorated or intact lead-based paint present on accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects. This is particularly important because of the presence of children.

The effects of lead exposure on young children can be severe, including delays in physical and mental development, lower IQ levels, shortened attention spans, and increased behavioral problems. Fetuses, infants, and children are more vulnerable to lead exposure than adults since

lead is more easily absorbed into growing bodies, and the tissues of small children are more sensitive to the damaging effects of lead (USEPA 2011).

In addition, the legal requirements to identify, abate, and/or remove (and dispose of) lead-based paint and asbestos containing materials would incur additional costs to renovation activities for Building 399. Therefore, the continued use of existing lodging facilities would require the Garrison to invest significant funds to provide adequate lodging to meet current lodging requirements and standards. The excessive costs in conjunction with regulations for LBP and asbestos containing materials made renovation and use of Building 399 not feasible, and was eliminated as a viable alternative for Army lodging (personal communication, Ferring 2011).

RENOVATE BUILDING 399 AND CONSTRUCT NEW LODGE ON STILWELL FIELD

The site for the new construction portion of this alternative is currently a parade/ceremony field. The analysis eliminated this alternative due to the potential for LBP and asbestos hazards with Building 399 as noted above. Therefore, this was not carried forward as an alternative.

CONSTRUCT A SEVEN-STORY ARMY LODGE AT THE OLD FAITH SCHOOL, CANBY PARK, OR STEWART FIELD SITES

This was the preferred design concept at the second phase of planning and was evaluated in early environmental reviews of the project. The analysis found that construction of a seven-story building at these locations would result in potential significant adverse impacts to historic resources and that mitigation of the impacts may not be feasible because of the visual mass of the facility towering over the adjacent historic residences in the MPHD. Therefore, this design concept was not carried forward as an option at these alternative sites.

CONSTRUCT AN ARMY LODGE ON THE RESIDENTIAL COMMUNITIES INITIATIVE (RCI) LEASED LAND

This site is RCI leased land that is currently a forested area. It is located at the north-east boundary of the MPCA. This site was evaluated in the initial draft EA. In addition to this area being encumbered under the RCI lease agreement with the Army, the analysis found that the soils at this site (see Appendix B) cannot support the construction of a building greater than two stories. Based on the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) soils classification system, the overall impact to soils at this site would be significant based on the soil bearing capacity. Therefore, this area was not carried forward as an alternative.

CONSTRUCT AN ARMY LODGE AT BURR AVENUE LOCATION

This area is encumbered under the RCI lease agreement with the Army and currently holds permanent Family housing. These housing units generate rental revenue and the site is not available for construction of a new Army lodge. Therefore, this area was not carried forward as an alternative.

ALTERNATIVES CONSIDERED AND EVALUATED IN THIS EA

Mitigation and monitoring has been included in the design criteria to better protect the historic resources on Fort Benning and reduce adverse effects to less than significant. Three reasonable

alternatives are assessed in detail, including the No-Action/status quo alternative, in this EA. Analysis of the No-Action Alternative (Alternative A) is prescribed by The President's Council on Environmental Quality (CEQ) regulations and serves as the benchmark against which the environmental effects of the Proposed Action and reasonable alternatives can be evaluated and compared.

Alternatives B and C include the construction and operation of a new extended stay Army lodging facility at Fort Benning. The preferred site (Alternative B) for the Proposed Action is on the east side of Ingersoll Street, north of Canby Park. Alternative C (Stewart Field) is located between Sightseeing Road and Edwards Street directly across from Building 4, the Maneuver Center of Excellence.

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative, no new lodging facility would be constructed. Soldiers, their Families, and other personnel would continue to use the current on-post lodging facilities (see Table 1-1) and the use of off-post lodging would increase.

The continued use of on-post facilities as they are now would require a major infusion of capital to upgrade and renovate the already deteriorated amenities and equipment. Facility system failures would require the emergency use of off-post facilities that would hinder access to shared on-post support and services. Increased use of off-post facilities would create an influx of traffic entering the Installation (personal communication, Jackson 2011).

ALTERNATIVE B: OLD FAITH SCHOOL – PREFERRED ALTERNATIVE (PA)

The preferred site, Alternative B, is approximately 34-acres (see Figure 4). This alternative includes construction of the lodging facility as described in the Proposed Action. Based upon the 35% design, it would be three and four occupied (resided in) stories, which includes allowance for additional height for equipment (e.g. heating ventilation, air conditioning units, etc.) to support building system requirements, and consist of at least 860 rooms. The site is within the MPCA, and is bounded by Ingersoll Street (a Main Post thoroughfare to the west); part of the MPHD to the north and east; and Youth Activity ball fields (Canby Park) to the south.

The site has been previously disturbed and includes parking areas, paved roads, mowed lawns, and an old landfill (Landfill 003) categorized as wood and household debris through site characterization and testing (personal communication, Morpeth 2010). As part of the Infrastructure Footprint Reduction Program (IFRP), Fort Benning demolished the buildings, the old Faith School, previously on this site. Further preparation of the site and any disturbance (i.e., excavation/clean-up) to the landfill to ensure engineering and construction standards are met, would be handled by the site development contractor (personal communication, Taylor 2011). In the unlikely event that any hazardous waste is found during excavation, it would be identified, handled, and disposed of properly and in accordance with all applicable Federal, State and local rules and regulations.

Environmental protection measures included in the Proposed Action specifically for Alternative B do not allow road connections to the chapel parking lot and/or the Historic Housing Area.

ALTERNATIVE C: STEWART FIELD

Alternative C, Stewart Field, is the open field area located between Sightseeing Road and Edwards Street directly across from newly renovated Building 4, the Maneuver Center of Excellence Headquarters Building. Currently this field is used for outdoor recreation/conditioning (e.g., inter-armed forces Rugby competition and physical training, etc.). It is the only lighted running and walking track currently on Fort Benning and is used by military, retirees, and civilians for their daily exercise program (personal communication, Jackson 2011).

The site is approximately 30-acres which contains the lodge and parking. This alternative includes construction of the lodging facility as described in the Proposed Action. Based upon the 35% design, it would be three and four occupied (resided in) stories, which includes allowance for additional height for equipment (i.e. Heating Ventilation and Air Conditioning units) to support building system requirements, and consist of at least 860 rooms.

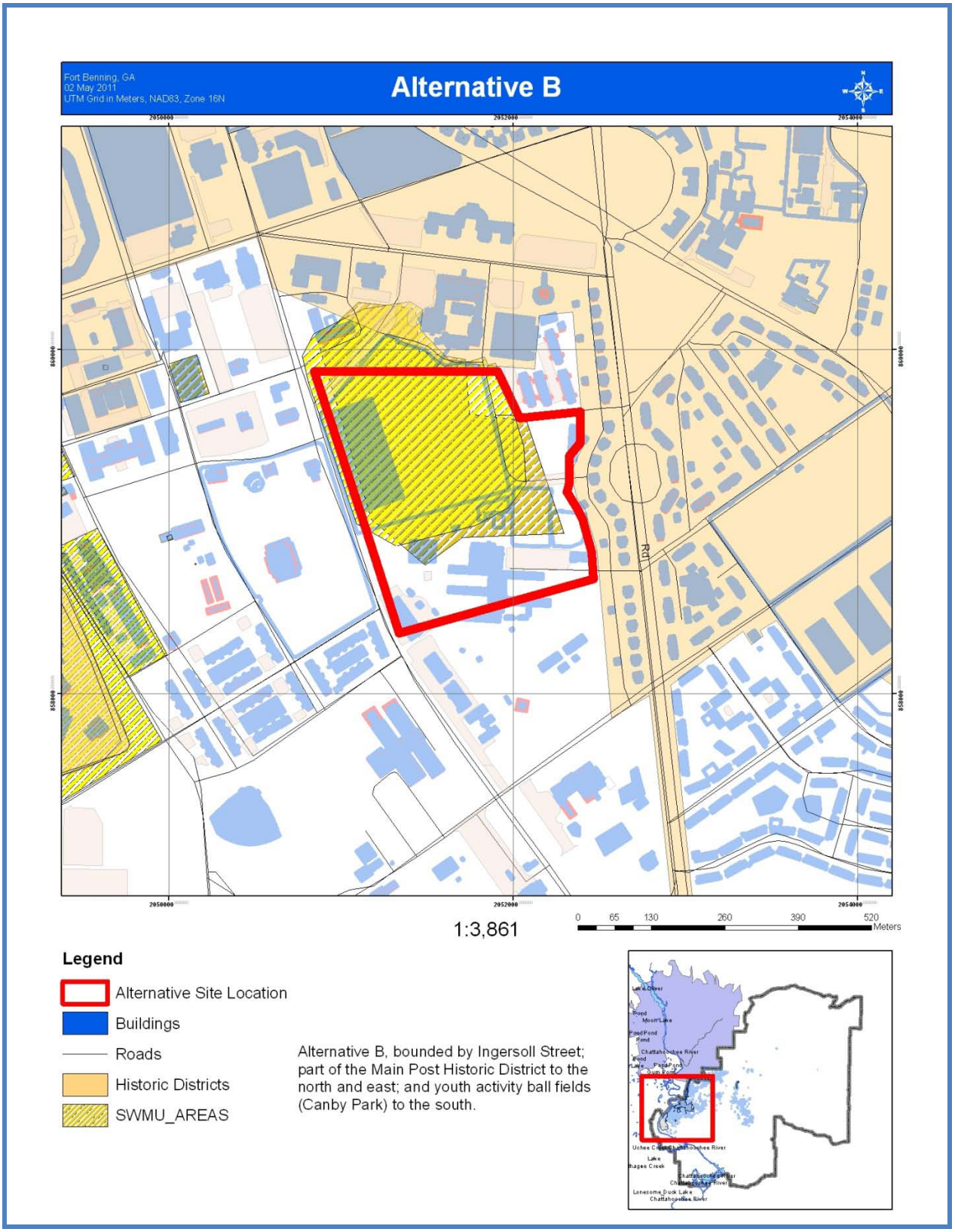


Figure 6. Alternative Site B

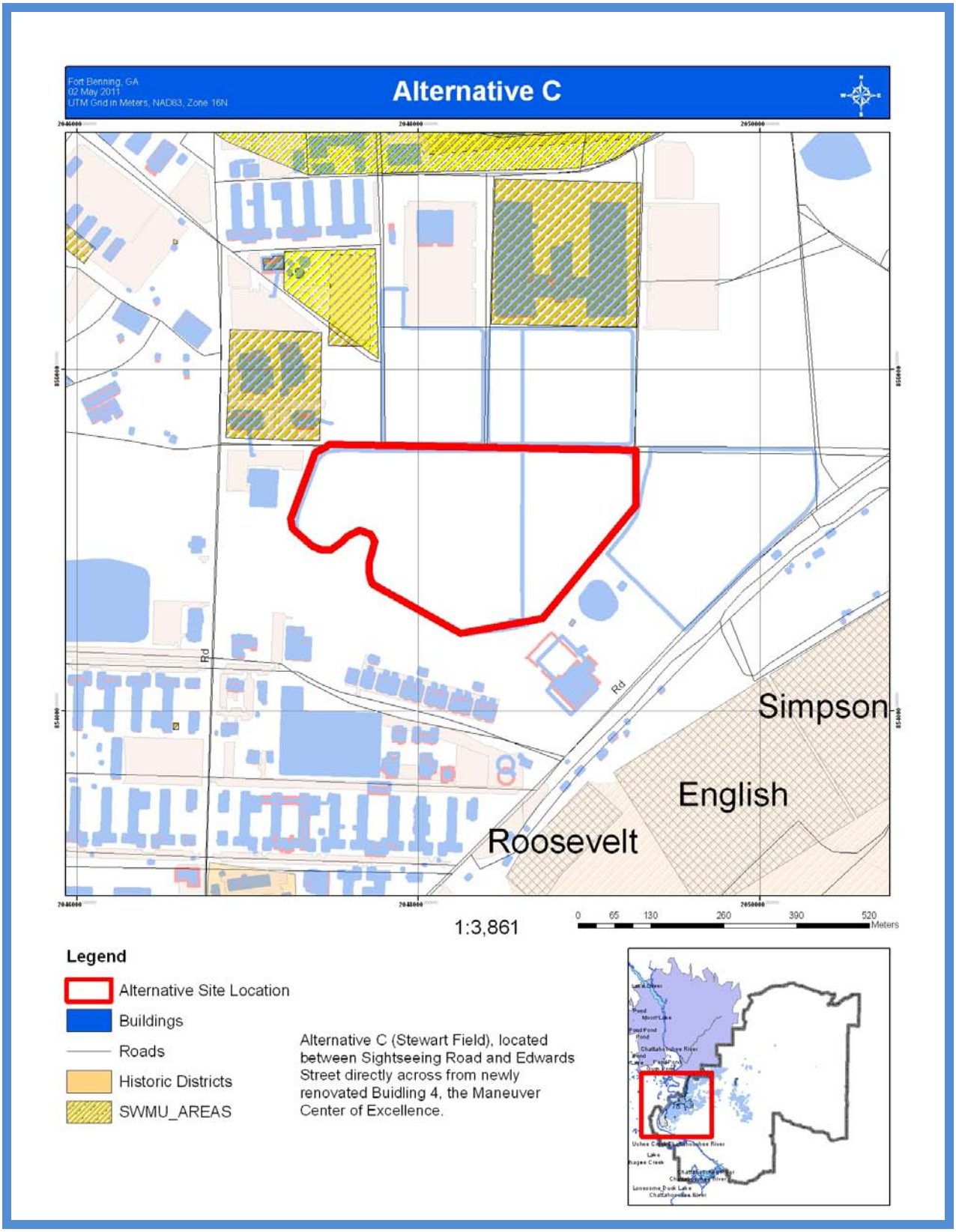


Figure 7. Alternative Site C

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Section 3

AFFECTED ENVIRONMENT AND ENVIRONENTAL CONSEQUENCES

GENERAL

The Fort Benning affected environment has been described in a number of environmental impact analyses during the past several years. A 2009 Response Letter to comments from the U.S. Environmental Protection Agency (USEPA) on the MCOE EIS provides the most recent and detailed summary of the current environment at Fort Benning. (This document and others can be found at the website http://www.benning.army.mil/garrison/DPW/EMD/legal.htm.)

This section of the environmental assessment describes the specific affected environment and potential impacts of implementing each alternative. In addition, several Executive Orders pertaining to the protection of certain segments of the population, i.e., children, minorities and low income populations are further addressed. Those impacts are discussed in the Environmental Justice and Safety section.

Fort Benning conducts early environmental reviews of proposed actions. The project proponent provides the NEPA office not only with initial plans for preparation of the site (or other appropriate documentation), but also with information at various stages of design. For each new proposed action, the proponent submits a Fort Benning Form FB 144R (i.e., a request for environmental analysis) to the Environmental Management Division (EMD). All proposed actions are reviewed by a subject matter expert (SME) from each environmental technical area ensuring that the proposed action would not produce significant adverse effects to the resource under their purview. If potential adverse effects are identified, appropriate mitigation measures are developed and implemented in concert with the proposed action to reduce that potential impact to acceptable, less-than-significant levels. The NEPA office uses this interdisciplinary process to help determine the appropriate level of environmental documentation.

LAND USE

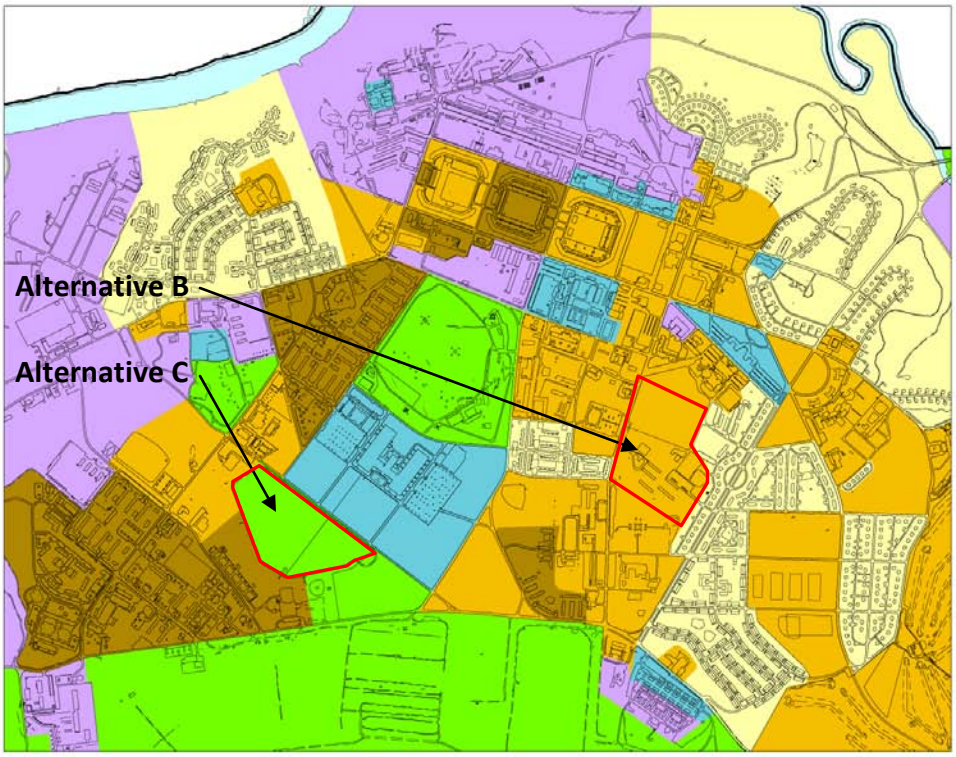
Land uses are typically regulated by management plans, policies, ordinances, and/or regulations that determine the types of uses that are allowable to protect specially designated or environmentally sensitive lands (USACE 2007). Land use and management within the cantonment areas of Fort Benning is primarily in accordance with Army Regulation (AR) 210-20, *Real Property Master Planning for Army Installations*, dated May 16, 2005. This regulation

places emphasis on: 1) eliminating or minimizing conflicts among incompatible functions; 2) improving the function and efficiency of operations on the Installation; 3) improving the appearance of the Installation by buffering or relocating unattractive industrial, utility, or maintenance functions; and 4) activities are sited properly by form and function and by organization.

Standard land use definitions for U.S. Army Installations as defined by the *Real Master Property Planning Technical Manual 5-803-1*, *Installation Master Planning* (USACE 1986), are provided in Table 3-1. The current land use management designations, as shown in Figure 8, were used for this analysis. The new lodging facility would be categorized as *Community Facilities*.

Table 3-1. Land-Use Management Designations

Land Use	Definition
Airfield	Designated for flight operations including runways and taxiways, along with airfield support facilities including airfield operations, aviation refueling, aviation maintenance and related test facilities.
Professional/Institutional	Provides for non-tactical organizations including military schools, headquarters, major commands, and non-industrial research, development, testing, and evaluation (RDT&E).
Community Facilities	This land use provides facilities including: religious, family support, personnel services, professional services, medical community, commercial, and recreational activities.
Residential	Provides space for family housing and senior unaccompanied personnel housing. It also includes family services and may have other neighborhood services associated with the community land use cluster included in the area.
Troop	Designated for operational facilities for Table of Organization and Equipment (TOE) units, Basic Combat Training (BCT) and One Station Unit Training (OSUT) complexes, and for selected Initial Entry Training (IET) complexes. The goal is to provide contiguous facilities for related organizations to facilitate operational readiness support, operations security for deployable units, and minimize movement of trainees between sleeping, dining, and training facilities.
Industrial	Designated for production, maintenance, depot and other storage, activities that generate significant amounts of heavy vehicle traffic, loud outdoor equipment operations, and similar activities. This land use cluster is also for facilities that generate noise, smoke, large amounts of steam, or generate pollutants that must be processed on site.
Training and Ranges	Includes live-fire ranges, non-live fire ranges, and special training areas, such as confidence courses, driver training or land navigation.



Environmental Assessment Army Lodge Fort Benning, GA		**Figure 8. Main Post Future Land Use**

Source: Long Range Component, Fort Benning Real Property Master Plan, April 2009

The ROI for land use is the Main Post Cantonment Area. The MPCA of Fort Benning encompasses approximately 8,850 acres. It is the largest and most developed of the cantonment areas. It includes the Post Headquarters, Maneuver Center of Excellence (MCOE); Cuartels barracks complex, Martin Army Community Hospital, Post Exchange, Commissary, and various housing areas.

ENVIRONMENTAL CONSEQUENCES

The impacts to land use would be considered significant if one or more of the following occurs within the ROI for any of the action alternatives:

- existing land use would be altered in a manner that degrades mission-essential training; or
- changes to on-post land use would cause incompatibility with adjacent land use.

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative there would be no new construction and no effect to land use.

ALTERNATIVE B: OLD FAITH SCHOOL

Under Alternative B, construction of the new lodging facility would not change the current designated land use. The facility would be compatible based on the current Land Use map which shows the area as Community Facilities and the surrounding area as Residential. This is a previously disturbed area that had five buildings used for office space, storage, classes, and meetings as well as a portion of a No Further Action (NFA) (i.e. closed) Landfill 003. The demolition of the buildings was previously planned as part of the Infrastructure Footprint Reduction Program (IFRP). Overall there would be a negligible impact to land use under this alternative.

ALTERNATIVE C: STEWART FIELD

Stewart Field is used for outdoor recreation, physical training, inter-armed forces Rugby competition, and similar activities. It is the only lighted running and walking track currently on Fort Benning and is used by military, retirees, and civilians for their daily exercise program (personal communication, Jackson 2011).

Under this alternative, construction of the new lodging facility would shift land use designation from Training and Ranges to Community Facilities. The facility is compatible based on the current Land Use map which shows the areas surrounding this site designated as Community, Troop, Professional/Institutional, and Training and Ranges. A minor adverse impact would occur to land use under Alternative C because the land would be converted from Training and Ranges to Community Facilities.

CUMULATIVE IMPACTS TO LAND USE

For land use, cumulative effects (see Table 1-2) would be contained within the Installation, and specifically the MPCA. Other ongoing development in combination with the Proposed Action would result in additive impacts to land use intensity and density.

The Army Lodging Facility was noted within the BRAC 2005 and Transformation EIS, and specifically mentioned in the Transformation related future projects list and cumulative impacts to land use. The land use associated with the Proposed Action is consistent with the current Real Property Master Plan (Fort Benning 1994) and does not significantly conflict with surrounding land uses at any of the alternatives. The additional projects listed in Table 1-2 would also be consistent or compatible with existing land use. Therefore, the incremental impacts to land use would not be considered significant.

The real property master planning process is the tool to ensure that this growth continues to occur in an orderly fashion, and therefore, no significant cumulative land use impacts are expected.

MITIGATION MEASURES

No mitigation is proposed.

CULTURAL RESOURCES

Early coordination with the Georgia State Historic Preservation Office (SHPO) helped Fort Benning to determine that the originally proposed seven-story lodge would have significant adverse effects to cultural resources. A balloon test visual analysis confirmed the SHPO's opinion that the proposed seven-story lodge would result in significant adverse effect to the viewshed of adjacent historic properties.

To further confirm impacts to the viewshed of historic housing; advanced geospatial information technologies, 2-dimentional (2-D) and virtual 3-dimentional (3-D), models were developed to more closely analyze potential impacts of the proposed Army lodge at Alternative B (Preferred Alternative). The result of this modeling on the MPHD viewshed, landscape, and specific historic buildings took into account the proposed location, height and mass of the building. The modeling illustrated the potential significant adverse impact to the area. The modeling also showed that by reducing the height of the structure the impact would be reduced to less than significant. Consequently, the Army reduced the permissible height of the Proposed Action to no more than five occupied (resided in) stories on the remaining alternative sites that originally included the proposed seven-story facility.

HISTORIC DISTRICTS AND BUILDINGS

Fort Benning contains the following four historic districts.

- Main Post Historic District (MPHD),
- Lawson Army Airfield Historic District (LAAF),
- Parachute Jump Towers Historic District (PJT), and
- Ammunition Storage Area Historic District (ASA).

With the exception of the ASA, the districts are located on the Main Post.

The two primary districts that are within visual range of the proposed lodge are the MPHD and the PJT. Additionally, Fort Benning Boulevard/Lumpkin Road from the Installation's historic main gate to Dixie Road is a contributing landscape within the Main Post Historic District.

The Main Post Historic District (MPHD) covers a significant portion of the southern and eastern portions of the MPCA. The MPHD includes historic housing, the monumental barracks known as the Cuartels, the original Infantry School building (Building 35), and a significant number of large open spaces historically used for such things as parades, maneuver fields, polo fields, and recreational activities.

ARCHAEOLOGICAL RESOURCES

The MPCA contains 8,850 acres, of which 8,493 acres have been surveyed for archeological resources. A total of 120 archaeological loci (82 sites and 38 isolated finds) have been identified in the Main Post. Forty-four of these sites are eligible for inclusion in the National Register of Historic Places (NHRP). Thirteen are deemed potentially eligible for inclusion in the NRHP. None of these sites are found within the proposed alternative locations; therefore no archaeological resources would be affected.

Thirteen federally recognized American Indian Tribes are affiliated with the lands that comprise Fort Benning, of these eleven have indicated that they want to be consulted for projects on-going at Fort Benning. Fort Benning will consult with the Tribes in accordance with the Historic Properties Component (HPC) (Department of the Army 2006a) of the Integrated Cultural Resources Management Plan (ICRMP) (Department of the Army 2008) for the Proposed Action.

ENVIRONMENTAL CONSEQUENCES

The threshold for significant impacts to cultural resources includes any disturbance or adverse impact (including visual) that cannot be mitigated and affects the integrity of a NRHP eligible historic property. The threshold also applies to any cultural resource that has not yet been evaluated for its eligibility to the NRHP.

ALTERNATIVE A: NO-ACTION

The viewshed would remain the same under the No-Action alternative and there would be no effects to cultural resources.

ALTERNATIVE B: OLD FAITH SCHOOL

Five buildings (1674, 1675, 1676, 1677, and 1678, remnants of the former Faith School constructed in 1952) at this site were surveyed in March 2010 to evaluate eligibility for the NRHP. These buildings were determined to be not eligible for inclusion on the National Register by Cultural Resources Management staff (personal communication, Perry 2010). These buildings were demolished in 2010 as part of the Infrastructure Footprint Reduction Program.

Associated with viewshed impacts are shadows and light dispersion. Implementation of this alternative would place the lodge very close to existing housing. The height and mass (linear impact) of the building means that shadows would be cast late in the day on some of the adjacent buildings within the MPHD. The evening security lights on the building, roadways, and in the parking lot would also illuminate these same historic areas. These areas are part of a well planned neighborhood not currently affected by such changes during the course of a 24 hour period, particularly at night. Although there has been building construction on the edges of the historic neighborhood, the buildings have been small enough and far enough away so that the light at night from these buildings into the MPHD is negligible. It is possible that the light pollution from the Proposed Action at this alternative would cause a minor adverse effect on the adjacent MPHD.

Overall, the adverse impact to cultural resources under this alternative could have been significant without adequate mitigation. However, implementing the required mitigation measures listed below will reduce the adverse effect in all seasons to the MPHD to a moderate level.

ALTERNATIVE C: STEWART FIELD

The adverse impact to cultural resources under this alternative would be minor because the visual scale and mass of the facility exceeds the standard facilities found within the MPHD.

Alternative C is approximately 0.6 miles outside the MPHD. This distance reduces the perception of mass and visual effects from the historic buildings in the MPHD.

CUMULATIVE IMPACTS TO CULTURAL RESOURCES

For cultural resources, cumulative effects would be contained within the MPCA and would be considered significant if a disturbance cannot be mitigated and affects the integrity of a NRHP eligible historic property. The threshold also applies to any cultural resource that has not yet been evaluated for its eligibility to the NRHP.

A primary concern associated with the construction of the proposed Army lodge is the cumulative adverse effect to the viewshed within the MPHD. Associated with viewshed impacts are shadows and light dispersion. The construction of the proposed Army Lodge at the Preferred Alternative is an adverse effect on the viewshed of the district, but will be mitigated by compatible design, use of a low diffused intensity bulb, and a combination of fencing and landscaping.

Open Spaces are a significant part of the MPHD and help historically set Fort Benning apart from other Installations of this age and type. Aside from the Historic Open Spaces (i.e., Stilwell Field) within the MPHD, there are Historic Open Spaces (i.e., York Field in front of Building 4) associated with buildings and with the development of the Installation within the MPCA.

Fort Benning has been highly successful at implementing construction activities while keeping negative effects within the MPHD to a minimum. The proposed construction of the Army Lodge would result in incremental negative impacts to cultural resources.

The Proposed Action contributes to cumulative cultural resources impacts given the projects listed in Table 1-2. The Conference Center renovation and utility lines upgrades are located within the APE, but have very limited additive impact to the MPHD. The Benning Conference Center is primarily an interior renovation, and the upgrade to water and sewer lines is short term, linear, and excavated terrain is restored to nearly the same view. These projects and any other new facilities that may be proposed in the future near the Lodging Facility will require that the proponent to submit a Fort Benning Form FB 144R to EMD to start environmental analysis and reduce effects to the MPHD. Overall, potential cumulative impacts to cultural resources would be minor.

MITIGATION MEASURES

The following measures were incorporated through the NEPA planning process into the design as follows:

- The exterior appearance/configuration of both the primary Lodge structure and the grounds building shall be reminiscent of, and blend with the adjacent historic buildings. Consideration shall be given to incorporating design elements of nearby non-historic buildings, historic Buildings 35 and 128, as well as the adjacent historic housing area.

- "…Landscaping design shall utilize existing and native landscaping materials that are compatible with the local setting, improve the environmental characteristics of the area, and consider the long-term costs of maintenance and watering. Environmentally sensitive, drought tolerant, low maintenance plantings are highly desirable. Earth berming and mounding to buffer sound and visual impacts from the adjacent historic housing area is encouraged…"

- Site and Landscaping plans shall clearly show 8-foot privacy fence grassed and planting areas, trees and shrubs, planting details, and a schedule of plants/trees indicating species, size, and quantity to help visually screen the lodge from the surrounding areas.

In addition to the above, designing the site grading to minimize standing water, excessive flows over sidewalks, ponding during storms where pedestrians must travel and drainage toward the building is part of the Proposed Action.

The following additional mitigation is required to reduce the effect to less than significant at Alternative B:

- Use of a low diffused intensity bulb, for street and parking lights, that points downward and/or has shielding to minimize light pollution into the historic housing area
- Eliminate any traffic cut-through possibilities through the historic housing area with the use of bollards.
- Install a combination of 8-foot high fencing and tree and shrub landscaping that will provide an adequate visual screen during all seasons such that it will reduce impacts to historic family housing to less than significant. Once the design is available the specifics on this visual barrier will be available upon request. Fort Benning will monitor that the screen is being appropriately implemented and maintained, and any adjustments will be made accordingly.
- A comprehensive land use plan[3] should be produced to guide development for this area including design and scale of construction, traffic control, providing safe pedestrian pathways, and ensuring/maintaining adequate green space.

THE SHPO LISTED, AS A MITIGATION MEASURE, MOVING THE PERIMETER ROAD AND/OR PARTIAL DELETION OF THE EASTERN SIDE OF THE ROAD ADJACENT TO THE RESIDENTIAL AREA. THIS MITIGATION MEASURE WAS CONSIDERED, BUT WILL LIKELY BE ELIMINATED BECAUSE THIS ROAD IS A LIFE-SAFETY REQUIREMENT FOR EMERGENCY RESPONSE VEHICLES TO HAVE ACCESS TO ALL PARTS OF THE FACILITY.

[3] SHPO is requesting an addendum to the Installations Master Plan for this specific area to describe in detail the design and scale of construction, traffic control, providing safe pedestrian pathways, and ensuring/maintaining adequate green space.

SOCIOECONOMICS

The ROI for socioeconomic analysis consists of Muscogee, Chattahoochee, Harris and Marion Counties in Georgia, and Russell County in Alabama. This area is based on residential distribution of the Installation's military, civilian, and contracting personnel and the location of businesses that provide goods and services to the Installation and its employees. A detailed description of the ROI characteristics relevant to Fort Benning is available in Section 4.5 of the MCOE EIS (USACE 2009).

This section presents a synopsis of the analysis performed and the detailed evaluation technique, assumptions and inputs for this analysis are provided in Appendix A.

The overall growth at Fort Benning was assessed in the Final Environmental Impact Statements, BRAC 2005 And Transformation Actions at Fort Benning, Georgia (USACE 2007) as significant direct and indirect beneficial impacts on employment and local business volume, with minor direct and indirect beneficial impacts on population and negative impacts on needed services. A summary for the MCOE socioeconomic analysis is presented in Table 3-2. All of the values presented are positive.

Table 3-2. Analysis of Fort Benning Growth

MCOE Estimates (2009)			
Variable	Est. impact	%	RTV
Sales Volume	$1,695,254,000	16.17%	6.89%
Income	$381,645,300	6.46%	6.93%
Employment	10,823	6.79%	5.25%

These levels of previously assessed and ongoing change in the regional economy can be used to establish perspective and establish the background in which the Proposed Action would occur.

ENVIRONMENTAL CONSEQUENCES

In order to evaluate the potential effects of the proposed lodging facility, the Economic Impact Forecast System (EIFS) was used. This system is used by the Army to predict direct and indirect regional economic impacts and to evaluate and document the potential socioeconomic effects of proposed Army actions. Its use is complemented by the use of the Rational Threshold Value (RTV) technique for the evaluation of predicted impacts and the determination of significance.

Using the RTV technique, the threshold level for a significant adverse socioeconomic impact would occur when the Proposed Action is likely to change economic conditions (business volume, income, employment, or population) beyond the levels established by an analysis of the historical fluctuations in the ROI over time.

The EIFS analyses of socioeconomic effects are separated into two major components: (1) construction of the lodging complex and (2) operation and maintenance of the lodging complex. In addition, the consideration of the No-Action alternative is presented.

ALTERNATIVE A: NO-ACTION

The proposed lodging facility is needed to increase the availability of on-post lodging. Without the Proposed Action (the No-Action alternative), additional revenues to purchase off-post lodging would occur in the local ROI, as this demand for temporary lodging could not be met on-post.

The results of the EIFS analyses for the No-Action Alternative show that the estimated impacts are well below the RTV thresholds for the affected variables. The results of this analysis are presented in Table 3-3 and are shown as percentage changes in total business volume, employment, and income, along with the applicable RTVs which serve as thresholds for determining significance. Therefore, the No-Action alternative would have a negligible impact to area socioeconomics.

Table 3-3. Potential Effects to Socioeconomics for the No-Action Alternative

Change	2012	2013 and beyond	RTV
Business volume:	0.69%	1.38%	6.89%
Income:	0.22%	0.44%	6.93%
Employment:	0.26%	0.52%	5.25%

ALTERNATIVES B AND C

The analyses of Alternatives B and C are combined in this section because their respective socioeconomic effects are the same regardless of the on-post location for the new Army lodging facility. The potential total effects (of both construction and operations) of the lodging facility are summarized in Table 3-4.

Table 3-4. Potential Effects to Socioeconomics for All Action Alternatives

	2010			2011			2012			2013 & Beyond		
	BV	***Inc***	***Empl***	***BV***	***Inc***	***Empl***	***BV***	***Inc***	***Empl***	***BV***	***Inc***	***Empl***
Construction	.0.25	0.08	0.09	0.51	0.16	0.19	0.25	0.08	0.09			
Operation										0.33	0.20	0.22
Total	0.25	0.08	0.09	0.51	0.16	0.19	0.41	0.18	0.20	0.33	0.20	0.22
Applicable RTV	6.98	6.93	5.25	6.89	6.93	5.25	6.98	6.93	5.25	6.89	6.93	5.25

As indicated in the table above, the potential impacts associated with implementation of any of the action alternatives fall within the applicable RTVs, all less than one percent, comparing to RTVs ranging from five percent to seven percent. These impacts reflect the temporary economic benefits associated with construction of the facility in the early years and the continuing impacts of facility operation in the later years (2013 and beyond). The reduction in impacts between the No-Action and proposed alternatives reflect decreased community revenues associated with the use of the on-post facility.

Lost sales tax and occupancy tax revenues, for the communities of Phenix City and Columbus, from the lodging activity would be less than the percentage values shown for business volume, as many items that comprise the business volume estimates (some retail sales, wholesale trade, service sectors, etc.) are not subject to sales taxation[4]. A portion of these revenues normally benefit specific city and county activities (often the result of local tax referendums), such as convention, hotel, and tourist promotion.

The impacts analysis included construction, operation and maintenance of the proposed lodging facility and the effects attributable to employment of individuals at the on-post lodging facilities and the continued revenues in the economy from the continued demand for off-post rooms. Even with the new proposed facility, the demand for off-post rooms will increase (personal communication, Patterson 2010).

Overall, the projected regional economic impact of the lodging construction and operations is minor adverse. There is a potential for lost occupation and hotel/motel taxes to the outlying community based upon the build-out of the proposed Army lodge. Implementing any of the alternatives would not have a significant adverse socioeconomic impact. No mitigation is required or planned.

CUMULATIVE IMPACTS TO SOCIOECONOMICS

Although economic impacts of the Proposed Action as measured by the EIFS model resulted in outputs that did not exceed historical RTV values, these impacts will occur at the same time that major and seemingly unprecedented (based on RTVs) regional economic growth is projected from increased military activities at Fort Benning (USACE 2007 and USACE 2009). Therefore, additional spending for all the past, present, and future actions on and off-post could potentially have moderate beneficial economic development impacts. Housing would need to expand in the overall region to support these actions and increased demands for public services such as schools, hospitals, and police/fire departments would need to be met. The Proposed Action has negligible additive effects to cumulative impacts.

MITIGATION MEASURES No mitigation is proposed.

[4] Sales tax rates vary slightly among the counties in the ROI, but a sales tax rate of 7% is a reasonable estimate for the ROI as a whole. In addition, Muscogee County (Columbus) levees a 7% occupancy tax on hotel rooms (http://www.georgiafacts.com).

ENVIRONMENTAL JUSTICE, HEALTH, AND SAFETY

Environmental Justice and safety during construction and operation of Fort Benning facilities may be affected or protected by:

- availability of responsive fire and emergency services,
- environmental health and safety risks to children, and
- human health and environmental conditions in minority and/or low-income communities.

Since children may suffer disproportionately (i.e., more so than adults, due to physiological and behavioral differences) from environmental health risks and safety risks, Executive Order (EO) 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, was signed by President Clinton in 1997. The intent of EO 13045 was to prioritize the identification and assessment of environmental health risks and safety risks that may affect children, and to ensure that Federal agency policies, programs, activities, and standards address environmental risks and safety risks to children. As the proposed project would be carefully monitored and controlled, no adverse effects to children would occur.

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to consider disproportionately high and adverse environmental effects on minority and low-income populations. There are fragments of the population within the Columbus Metropolitan Statistical Area (MSA) which could be classified as “minority” or “low income” populations and which would be entitled to protection under EO 12898. The EA public review process provides individuals or groups within minority and low income populations with an opportunity to provide input to Fort Benning prior to decisions for the proposed Army Lodging.

There are no effects on minority and low-income populations under any of the alternatives. The Proposed Action does not create adverse environmental effects because all construction is limited to MPCA sites where housing is provided to Soldiers and their Families at various levels of income in racially diverse communities. Therefore, environmental justice is not discussed any further in this EA.

The Fort Benning Directorate of Emergency Services provides 24-7 law and emergency services (fire, ambulance, etc.) to the population of Fort Benning. There are five fire stations that serve Fort Benning. Four of which are located within the Installation. An E-911 (enhanced) public emergency reporting system is in place for the Fort Benning/Columbus area. This system allows emergency responders to immediately locate the origin of any emergency call received by the control center. The 2009 National Fire Protection Association (NFPA) 101 Life Safety Code and the 2006 International Building Code applies to the design and construction of a new lodging facility.

ENVIRONMENTAL CONSEQUENCES

There are no projected Environmental Justice concerns at either of the Action Alternatives based upon this analysis.

ALTERNATIVE A: NO-ACTION

The continued use of current on-post and off-post lodging facilities would result in negligible change to environmental justice and safety. Nevertheless, if the No-Action alternative is chosen there would be potential negligible impacts to the health and welfare of children residing within current lodging facilities. Risks associated with Lead-based paint and asbestos are potential impacts at a minimum:

ALTERNATIVE B: OLD FAITH SCHOOL

Dexter Elementary School is to the south, Faith Middle School is to the south west, and part of the Main Post historic housing area is to the north and east of this site. Construction sites can be enticing to children and increased dust from construction activities can be harmful to individuals suffering with respiratory issues and children's still developing bodies (EPA 1997). Additionally, construction activity could be an increased safety risk for children walking to and from school.

Alternative B would result in no measureable change to Fire and Emergency Services. Fire Station #33 is located 0.4 miles from this alternative. The route to this location is not direct and would require at least two turns. A quick response time is important for a structure of this size (personal communication, Hawkins 2010).

Construction fencing and other normal protection features related to commercial construction activities and the Occupational Safety & Health Administration (OSHA) would be utilized to limit unauthorized persons from accessing the construction site. The health and safety risks to children would be negligible at this site due to its location. Overall, there would be a negligible effect to human health and safety under this alternative.

ALTERNATIVE C: STEWART FIELD

Alternative C would result in no measureable change to Fire and Emergency Services. Fire Station #33 is located one mile away and is a straight route to this alternative site. This site would yield the quickest response for Fire and Emergency Services among all alternatives (personal communication, Hawkins 2010).

There are no schools or housing areas in the immediate vicinity. Construction fencing and other normal protection features related to commercial construction activities and OSHA would be utilized to limit unauthorized persons from accessing the construction site. The health and safety risks to children would be negligible at this site due to its location. Overall, there would be a negligible effect to environmental justice, human health, and safety under this alternative.

CUMULATIVE IMPACTS TO ENVIRONMENTAL JUSTICE AND SAFETY

No past, present, or future actions would result in adverse effects to safety as long as applicable OSHA standards and construction fencing and other normal protection features related to commercial construction activities for construction are followed. The other projects in the region (Table 1-2) would have negligible safety, health, and environmental justice impacts. Therefore, this proposed action for all alternatives along with past, present, and reasonable future actions would have negligible cumulative impacts to environmental justice, health, and safety.

MITIGATION MEASURES

No mitigation is proposed.

TRANSPORTATION

The 2006 Fort Benning Comprehensive Traffic Study evaluated transportation in all four cantonment areas at Fort Benning. The study estimated how well the existing infrastructure accommodated current traffic and future traffic demand. It was done at a time when approximately 36,000 military, civilian, and student personnel were stationed at Fort Benning. Traffic study parameters are fully described in Section 4.5.1.4 of the BRAC EIS. The results of this study were used to analyze transportation for this EA. Traffic conditions within the affected environment are analyzed in terms of access and circulation to evaluate potential environmental effects related to the Proposed Action.

ENVIRONMENTAL CONSEQUENCES

For this EA no traffic study was conducted specifically for the proposed action. Significant adverse impacts would result if changes to the traffic patterns and level of service would cause an intersection to fail that was not failing under existing conditions (USACE 2007, for more information see published document referenced above).

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative negligible adverse impacts to traffic are expected. There is not an increase in student population since the initiation of student classes at Fort Benning. No mitigation is required.

ALTERNATIVE B: OLD FAITH SCHOOL

Under this alternative, there would be an increase in the number of construction and worker vehicles while construction occurs. Additionally, there would be an increase in the number of personally-owned vehicles (POVs) remaining on-post and commuting traffic would be reduced with additional personnel and guests residing on-post.

The principle intersections providing access to the lodging facility at Alternative B would be at Dixie Road/Ingersoll Street and Wold Avenue/Ingersoll Street. Improvements for the intersection at Dixie/Ingersoll are currently underway for enhancing Dixie Road traffic flow. Therefore, there are negligible projected impacts to transportation.

ALTERNATIVE C: STEWART FIELD

Under this alternative there would be a short-term increase in the number of construction and worker vehicles while construction occurs. Additionally, there would be a minor increase in the number of POVs remaining on-post. Commuting traffic would be reduced with additional personnel and guests residing on-post.

Main access to the lodging facility at Alternative C would be from the intersection at Dixie Road and Edwards Street, turning on to Eckel Street. Previously planned roadway improvement work noted in the BRAC Record of Decision (USACE 2007), to be completed by Fall 2011 (personal communication, Holloway 2010), will mitigate traffic effects at Dixie/Edwards. Therefore, Alternative C would have a negligible impact to transportation beyond what was already analyzed under BRAC.

CUMULATIVE IMPACTS TO TRANSPORTATION

The BRAC 2005 and Transformation EIS identified and evaluated numerous road improvements to mitigate adverse effects. The mitigation measures that were adopted in the BRAC EIS Record of Decision (ROD) are expected to be complete by Fall 2011 to comply with BRAC Law (personal communication, Holloway 2010). These projects are expected to accommodate the increases in traffic from past, present, and future actions including the Proposed Action. Therefore, the Proposed Action would have negligible cumulative impacts to transportation when considered with past, present, or future actions.

MITIGATION MEASURES

Fort Benning would encourage increased use of Travel Demand Management (TDM) measures to help minimize traffic congestion at key locations. The primary goal of TDM is to reduce the number of vehicles using the road system, while providing a wide variety of transportation options, e.g., shuttle buses.

UTILITIES

For this EA, utilities are the basic services required by the Proposed Action and include potable water supply, wastewater, and energy. The ROI for utilities is the MPCA.

All of Fort Benning's utilities are privatized. Potable water and wastewater systems are privatized to Columbus Water Works (CWW), energy/electricity systems to Flint Energy, and gas to ATMOS Energy, Inc. Under the privatization of utilities agreements, each respective entity would manage these systems for Fort Benning's needs. The ownership and management of any new utility lines that are put in for the lodge would be transferred to the private utility owners. Utility infrastructure would be upgraded as required.

Executive Order (EO) 13514; *Federal Leadership in Environmental, Energy, and Economic Performance*; was signed on October 5, 2009. It expanded upon the energy reduction and environmental performance requirements of EO 14323. It sets numerous Federal energy

requirements in several areas, including: greenhouse gas management, sustainable buildings and communities, water efficiency, pollution prevention, and waste reduction.

EO 13423 builds on the Energy Policy Act of 2005 (EPAct05) and requires federal agencies to lead by example in advancing the nation's energy security and environmental performance by achieving several goals, including: increased energy efficiency; reduction of greenhouse gas emissions; construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use, and indoor environmental quality; and reducing water consumption.

Reducing energy consumption is one of the challenges to Army management. In January of 2008 the Department of the Army issued the LEED Implementation Guide for use by all Army Installations. All vertical construction projects with climate controlled facilities must achieve the Silver level of LEED for New Construction (LEED-NC v 3.0). This applies to all construction regardless of funding source (USACE 2009).

Based on this initiative, the RFP for the lodging at Fort Benning requires contractors to submit a checklist and narrative describing how they intend to meet a minimum LEED Silver certification (FMWR 2009a). The most energy efficient lighting; water conservation measures; heating, ventilation, and air conditioning (HVAC) controls; and building envelope materials would be considered in the design/engineering of the Proposed Action.

ENVIRONMENTAL CONSEQUENCES

Impacts to utilities could be significant if an overload to a given utility system on the Installation, such as the water or energy systems is expected. The assessment of impacts to utilities is based on current capacity, utility infrastructure, and the capability to expand capacity.

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative, the continued use of on-post and off-post lodging facilities would result in no effect to utilities. No mitigation is proposed.

ALTERNATIVE B: OLD FAITH SCHOOL

Under Alternative B the use and demand for utilities would increase, however the increase does not exceed the current availability of Fort Benning's utility systems.

The estimated daily consumption (potable and wastewater) per occupied hotel room each day is 209 gallons (USEPA 1999). Of the 860-room lodge about 80 percent of the standard rooms and 90 percent of the suites would be occupied, resulting in 694 occupied rooms (personal communication, Patterson P. 2010). This would yield an approximate average of 145,000 gallons of wastewater per day. Privatization of Fort Benning's potable water supply and the build-out of BRAC infrastructure support projects alleviated any impact to potable water under

this alternative (personal communication, Graham 2009). The design of the facility is taking into consideration the upgrade of utilities associated with the build-out.

Overall, a minor adverse effect to utilities would occur under Alternative B due to the daily operations of the new Army lodging facility. Therefore, a less than significant adverse impact would be realized for utilities.

ALTERNATIVE C: STEWART FIELD

Under Alternative C the use and demand for utilities would increase, however the increase does not exceed the current availability of Fort Benning's utility systems. There is no water distribution system or sewer system located at this site. Development of this site would require connection to surrounding area systems. Due to the unavailable infrastructure support for utilities there would be a short term minor impact at this site. All utility infrastructures would have to be appropriately sized to meet the needs of the new facility. Tying into the nearby water and sewer lines, across Eckel Street, could potentially overload those lines based on their size (8 inch) (personal communication, Graham 2009). The facility design considers the upgrade of utilities associated with any build-out.

Overall, a minor adverse effect to utilities would occur under Alternative C due to the daily operations of the new Army lodging facility. The design of the facility is taking into consideration upgrade of any and all utilities associated with the build-out. Therefore, a less than significant adverse impact would be realized for utilities.

CUMULATIVE IMPACTS TO UTILITIES

The Proposed Action, along with actions in the past, present, and future, estimated utility use would increase accordingly. The use of sustainable and low impact development (LID) methods, and LEED energy efficiency and water conservation measures would minimize utility use. Privatized utility service capacities are anticipated to handle the increase in demand (USACE 2007, 2009).

Overall, the implementation of the Proposed Action would result in increased use of utility systems and services. However, the incremental impacts when considered with other construction projects listed in Table 1-2 would be negligible because it is anticipated that each utility system should have the capacity to meet these increased demands and resizing of water and sewer lines is not a limiting factor.

MITIGATION MEASURES

No mitigation is proposed; however, using some of the LEED program prerequisites and discretionary methods for energy and water efficiency would help to minimize the impact to utilities associated with implementation of Alternative B and C. Low-flow shower heads, faucets, and toilets, would provide opportunities to reduce the demand on the potable water supply and reduce wastewater discharge by 30 percent (USEPA, 1999). There is potential to substantially reduce wastewater discharge. HVAC systems and building envelopes would be

designed to contribute to the Army's 30 percent energy use reduction goals expected under new construction LEED goals and EO 13514.

NOISE

Noise is defined by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) as unwanted sound that interferes with normal activities or diminishes the quality of the environment (USACHPPM 2006). Sound quality criteria specifying noise levels to protect public health and welfare are used and considered an acceptable guideline for assessing noise conditions in an environmental setting.

The Army uses planning zones to address compatibility of military training noise with on- and off-post land uses. Noise levels are separated into four categories: Land Use Planning Zone (LUPZ), Zone I, Zone II, and Zone III. Land Use Planning Zone and Zone I overlap considerably and are deemed to be compatible with residences. Exposure to noise levels within Zone II is normally considered incompatible with noise-sensitive land uses such as residences. However, if the community determines that land in Noise Zone II area must be used for residential purposes, then noise level reduction features of 25 to 30 decibels should be incorporated into the design and construction of new buildings to mitigate noise levels (USACHPPM 2009). Exposure to noise levels within Zone III is considered incompatible with sensitive noise receptors (churches, schools, residences).

Construction and military training noise were evaluated in the MCOE EIS (USACE 2009) and military training noise was reanalyzed in the Addendum to Operational Noise Consultation in December 2009 (USACHPPM 2009). The evaluations were based on USACHPPM noise contours (USACHPPM 2009), which reflect projects studied in the MCOE EIS. Results of the military noise evaluation show that none of the alternative sites fall within Zone III. The alternatives for the Proposed Action in this EA all fall within Zone II. Therefore, military training noise is not discussed any further in this EA.

Construction noise and noise associated with the operation of the facility were analyzed for the alternative sites in this EA.

ENVIRONMENTAL CONSEQUENCES

The threshold level for significant impacts for noise is:

- Construction noise and noise associated with the operation of the lodge resulting in an hourly equivalent sound level of 75 dBA (A-Weighted Decibel) (based on USEPA data for construction noise) at a sensitive receptor (such noise exposure would be equivalent to noise Zone III) or consistent exposure to noise levels at 85 dBA over an eight-hour period, the National Institute for Occupational Safety and Health recommended exposure limit (USACE 2009).

The U.S. Army Center for Health Promotion and Preventative Medicine 2009 report provides more detailed information about hourly equivalent sound levels.

Table 3-5. Common Sound Levels Measured in Decibels

Source (at a given distance)	Decibel (dB) Level	Typical Reaction
Civil Defense Air Siren (100 ft)	140	Pain
	133	
Jackhammer (50 ft)	120	Maximum Vocal Effort
Pile Driver (50 ft)	110	
Ambulance Siren (100 ft)	100	Very Annoying/Discomfort
Motorcycle (25 ft)	90	
Power Lawnmower		
Garbage Disposal (3 ft)	80	Intrusive
Alarm Clock		
Vacuum Cleaner (3 ft)	70	
Normal Conversation (5 ft)	60	Normal Speech
Dishwasher		
Light Traffic (100 ft)	50	
Bird Calls (Distant)	40	Quiet
Soft whisper (5 ft)	30	
Human Breathing	20	Just Audible
	10	
	0	
Source: USACHPPM 2006		

ALTERNATIVE A: NO-ACTION

There would be no change in noise effect under the No-Action Alternative to current lodging. All of the current lodging facilities are in Zone II (personal communication, Leeder 2010). No new facilities would be constructed; therefore, no construction noise would occur.

ALTERNATIVE B: OLD FAITH SCHOOL

Construction at Alternative B would result in a short-term minor impact to nearby residents of Lumpkin Road (240 ft from construction site) and students at Dexter Elementary School (1000 ft) and Faith Middle School (700 ft) due to construction noise. Once constructed, the noise of lodge residents and cars coming and going, particularly in the evening and night hours, would have a negligible effect.

The overall result of implementing Alternative B would be a short-term minor adverse effect during construction. Because nearby school children are a sensitive noise receptor at Alternative B, the noise effect would be slightly higher than effects at the Alternative C site.

ALTERNATIVE C: STEWART FIELD

Alternative C would result in a short-term minor impact to nearby barracks (1500 ft from construction site) due to associated construction and operational activities. Once constructed, the noise of lodge residents and cars coming and going, particularly in the evening and night hours, would have a negligible effect. The impact would be considered slightly less than at Alternative B because of the distance to the nearby residents.

The overall result of implementing Alternative C would be a short-term minor adverse effect during construction.

CUMULATIVE IMPACTS OF NOISE

Other projects in the region (Table 1-2) would not have any noise impacts. The noise from the Proposed Action would be incidental to normal range operations. Implementation of mitigation measures noted below would reduce noise impacts. When considering past, present, and future actions, potential incremental noise impacts would be minor but not significant on the Main Post.

MITIGATION MEASURES

No mitigation is required; however, the hours of the day when heavy construction vehicles and equipment would be managed to reduce noise impacts associated with implementation of Alternatives B and C.

AIR QUALITY

Air quality in a given location is described by the concentration of various pollutants in the atmosphere. The National Ambient Air Quality Standards (NAAQS) are standards established by the U.S. Environmental Protection Agency under authority of the Clean Air Act (42 U.S.C. 7401 et seq.) that apply for outdoor air throughout the country. A region's air quality is influenced by many factors including the type and amount of pollutants emitted into the atmosphere, the size and shape of the air basin, and the weather patterns.

Air emissions could result from construction associated with the Proposed Action, as well as operational and maintenance activities to support the Proposed Action once established. Both the BRAC 2005 and Transformation EIS and MCOE EIS, which included the Army Lodging in their future projects list, concluded that short-term emissions from construction would increase but would not significantly affect regional air quality and no Class I Prevention of Significant Deterioration (PSD) areas would be affected. Class I PSD areas include national parks and wilderness areas. Long-term impacts from increased operations and maintenance activities would be minimal and would not significantly impact regional air quality or Class I PSD areas. The ROI for air emissions includes the Metropolitan Statistical Area and Chattahoochee, Harris, Marion and Muscogee in Georgia and Russell and Lee counties in Alabama.

Basic requirements for codes and standards in the Request for Proposals Documents, dated July 30, 2010, designate that design and construction shall be in accordance with the most stringent

efficiency requirements of The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62.1: Ventilation for Acceptable Indoor Air Quality (IAQ). Construction would also meet the LEED prerequisites for IAQ and Energy and Atmosphere

Greenhouse Gas (GHG) effects are discussed in Section 4, and there are no verifiable differences in GHG generation found among the action alternatives.

ENVIRONMENTAL CONSEQUENCES

The threshold level of significance for air quality is an increase in ambient air pollution concentrations above the National Ambient Air Quality Standards (NAAQS).

ALTERNATIVE A: NO-ACTION

The No-Action alternative would involve air emissions through continued use of lodging with older HVAC systems that are less efficient and result in higher energy usage. This alternative would avoid short-term air emissions from construction equipment and activities.

Overall, implementation of Alternative A would continue to have negligible adverse impacts to air quality.

ALTERNATIVE B: OLD FAITH SCHOOL

Implementation of Alternative B would result in short-term air emissions from construction equipment, vehicles, and land disturbance activities. Post-construction impacts would include emissions from vehicular traffic and operation of the lodging facility's high efficiency HVAC systems.

No significant adverse long-term impacts to air quality are expected at this alternative. Overall, implementing Alternative B would have minor adverse effects to air quality due to construction vehicles and equipment emissions and from heating and cooling 860 rooms and other facility space. Post-construction impacts would include emissions from vehicular traffic and operation of the lodging facility's HVAC systems.

ALTERNATIVE C: STEWART FIELD

Implementation of Alternative C would result in air emissions from construction equipment, vehicles, and land disturbance activities. Post-construction impacts would include emissions from vehicular traffic and operation of the lodging facilities' HVAC systems.

No significant adverse long-term impacts to air quality are expected at this alternative. Overall, implementing Alternative C would have short-term minor adverse effects to air quality.

CUMULATIVE IMPACTS TO AIR QUALITY

Increasing economic development and urbanization would increase air emissions within the ROI. However, the incremental effects of this action when considering the sum of all of the other actions in the ROI would have a minor cumulative adverse impact.

MITIGATION MEASURES

No additional mitigation is proposed; however, effects to air quality would be minimized in compliance with Georgia Air Rules including:

- spraying disturbed soils with water during construction to control fugitive dust and particulate matter emissions;
- covering truck beds with the potential to emit airborne dust;
- coordinating designs with EMD to address the use of low Nitrogen Oxide (NOx) burners for comfort heat and water; and
- obtaining a construction permit from the Georgia Environmental Protection Division Air Protection Branch prior to construction. Permit will stipulate other mitigation measures and best management practices for the project.

All new major construction is required to meet the Silver level of LEED for Army construction. These standards would help reduce long term air emissions from reduced energy usage compared to traditional construction methods.

SOLID WASTE

A solid waste is defined as any discarded material (40CFR Part 261.2). Fort Benning generates an estimated 3,000 tons of solid waste per month (USACE 2009). The Installation does not have an operating solid waste landfill. All refuse is handled by a licensed private waste management contractor and taken to a privately owned, permitted, Municipal Solid Waste landfill in Opelika, Alabama (personal communication, Morpeth 2010). The landfill has a capacity of ten million tons over the next 75 years (USACE 2007).

Construction and demolition wastes contribute about 40 percent of the total solid waste stream in the United States (USGBC 2006). Currently, Fort Benning construction waste practices are guided by a Memorandum from the Assistant Chief of Staff for Installation Management (ACSIM, DAIM-ZA 2006), Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities. It requires contractors to plan for and divert a minimum of 50 percent, by weight, of construction and demolition materials from landfill disposal. Additionally, the Request for Proposal (RFP) Documents (FMWR 2009a) specifically states, “Contractor shall track and recycle demolition and construction waste as required for LEED certification credit.”

There are a total of 27 known closed landfills on the Installation at Fort Benning. Disturbance to any landfill for the purpose of providing suitable bearing for buildings, parking, and circulation paving would be handled by the contractor (personal communication, Taylor 2011).. In the unlikely event that any hazardous waste is found during excavation, it would be identified, handled, and disposed of in accordance with all applicable Federal, State, and Installation regulations.

Recycling refers to the collection, separation, and processing of materials that are recovered from the solid waste stream for reuse. Recycling from buildings on Fort Benning is collected either on a schedule or as needed. There are recycling trailers and associated bins located on

the Main Post for drop-off recycling (personal communication, Morpeth 2009). Recyclable materials are turned into the Installation Defense Reutilization Marketing Service and the Materials Recycling Facility (MRF) for processing (USACE 2009).

Hazardous and Toxic Material Waste- Specific environmental statutes and regulations govern the use, storage, and transportation of hazardous material and hazardous waste at Fort Benning. Hazardous and toxic materials include substances that, because of their quantity, concentration, or physical, chemical, or toxic characteristics, might present substantial danger to public health or welfare or the environment when released into the environment.

ENVIRONMENTAL CONSEQUENCES

The significance for solid waste would be a major change in demand that would severely affect the ability of waste or recycling facilities to accommodate additional loads. Additionally, impacts associated with hazardous and toxic wastes would be significant if:

- the storage, use, handling, or disposal of these substances substantially increase the risk to human health or exposure to the environment;
- applicable federal, state, and local regulations would be violated; or
- the capacity of the Installation was unable to handle the volume of hazardous materials, toxic substances, or waste.

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative, there would no change in waste streams generated and recycled on-post. Therefore, there would be no effect to solid waste under this alternative.

ALTERNATIVE B: OLD FAITH SCHOOL

A closed "trench and fill" landfill in operation from 1940 to 1945 is located on a part of Alternative B. Waste at this landfill consists mostly of wood and some household debris. This landfill was classified as a Solid Waste Management Unit (SWMU) (USACHPPM 1994). Some anomalies were detected during the survey of the site as part of site characterization for landfill closure. No known groundwater contamination is associated with the landfill (personal communication, Morpeth 2010).

Figure 9. Landfill 003, located at the Preferred Alternative site.

The Georgia Department of Natural Resources (GDNR) issued a No Further Action (NFA) for closure of Landfill 003. If any hazardous waste is found during excavation, it would be characterized and disposed of in accordance with all applicable Federal, State , and Installation regulations; thereby reducing any risk to human health and safety. Disturbance to any landfill for the purpose of providing suitable

bearing for buildings, parking, and circulation paving would be handled by the contractor (personal communication, Taylor 2011).

Construction activities would temporarily increase the amount of solid waste generated. This waste would include building materials such as insulation, nails, electrical wiring, and rebar, as well as waste originating from site preparation such as tree stumps, and rubble.

Under the Army's policy for Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities (Army 2006), EO 13101 (*Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition)*, and LEED, construction contractors are required to minimize solid waste generation and the storage and collection of recyclables is required. Construction and daily operation of the facility would include use of a wide variety of chemicals including hazardous materials. Examples of these chemicals are paints, adhesives, pesticides, herbicides, and cleaning solvents.

Overall, Alternative B would result in a minor adverse affect to solid waste because of the normal generation of waste due to the construction and operation of the lodging facility.

ALTERNATIVE C: STEWART FIELD

At Alternative C construction activities would have the same increase in the amount of solid waste generated and recycled as Alternative B.

As with the preferred alternative, only minor adverse impacts on waste disposal are expected because of the normal generation and recycling of waste due to the construction and operation of the lodging facility.

CUMULATIVE IMPACTS TO WASTE

The implementation of the Proposed Action would not have significant impacts to waste because of adherence to the Army's policy for Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities (Army 2006), EO 13101, operating an effective recycling program for Installation wide operations, and the adequate capacity of the off-post landfills. Projects in the past, present, and foreseeable future would not introduce adverse regional impacts to waste streams. The projects noted in Table 1-2 would increase waste volume due to construction and demolition, which will be disposed of in accordance with all applicable laws and regulations. The Proposed Action will have negligible cumulative impacts because the permitted landfill in Opelika, Alabama, has solid waste disposal capacity for 75 years according to a report that was conducted when the substantial BRAC growth was expected for Fort Benning and the surrounding area (USACE 2007).

MITIGATION MEASURES

The waste is managed in accordance with Fort Benning plans and procedures, as well as applicable federal, state, and Army regulations. Construction contractors and facility managers are guided by the Fort Benning Integrated Hazardous Waste Management Plan and the Integrated Solid Waste Management Plan, both which are in the Integrated Environmental

Compliance Management Plan (Fort Benning 2009). No mitigation is proposed for any of the alternatives beyond existing EO, LEED, and Fort Benning standards.

WATER RESOURCES AND WETLANDS

The water resources evaluation focuses on surface water, storm water, groundwater, and wetlands within the sites proposed for construction. The Clean Water Act (CWA) of 1972 is the primary federal law that protects the nation's waters. The CWA prohibits the discharge of any pollutant to waters of the U.S. from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Amendments (1987) to the CWA include prohibiting the discharge of nonpoint source pollution into the nation's waters. The primary water quality concerns at Fort Benning are sedimentation from highly erodible soils, fecal coliform bacteria, storm water runoff from impervious areas, and loss of wetlands (USACE 2005a).

Fort Benning construction projects are designed in accordance with GA Manual for compliance with NPDES Construction during land disturbances. Construction activities at Fort Benning require a NPDES permit and an Erosion and Sediment Pollution Control Plan (ESPCP), appropriate site-related Best Management Practices (BMPs) plus monitoring and inspection, and adherence to the turbidity limits, as specified in the Georgia Erosion and Sedimentation Control Act (GESA). In addition, the Energy Independence and Security Act of 2007 (EISA) requires that "any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

The ROI for water resources is the respective alternative sites as well as streams and other down gradient surface water bodies within Fort Benning and the county of Muscogee, Georgia's local watershed.

Surface Water - Surface water is water collecting on the ground or in a stream, river, lake, wetland, or ocean. The majority of the streams on the Main Post at Fort Benning drain into the Chattahoochee River (USACE 2005). No surface water is found on the alternative sites other than Laundry Creek and an unnamed tributary on the border of Alternative C.

Storm Water - Storm water discharge for all alternatives drains into Laundry Creek. Installation requirements to comply with the provisions of the CWA and state regulations to manage storm water are stipulated in AR-200-1, Chapter 4-2 as well as Georgia Department of Natural Resources (DNR) NPDES laws and regulations. A Notice of Intent (NOI) for construction related storm water discharge would be submitted to the Georgia DNR for a NPDES permit. Proper implementation of an ESPCP would reduce or minimize any impacts to water resources and protect surface water from the construction activities. The ESPCP must be submitted to Fort Benning EMD for review and acceptance prior to being sent to the Georgia Environmental

Protection Division (EPD). Project designer must have Level II Certification[5] from the Georgia Soil and Water Conservation Commission (GSWCC).

Groundwater - Fort Benning is located within the Coastal Plain hydrogeologic province of Georgia and Alabama. The main groundwater source for Fort Benning is the Cretaceous aquifer system (USACE 2009). Yields from this aquifer range from one to ten gallons per minute (gpm) in the area around the Installation (USACE 2005). Seven on-post wells with existing withdrawal permits supply potable water to more remote areas of the Installation. However, potable water to the cantonment areas is provided by CWW from surface water sources.

Wetlands - Jurisdictional wetlands are defined under the CWA as areas that are "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for saturated soil conditions."

ENVIRONMENTAL CONSEQUENCES

The threshold level of significance for water resources is defined as any long-term impacts that would:

- alter the baseline (post BRAC/MCOE construction projects) or standard water quality conditions,
- threaten or damage unique hydrological characteristics, or
- create the potential for a NPDES violation for failure to obtain and implement applicable permits prior to initiating development.

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative, there would be no impacts to water resources because there would be no construction activities or change in storm water runoff.

ALTERNATIVE B: OLD FAITH SCHOOL

Under Alternative B, effects to water resources are most likely to occur during rain events on construction sites. Storm water runoff would increase due to increased impervious area associated with the new construction. Alternative B would add approximately eight acres of impervious surfaces to the site. Increased impervious surfaces and runoff would slightly reduce groundwater recharge locally. There are no jurisdictional wetlands within the preferred alternative site.

Overall, no threshold of significance would be triggered. However, impacts to water resources would be minor due to storm water runoff. This effect is further minimized through environmental protection measures such as 'Best Management Practices' (BMPs) of the NPDES guidebook and Section 438 of EISA for surface water, ground water and storm water.

[5] Erosion Control Training Certification, Plan Reviewer or Design Professional. All individuals involved in the plan creation or review process in any capacity for any erosion control measures for earth-disturbing activity on a project must have at minimum a Level II Certification.

ALTERNATIVE C: STEWART FIELD

Alternative C is adjacent to an unnamed tributary and Laundry Creek. The banks are steep, and there is a natural erosion barrier of grasses, herbs, shrubs, and trees over 50 percent of the area exposed to Laundry Creek. This area would not be disturbed during construction except for incidental sedimentation from construction site dust. There are no jurisdictional wetlands within this alternative site.

Figure 10. Unnamed tributary to Laundry Creek, drainage way at Alternative C.

Overall, no significance threshold would be triggered. Minor adverse impacts on water resources are expected for this alternative due to potential storm water runoff associated with on-going construction activities. This effect is further minimized through environmental protection measures such as 'Best Management Practices' (BMPs) of the NPDES guidebook and Section 438 of EISA for surface water, ground water and storm water. Reducing mowing and leaving a narrow buffer of natural vegetation above Laundry Creek and using pervious pavement for the parking area at Alternative C would increase absorption of storm water into the subsoil thereby reducing runoff and sedimentation.

CUMULATIVE IMPACTS TO WATER RESOURCES

On-Post, the potential for incremental impacts to wetland areas and waterways would be mitigated to insignificance through the adherence to existing Installation policies (NEPA, AR 200-2 and the Watershed Management Plan within the Integrated Environmental Compliance Management Plan) and requirements by Georgia DNR to reduce and/or maintain point and non-point sediment, complying with Section 438 of the Energy Independence and Security Act (EISA), NPDES permit limits and requirements, implementing Soil Erosion Control Plans, and applying BMPs.

The Proposed Action and additional projects listed in Table 1-2 are limited in scope of ground disturbance compared with other Fort Benning construction or the projects are located in flat terrain where runoff is more easily controlled. Therefore, there would be only negligible cumulative effects to water resources.

MITIGATION MEASURES

Additional opportunities for improving water quality for the action alternatives include recycling gray water, discharging any downspouts to pervious surfaces, and other low impact development techniques. No mitigation is proposed.

SOILS

Two basic soil provinces make up Fort Benning: the Georgia Sand Hills and the Southern Coastal Plains. The Georgia Sand Hills are a narrow belt of deep sandy soils with rolling to hilly topography. These soils are primarily derived from marine sand, loams, and clays that were deposited over acid crystalline and metamorphic rocks. South of the Sand Hills are the Southern Coastal Plains soils, which are divided into nearly level to rolling valleys and gently sloping steep uplands. These soils contain a loamy or sandy surface layer and loamy or clayey soils (DA 2004).

Prime farmland soils, protected under the Farmland Protection Policy Act (7 USC 4201; FPPA of 1981, as amended) are not discussed further in this EA because no lands within Fort Benning have been classified as prime farmland.

The soil analysis for each alternative site is based on the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soils classification system (See Appendix B). The analysis includes the following key factors: soil erosion and building site development. The degree of erosion is determined by physical factors such as drainage, permeability, texture, structure, and percent slope. The rate of erosion is based on the amount of vegetative cover, climate, precipitation, proximity to water bodies, and land use. Disruptive activities accelerate the natural erosion process by exposing the erodible soils to precipitation and surface runoff (DA 2009). The building site development analysis of the NRCS soil classification system provides information on how soil properties influence the development of building sites, specifically for structures less than three stories high.

Under all of the Action Alternatives, tributary streams (Laundry Creek and an unnamed tributary to Laundry Creek) will be avoided during any land disturbing activities; however, if disturbance to these areas is deemed unavoidable the appropriate permits (e.g., stream buffer variance) will be obtained. Soil erosion and sedimentation controls will be put in place, per the Clean Water Act, the Georgia Erosion and Sedimentation Control Act, and NPDES permits will be obtained prior to any construction activities.

The ROI for soils is the area within a half mile of the construction boundaries which includes Laundry Creek and an unnamed intermittent stream.

ENVIRONMENTAL CONSEQUENCES

The threshold level of significance for soils is any ground disturbance or other activities that would violate applicable federal or state laws and regulations, such as the Georgia GESA and regulations including the potential for NPDES violations for failure to receive applicable state permits prior to development.

ALTERNATIVE A: NO-ACTION

Under the No-Action Alternative, there would be no construction or activities that affect soils. There is no impact to soils under this alternative.

ALTERNATIVE B: OLD FAITH SCHOOL

The soils at Alternative B are Urban land complex and the site is relatively flat. Urban soils range from slightly disturbed to completely manmade. Disturbed soils differ from soils in natural areas because their horizons have been mixed, destroyed, or removed; natural soil structure has been destroyed; compaction has occurred because of heavy machinery use; water transmission rates have probably been reduced because of soil compaction and loss of soil structure; and runoff and soil erosion rates typically have been increased (USDA, 2005). The USDA NRCS soils classification system only evaluates consolidated soil types. Alternative B would require additional onsite investigation to determine the full potential and limitation for the proposed use.

Potential impacts to soils from construction activities at this site would be minimal because these soils have been previously disturbed or modified and in some areas were previously covered with structures, concrete, or other surfaces.

Construction activities would cause removal of vegetation, soil exposure and compaction, and increased susceptibility to wind and water erosion, possibly resulting in increased runoff and erosion during site preparation. However, these effects would be minimized by the use of appropriate BMPs for controlling runoff, erosion, and sedimentation during construction.

The overall impact to soils at this site would be negligible because the soils have been previously disturbed and the site is generally flat. Any impacts to soils from the proposed construction activities would be minimized by appropriate site-specific NPDES BMPs and environmental protection measures detailed within each site-specific ESPCP and in accordance with the Manual for Erosion and Sediment Control in Georgia.

ALTERNATIVE C: STEWART FIELD

As described above under Alternative B, the soils at Alternative C are Urban land complex. The USDA NRCS soils classification system only evaluates consolidated soil types. Alternative C would require additional onsite investigation to determine the full potential and limitation for the proposed use.

As with Alternative B, impacts to soils from the proposed construction activities would be minimized by appropriate site-specific NPDES BMPs and environmental protection measures detailed within a site-specific ESPCP and in accordance with the Manual for Erosion and Sediment Control in Georgia. In particular, silt fencing or other erosion control methods would be used to minimize sedimentation to Laundry Creek.

The overall impact to soils at this site would be negligible because the soils have been previously disturbed and the site is generally flat.

CUMULATIVE IMPACTS TO SOILS

The Proposed Action under either action alternative would have a negligible impact to soils. All construction projects at Fort Benning follow and adhere to the same regulatory requirements.

The limited trenching for sewer and water upgrades along with primarily interior renovations for the nearby Officer's Club and Conference Center have little or no effect to soils. Therefore, when considering all projects listed in Table 1-2 this proposed action for all alternatives would have negligible cumulative impacts to soils.

MITIGATION MEASURES

No mitigation is proposed; however, prior to construction all required permits would be obtained and followed. As part of the required NPDES permits, an ESPCP for each specific construction area would be developed describing appropriate site-specific BMPs that would be used to minimize impacts from increased runoff and soil erosion during site construction.

Prior to undertaking each piece of the Proposed Action, Fort Benning would ensure the above measures are included through the Fort Benning environmental review process.

BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals and the habitats in which they occur. Fort Benning uses the Integrated Natural Resources Management Plan (INRMP) to manage wildlife and habitat on the Installation. Biological resources for this EA include vegetation, fish, and wildlife potentially affected by construction or operational activities associated with the Proposed Action at Fort Benning. Each category is described below.

Vegetation - There are more than 1,275 species of plants on Fort Benning. Common trees include species such as the longleaf pine (*Pinus palustris*), white oak (*Quercus alba*), and willow oak (*Quercus phellos*). Common shrubs include waxmyrtle (*Myrica cerifera*), vines such as muscadine grape (*Vitis rotundifolia*) and poison ivy (*Rhus radicans*), and herbaceous groundcover includes a variety of grasses and legumes. Trees and other plants in the urbanized cantonment areas are important for many reasons including aesthetics, shade, erosion control, wildlife habitat, and wildlife food.

The ROI for vegetation includes soil/fill material borrow areas, construction site, staging areas, and downstream riparian areas within the local watershed.

Fish and Wildlife - Fort Benning is inhabited by approximately 345 species of fish and wildlife (USACE, 2009). These include 154 species of birds, 47 species of mammals, 48 species of reptiles, 25 species of amphibians, 67 species of fish, and 9 species of mussels (shellfish). Fish and wildlife have many values including outdoor recreation, aesthetics, ensuring proper functioning of the ecosystem, and contributions toward medical knowledge.

In general, the MPCA does not provide good habitat for a variety of wildlife. Development and human activity limits the cantonment area to urban habitat. Mammal species common within the MPCA include white-tailed deer (*Odocoileus virginianus*), gray squirrels (*Sciurus carolinensus*), eastern cottontail rabbits (*Sylvilagus floridanus*), raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), groundhogs (*Marmota monax*), and common small mammals. Conspicuous bird species in the cantonment area include: northern cardinal (*Cardinalis*

cardinalis), American robins (*Turdus migratorius*), mourning doves (*Zenaida macroura*), and ruby-throated hummingbirds (*Archilochus colubris*).

A scoping survey, conducted by EMD biologists on September 29, 2010, found the following animal species in the biological community of Laundry Creek riparian area adjacent to Alternative C and down gradient from Alternative B: common snapping turtle, northern water snake, sunfish, brown bullhead, mosquito fish, Dixie chub, pig frog, crayfish, Asian clam, pouch snail, dragonfly and dragonfly larvae, water boatman, and the water scavenger beetle.

Migratory Birds - All birds on Fort Benning except pigeons, starlings and English sparrows are protected under the MBTA. This Act implements various treaties and conventions for the protection of migratory birds. However, state regulations allow hunting of some game species (USACE 2009).

There are approximately 150 species of birds protected under the MBTA present on the Installation either seasonally or year round. There are potentially 16 Species of Concern (SOC) occurring on Fort Benning (USACE 2009). "The populations of the migratory bird SOC, with the exception of the Red-cockaded Woodpecker, are considered plentiful within the Bird Conservation Region (BCR) where Fort Benning occurs" (USACE 2009).

There are no federal or state listed threatened or endangered species found on or adjacent to any of the alternative sites.

The ROI for impacts to fish, wildlife, and migratory birds is limited to the alternative sites and their surrounding areas.

ENVIRONMENTAL CONSEQUENCES

Impacts to biological resources would be considered significant if the Proposed Action would substantially diminish vegetation or habitat that would potentially eliminate the occurrence of a plant, fish, or wildlife species on Fort Benning.

ALTERNATIVE A: NO-ACTION

The predominant wildlife and vegetation variation in the MPCA is typical of urban areas influenced by human usage. Mowed lawns, buildings, parking lots, roadways, sparse natural vegetation, manicured shrubbery, and mature trees are common in this poor habitat. Under the No-Action Alternative, Fort Benning would continue to use the existing lodging facilities and off-post lodging. There would be no effect to biological resources under this alternative.

ALTERNATIVE B: OLD FAITH SCHOOL

Construction at Alternative B could result in potential soil erosion and vegetation loss. This would be minimized through compliance with applicable state and federal regulations. Depending on the final design, a minor adverse impact to vegetation may result from the removal of some of the 175 trees (personal communication, Martin 2010), such as willow oak (*Quercus phellos*), on this site to make room for the new construction.

The predominant wildlife variation in the area is typical of those heavily influenced by human usage and developed areas. The lack of 'natural' areas in the immediate vicinity impedes the existence of species typically adapted to large areas that are either enclosed or not prone to regular intervention by human activities. It is likely that there would be temporary minor adverse effects to some of the wildlife that are intolerant of the increased noise, traffic, and activity resulting from construction.

MBTA-protected bird habitat is extremely limited for Alternative B because of the existing manicured lawns and disturbed site with only a few scattered mature trees. Impact to MBTA-protected bird species on this site would be negligible.

There is no water found at this alternative and therefore no fish will be affected.

Construction at this site would permanently alter the open space at the north end of the site and remove scattered mature trees. Wildlife inhabiting the area would have very minor population reductions through limited urban habitat loss. Only negligible impacts to terrestrial wildlife such as small mammals and common bird species are anticipated under this alternative. The habitat loss would not affect overall population viability of common species. This impact is also reduced with the implementation of standard environmental protection measures. Overall, Alternative B would result in negligible impacts to biological resources.

ALTERNATIVE C: STEWART FIELD

This athletic field is almost all mowed lawn with poor wildlife habitat. The forested riparian areas south and southwest of the property would not be disturbed except for incidental sedimentation from construction site dust. Alternative C would have the least impact to vegetation and terrestrial wildlife habitat among the construction alternatives. Alternative C would have a slightly higher potential to impact aquatic habitat in Laundry Creek than Alternative B, though the effect is still negligible.

MBTA-protected bird habitat is extremely limited for Alternative C because of the existing manicured lawns, and disturbed site with only a few scattered mature trees. Impact to MBTA-protected bird species on this site would be negligible.

Construction at this site would alter the open space that the site provides. The loss of this mowed terrestrial habitat would not affect population viability of any common species. There would be only negligible impacts to common aquatic species in Laundry Creek due to limited storm water runoff and sedimentation because storm water would be controlled using BMPs during construction. This impact is further reduced with the implementation of standard environmental protection measures. As a result, only negligible adverse impacts to vegetation and wildlife are anticipated under this alternative.

CUMULATIVE IMPACTS TO BIOLOGICAL RESOURCES

The effect of the increased population, additional housing, commercial areas, and roads on biological resources was analyzed in detail in both the BRAC 2005 and Transformation EIS and

MCOE EIS. The Grow the Army and BRAC 2005 and Transformation Actions could potentially have a significant cumulative impact to biological resources primarily related to endangered species in the range areas. The impacts would be dispersed in time and place, but would have a collective effect in changing the native landscape at Fort Benning and surrounding region.

The alternatives associated with the Proposed Action would have only negligible impacts to biological resources. The majority of the species that currently use the alternative sites have adapted to living in urban areas and co-existing with human activity. The continued development of the Fort Benning cantonment area reduces habitat, food sources, and travel corridors for urban wildlife species, but the development does not affect the viability of common species.

No federally and state protected species are known to exist on or use the alternative sites. Therefore the cumulative impact to biological resources would not increase from that described in previous NEPA documents based on the implementation of the Proposed Action. The cumulative effects to biological resources are negligible.

MITIGATION MEASURES

No mitigation is proposed.

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Section 4

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

An irreversible/irretrievable commitment of resources results from a decision to use or modify resources when they are renewable only over a long period of time, such as soil productivity, or when they are nonrenewable resources, such as cultural resources. One irreversible and irretrievable commitment of resources associated with the Proposed Action is the impact to cultural resources at Alternative B. It is considered an irreversible commitment because of the long-term lifespan of the building impacting the character of the adjacent MPHD. Although this resource would be impacted, through design, management, and mitigation efforts, many of the impacts would be offset or minimized.

The energy required for construction, operation, and maintenance activities associated with the Proposed Action also represent irretrievable commitments of resources. The energy used for construction consists of the fuels necessary to operate generators, heavy equipment, and trucks. Although energy conservation is a vital and critical issue, the energy resource commitment to the Proposed Action is not anticipated to be excessive in terms of region-wide usage and would not significantly deplete the continued availability of these resources. Construction, operation, and maintenance would also require a substantial expenditure of federal funds that would not be directly retrievable.

UNAVOIDABLE ADVERSE EFFECTS

The environmental analysis of the alternatives includes the avoidance, minimization, or other mitigation of potential adverse effects on environmental resources; however, all adverse impacts may not be completely avoided or mitigated. Some adverse effects would be temporary in nature; for example, there would be short-term minor adverse effects to air quality due to construction vehicle emissions. Other adverse effects could be long-term in nature; for example change in land use and impacts to cultural resources.

UNAVOIDABLE EFFECTS TO CLIMATE CHANGE

The greenhouse effect is the result of heat absorption by certain gases in the atmosphere (called greenhouse gases (GHG) because they effectively 'trap' heat in the lower atmosphere) and re-radiation downward of some of that heat. Water vapor is the most abundant greenhouse gas, followed by carbon dioxide, and other trace gases.

Human activity has been increasing the concentration of greenhouse gases in the atmosphere (mostly carbon dioxide from combustion of coal, oil, and gas; plus a few other trace gases). The global concentration of carbon dioxide (CO_2) in our atmosphere today far exceeds the natural range over the last 650,000 years. Global surface temperatures have increased about 0.74°C (plus or minus 0.18°C) since the late-19th century, and the linear trend for the past 50 years of 0.13°C (plus or minus 0.03°C) per decade is nearly twice that for the past 100 years (Ref – NOAA Satellite and Information Service website: http://lwf.ncdc.noaa.gov/oa/climate/globalwarming.html).

The Proposed Action will emit greenhouse gases to the earth's atmosphere from vehicles and other associated emissions at Fort Benning. Should Alternative B (the Preferred Alternative) be selected, the Proposed Action will also remove some trees which could otherwise absorb carbon dioxide. Cumulatively, the Proposed Action and the Transformation/BRAC action could result in an increase in carbon dioxide emissions due to reductions in forest cover, additional energy generation associated with energy service to additional buildings, and additional vehicles at the Installation. Nonetheless, only some of these cumulative emissions would represent a net increase in global greenhouse gas emissions, as many of these emissions already take place and are merely relocating to Fort Benning. Most of the new emissions are associated with the Armor School coming to Fort Benning. But the Armor school currently conducts virtually the same program of instruction with the same vehicles at Fort Knox, Kentucky. Those emissions will cease at Fort Knox as they resume at Fort Benning. Therefore, the net change to greenhouse gas concentration in a regional or global context is virtually unchanged.

It is also important to place any potential carbon emissions associated with the Proposed Action in the context of Ft. Benning's participation in the federal government's overall plan to reduce carbon emissions. EO 13423 sets as a goal for all federal agencies the improvement in energy efficiency and the reduction of GHG 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 (DoD 2005b) also contains strategies to reduce energy waste and improve efficiency.

According to EPA's Office of Air and Radiation,

> To date, research on how emissions of CO2 and other GHGs influence global climate change and associated effects has focused on the overall impact of emissions from aggregate regional or global sources. This is primarily because GHG emissions from single sources are small relative to aggregate emissions, and GHGs, once emitted from a given source, become well mixed in the global atmosphere and have a long atmospheric lifetime. The climate change research community has not yet

> developed tools specifically intended for evaluating or quantifying end-point impacts attributable to the emissions of GHGs from a single source, and [EPA is] not aware of any scientific literature to draw from regarding the climate effects of individual, facility-level GHG emissions (Meyers, 2008).

Current measurements and modeling can observe and verify warming at global to continental scales. Climate, and correspondingly environmental impacts, are observed on a local level, but cannot be modeled at this time using existing models. It is currently beyond the scope of existing science to connect a specific source of GHG emissions with specific climate impacts at an exact location (USGS, 2008).

Based on the limitations on available science in determining environmental impacts from a single source of additional GHG emissions, any such impacts from the Proposed Action cannot be determined with scientific confidence.

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Section 5

MITIGATION AND MONITORING

MITIGATION MEASURES

The Proposed Action includes mitigation measures to help protect the viewshed of the Main Post Historic District. Table 5-1 lists required cultural resources related mitigation measures needed to reduce adverse effects to less than significant. All other non-cultural resources related mitigation actions listed in Section 3 and in this section are discretionary. Many of these optional mitigation measures may be incorporated into the design, construction, and/or operation of a LEED Silver Army Lodging facility.

The following mitigation measures are required to reduce the impact of the Proposed Action to less than significant at Alternative B:

CULTURAL RESOURCES

- Use of a low diffused intensity bulb, for street and parking lights, that points downward or has shielding to minimize light pollution into the historic housing area
- Eliminate any traffic cut-through possibilities through the historic housing area with the use of bollards.
- Install a combination of 8-foot high fencing and tree and shrub landscaping that will provide an adequate visual screen during all seasons such that it will reduce impacts to historic family housing to less than significant. Once the 65% design is available the specifics on this visual barrier will be available upon request. Fort Benning will monitor the project to ensure the screen is being appropriately implemented and maintained, and any adjustments will be made accordingly.
- Use comprehensive land use planning to guide development for this area including design and scale of construction, traffic control, providing safe pedestrian pathways, and ensuring/maintaining adequate green space.

The SHPO listed another mitigation measure - moving the perimeter road and/or partial deletion of the eastern side of the road adjacent to the residential area. This mitigation measure was considered, but will likely be eliminated because this road is a life-safety requirement for emergency response vehicles to have access to all parts of the facility.

Additional suggested mitigation measures to potentially lessen the impact further include:

TRANSPORTATION

Increased use of Travel Demand Management (TDM) measures will be encouraged to help minimize traffic congestion at key locations. The primary goal of TDM is to reduce the number of vehicles using the road system, while providing a wide variety of transportation options, such as shuttle buses, to those who wish to travel. If used, appropriate TDM mitigations measures would be determined by Fort Benning as part of a TDM program, which would help minimize traffic congestion.

Table 5-2. Required Cultural Resources Related Mitigation Measures

REQUIRED MITIGATION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C	FUNDED BY
Use low diffused intensity bulbs, for street and parking area lights, that point downward or have shielding to minimize light pollution into the historic housing area		✓		FMWR
Eliminate any traffic cut-through possibilities through the historic housing area with the use of bollards		✓		IMCOM G9
Install combination of 8' high fencing and tree and shrub landscaping that will provide an adequate visual screen during all seasons such that it will reduce impacts to historic family housing to less than significant		✓		IMCOM G9
Use comprehensive land use planning to guide development for this area including design and scale of construction, traffic control, providing safe pedestrian pathways, and ensuring/maintaining adequate green space.		✓		IMCOM G9
ADDITIONAL MITIGATION (NOT REQUIRED TO AVOID SIGNIFICANT IMPACTS)				
Encourage increased use of Travel Demand Management (TDM) measures to help minimize traffic congestion at key locations		✓	✓	DPW
Limit hours of the day when heavy construction equipment and vehicles may operate		✓	✓	FMWR

UTILITIES

Using some of the LEED program prerequisites and discretionary methods for energy and water efficiency would help to minimize the impact to utilities associated with implementation of Alternative B and C. Low-flow shower heads, faucets, and toilets, would provide opportunities to reduce the demand on the potable water supply and reduce wastewater discharge by 30 percent (USEPA 1999). HVAC systems and building envelopes would be designed to contribute to the Army's 30 percent energy use reduction goals expected under new construction LEED goals and EO 13514.

NOISE

A potential mitigation measure to reduce noise impacts associated with implementation of Alternatives B and C is limiting the hours of the day when heavy construction equipment and vehicles may operate.

MONITORING

If an action alternative is selected, the Fort Benning Environmental Management Division, including the Cultural Resources section will review contractor designs, and deliverables, and participate in design/build meetings including 65% and final design and all major phases of construction to ensure implementation and effectiveness of the required mitigation.
At a minimum, IMCOM G9 must inform/invite EMD staff to design/build review meetings. Subject matter experts for each VEC issue will be involved in each phase of design and construction to ensure mitigation is implemented and is effective. At a minimum, FMWR must inform the Fort Benning EMD Chief, Architectural Historian, NEPA Program Manager and Installation Environmental Attorney of each meeting for each phase of design and construction.

Often minor changes in the project design or project locations occur after the EA is completed. In most cases the environmental impacts do not have a measureable change. Adaptive management will be used to ensure that the environmental impacts of implementing any of the alternatives, including any minor changes, will be similar to those described in this EA. Any planned changes will be documented and sent to EMD for environmental review and comment. Results of mitigation and monitoring will be available to the public upon request.

FUNDING

Table 5-1 identifies the parties for funding each mitigation measure. IMCOM G9 is the proponent of the action is responsible for obtaining funding to implement primary mitigation requirements. Fort Benning DPW will seek funding for mitigation monitoring, and they will add any new monitoring requirements to job duties or tasks of the appropriate subject matter experts.

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Section 6

CONCLUSIONS

Overall, implementing either of the action alternatives for the Proposed Action would have negligible, minor, and moderate adverse impacts to the Valued Environmental Components. The following table compares the potential environmental impacts of implementing each alternative course of action.

No significant impact is expected to any VECs as a result of implementing any of the alternatives. However, if Alternative B is selected, then mitigation actions listed in Table 5-1 must be implemented to avoid significant adverse effects.

DETERMINATION OF NO SIGNIFICANT IMPACTS

Based upon the results of the environmental analysis and mitigation actions that would be implemented as described in the mitigation and monitoring requirements in Section 5, it appears that none of the alternatives would have significant adverse impacts. The preparation of an Environmental Impact Statement is not required.

The EA and a draft Finding of No Significant Impact (FNSI) are available for public review. Fort Benning invites public comments on this EA and draft FNSI. The FNSI could be signed and a course of action selected if no substantive new issues are identified during the public involvement period.

Table 6-1. Comparison of Potential Impacts by Alternative

VALUED ENVIRONMENTAL COMPONENT	A – NO-ACTION ALTERNATIVE	B – OLD FAITH SCHOOL (PREFERRED ALTERNATIVE)	C – STEWART FIELD
LAND USE	No effect	Negligible	Minor adverse effect due to Stewart Field being the only lighted running and walking track currently on Fort Benning used by military, retirees, and civilians for their daily exercise program.
CULTURAL RESOURCES	No effect	Moderate adverse impact based upon the required mitigation within the body of this document.	Minor
SOCIOECONOMICS	Negligible	Minor, there is a potential for lost occupation and hotel/motel taxes to the outlying community based upon the build-out of the proposed Army lodge.	Minor, there is a potential for lost occupation and hotel/motel taxes to the outlying community based upon the build-out of the proposed Army lodge.
ENVIRONMENTAL JUSTICE AND SAFETY	Negligible	Negligible	Negligible
TRANSPORTATION	Negligible	Negligible	Negligible
UTILITIES	No effect	Minor adverse effect due to utility upgrades and operations of the new Army lodging facility.	Minor adverse effect due to utility upgrades and operations of the new Army lodging facility.
NOISE	No effect	Short-term minor adverse effect due the construction of the lodging facility.	Short-term minor adverse effect due the construction of the lodging facility.
AIR QUALITY	Negligible	Minor adverse effect from construction equipment, vehicles, and land disturbance activities.	Minor adverse effect from construction equipment, vehicles, and land disturbance activities.
SOLID WASTE	No effect	Minor adverse effect because of the normal generation of waste due to the operation of the lodging facility.	Minor adverse effect because of the normal generation of waste due to the operation of the lodging facility.
WATER RESOURCES AND WETLANDS	No effect	Minor adverse effect due to storm water runoff associated with on-going construction activities.	Minor adverse effect due to storm water runoff associated with on-going construction activities.
SOILS	No effect	Negligible	Negligible
BIOLOGICAL RESOURCES	No effect	Negligible	Negligible

Section 7

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Section 8

ACRONYMS AND ABBREVIATIONS

A

ACSIM	Assistant Chief of Staff for Installation Management
AMF	Army Modular Force
APE	Area of Potential Effect
AR	Army Regulation
ARPA	Archaeological Resources Protection Act
ASA	Ammunition Storage Area
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers

B

BCR	Bird Conservation Region
BCT	Basic Combat Training
BMP	Best Management Practice
BRAC	Base Realignment and Closure
BV	Business Volume

C

CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO_2	Carbon Dioxide
CWA	Clean Water Act
CWW	Columbus Water Works

D

DA	Department of the Army
dB	Decibel
dBA	A-Weighted Decibel
DNR	Department of Natural Resources
DoD	Department of Defense
DPW	Department of Public Works

E

EA	Environmental Assessment
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EMD	Environmental Management Division
EMPL	Employment
EO	Executive Order
EPA	Environmental Protection Agency
EPAct05	Energy Policy Act of 2005
EPD	Environmental Protection Division
ESA	Endangered Species Act
ESPCP	Erosion, Sedimentation, and Pollution Control Plan

F

FBFC	Fort Benning Family Community
FMWR	Family and Morale, Welfare and Recreation
FNSI	Finding of No Significant Impact

G

GDNR	Georgia Department of Natural Resources
GDPR	Global Defense Posture Realignment
GESA	Georgia Erosion and Sediment Control Act
GHG	Greenhouse Gases
GIS	Geographic Information System
gpm	Gallons per minute
GSWCC	Georgia Soil and Water Conservation

H

HPC	Historic Properties Component
HVAC	Heating, Ventilation and Air Conditioning

I

IAQ	Indoor Air Quality
ICRMP	Integrated Cultural Resource Management Plan
IFRP	Infrastructure Footprint Reduction Program
INC	Income
INRMP	Integrated Natural Resources Management Plan
IMCOM	Installation Management Command

L

LAAF	Lawson Army Airfield
LEED	Leadership in Energy and Environmental Design
LEED-NC	Leadership in Energy and Environmental Design for New Construction
LID	Low Impact Development
LLC	Limited Liability Company
LUPZ	Land Use Planning Zone

M

MBTA	Migratory Bird Treaty Act
MCOE	Maneuver Center of Excellence
MHPA	Military Housing Privatization Initiative
MPCA	Main Post Cantonment Area
MPHD	Main Post Historic District
MRF	Material Recycling Facility
MSA	Metropolitan Statistical Area

N

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NFA	No Further Action
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places

O

OSHA	Occupational Health and Safety

P

PA	Preferred Alternative
PJT	Parachute Jump Towers
POV	Personally Owned Vehicles
PPA	Pollution Prevention Act
PSD	Prevention of Significant Deterioration

R

RCI	Residential Communities Initiative
RCRA	Resource Conservation and Recovery Act
RCRA	Resource Conservation and Recovery Act
RDT&E	Research, Development, Testing & Evaluation
RFP	Request For Proposals
ROD	Record of Decision
ROI	Region of Influence
RTV	Rational Threshold Value

S

SHPO	State Historic Preservation Office(r)
SOC	Species of Concern
SME	Subject Matter Expert
SWMU	Solid Waste Management Unit

T

TDM	Travel Demand Management
TOE	Table of Organization & Equipment

U

USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventative Medicine
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGBC	U.S. Green Building Council

V

VEC	Valued Environmental Component

W

WHINSEC	Western Hemisphere Institute for Security Cooperation

APPENDIX A
SOCIOECONOMICS

Analysis of Socioeconomic Effects of Construction
and Operation the Proposed Lodging Facility
at Fort Benning, Georgia.

Introduction

The socioeconomic analysis requirements of NEPA have been established over the years through successful early NEPA litigation ("McDowell vs Schlesinger", US District Court, Western District of Missouri, Western Division, No. 75-CV-234-W-4 (June 19,1975) and "Breckinridge vs Schlesinger", US District Court, Eastern District of Kentucky, No. 75-100 (October 31,1975)), as well as the practical need for communication and collaboration with affected communities. The social and economic effects of Base Realignment and Closure (BRAC) actions are especially relevant and important, as these issues are often the source of community concerns and subsequent controversies.

The Economic Impact Forecast System (EIFS) and the Hierarchical Approach.

The Model:

The Economic Impact Forecast System (EIFS) (Huppertz, Claire E.; Bloomquist, Kim M.; Barbehenn, Jacinda M.; EIFS 5.0 Economic Impact Forecast System, User's Reference Manual; USACERL Technical Report TA-94/03; July 1994.) has been a mainstay of Army NEPA practice since its initial development and implementation in the mid-70s. EIFS provides a mechanism to estimate impacts, and ascertain the "significance" of projected impacts, using the Rational Threshold Value (RTV) technique. This analysis and determination can be readily documented, and if significance thresholds are not exceeded, the analysis can be completed. EIFS was designed to address NEPA applications, providing a "two-tier" approach to the process; (1) a simple and quick aggregate model (sufficient to ascertain the overall magnitude of impacts) and (2) a more detailed, sophisticated input-output (I-O) model to further analyze impacts that appear significant, in NEPA terms, and worthy of additional expenditures and analyses. This "two-tier" approach is consistent with the two common levels of NEPA analysis, the Environmental Assessment (EA) and the Environmental Impact Statement (EIS). EIFS has facilitated efficient and effective completion of such analyses for approximately 3 decades.

Complete documentation of the model, its development, and applicable theoretical underpinnings is available in numerous publications:

Huppertz, Claire E.; Bloomquist, Kim M.; Barbehenn, Jacinda M.; EIFS 5.0 Economic Impact Forecast System, User's Reference Manual; USACERL Technical Report TA-94/03; July 1994.

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These efforts reflect development of a tool for specific NEPA application, following the successful NEPA litigation referenced in the Introduction. As EIFS has been used for Army NEPA analyses, the results of EIFS analyses have been reviewed by stakeholder (affected community) representatives, and, as a result of BRAC application, twice reviewed by the Government Accounting Office (GAO). During such reviews, the analyses and resultant decisions were upheld, and EIFS was lauded as a uniform (non-arbitrary and non-capricious) approach to such requirements. Drawing from a national, uniform database, and using a common, systematic approach, EIFS allowing the improved comparison of project alternatives (the heart of NEPA analysis), and provides comparable analyses across the U.S.

NEPA Process Improvement:

Since NEPA was implemented, it has been commonly criticized as expensive and time-consuming. While these criticisms have been often justified, the President's Council on Environmental Quality (CEQ) has actively promoted NEPA process improvements; first in the publication of the CEQ NEPA regulations (CEQ, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, Reprint, 40 CFR Parts 1500-1508, Executive Office of the President, Council on Environmental Quality, 1992.), and, more recently, through a NEPA anniversary introspective (CEQ, The National Environmental Policy Act: A Study of its Effectiveness After Twenty-five Years, Executive Office of the President, Council on Environmental Quality, January, 1997.) and the formal CEQ NEPA Task Force (CEQ, The NEPA Task Force Report to the Council on Environmental Quality: Modernizing NEPA Implementation; September, 2003.). All three CEQ initiatives call for more "focus" on NEPA documents, eliminating the analyses of minor or unimportant issues, and focusing, instead, on those issues that should be part of an informed agency decision. The use of EIFS, and the "two-tier" approach is consistent with these CEQ recommendations.

Determining Significance:

While EIFS was being developed, communities began to question the rationale for determining the significance of socioeconomic impacts. USACERL was directed to develop a defensible procedure for such a determination, resulting in the Rational Threshold Value (RTV) technique (Webster, R.D.; and Shannon, E.; The Rational Threshold Value (RTV) Technique for the Evaluation of Regional Economic Impacts; USACERL Technical Report TR N-49/ADA055561; 1978). This technique relies on the yearly Bureau of Economic Analysis (BEA) time series data on employment, income, and population to evaluate historical trends with in a subject community (region); and uses those trends to measure the "resilience" of the local community to change, or its ability to accommodate such change. This approach has worked well when communicating with affected communities. The combined use of RTV with the EIFS model meet the two pronged approach for significance determinations, intensity and context (CEQ, 1992)

The initial EIFS implementation (USACERL, 1975) included the analysis of numerous variables: business volume, personal income, employment, government revenues and expenditures,

income and employment distribution, local housing impacts, regional economic stability, school system impacts, government bond obligations, population, welfare and dependency, social control, and aesthetic considerations. These selction of these variables was based on the predictive capability of forecasting techniques and data availability. Over some 30 years of practice, pragmatism and sufficiency led to the use of sales volume, employment, personal income, and population as indicators of impacts (as a "first tier" approximation of effects). These effects can also be readily evaluated (and significance determined) using the BEA time series data. Population, important in its own right, is also a valuable indicator of other factors (e.g., impact on local government revenues and expenditures, housing, local school systems, and the change in welfare and dependency), as impacts on such variables are driven, to a large extent, by a population change.

Using BEA time series data is used to analyze the four variables for the ROI, the RTV model produces thresholds for assessing the magnitude of impacts. The RTV technique is simple, starting with a straight line between the first year of record and the last year of record for that variable, establishing the average rate of change over time. Then, each yearly deviation from that growth rate is calculated and converted to a percentage. The largest historical changes (both increase and decrease) are used to define significance thresholds. The following figure illustrates the RTV concept:

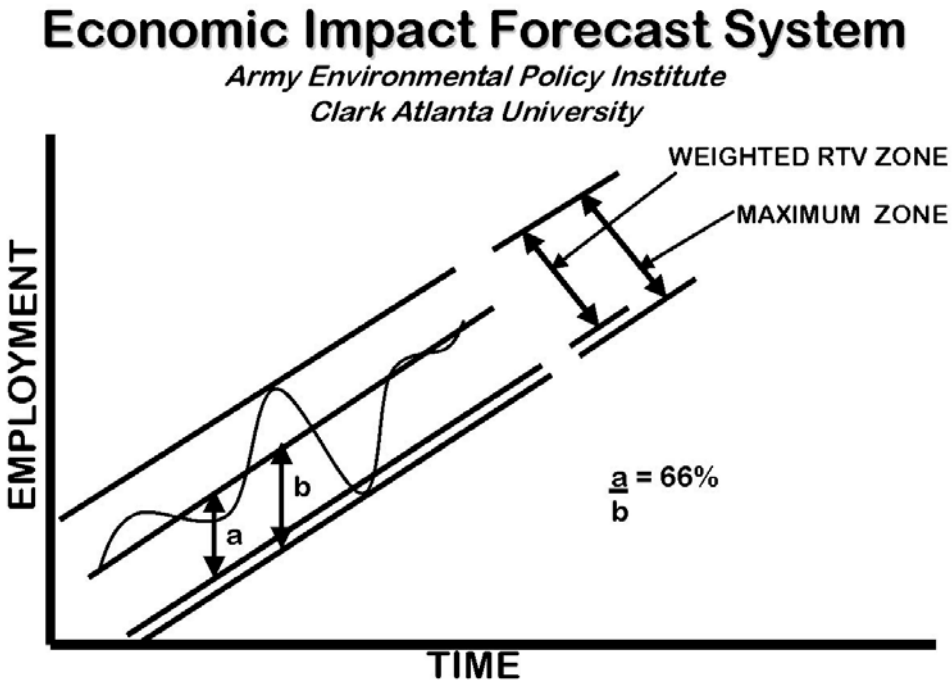


Figure 10
Visual Depiction of the RTV Technique

A "factor of safety" is applied to negative thresholds, as shown in the figure, to produce a conservative analysis; while 100% of the maximum positive thresholds is used; as indicated below:

	Increase	Decrease
Total sales volume	100 percent	75 percent
Total employment	100 percent	66 percent
Personal Income	100 percent	66 percent
Total population	100 percent	50 percent

The maximum positive historical fluctuation is used because of the positive connotations generally associated with economic growth. While economic growth can produce unacceptable impacts and the "smart growth" concept is increasingly favored, the effects of reductions and closures are usually much more controversial. These adjustments, while arbitrary, are sensible. The negative sales volume threshold is adjusted by 75%, as sales volume impacts can be absorbed by such factors as the manipulation of inventory, new equipment, etc; and the impacts on individual workers or proprietors is indirect, if at all. Changes in employment and income, however, are impacts that immediately affect individuals; thus they are adjusted by 66%. Population is extremely important, as an indicator of other social issues, and is thus adjusted by 50%.

To adjust dollar amounts for inflation (to create "constant dollars" prior to calculations), the Consumer Price Index (CPI) is used for appropriate years, and all dollar values are adjusted to 1987 equivalents.

The main strength of the RTV approach stems from its reliance on data for each individual ROI. This approach addressed previous criticism of more simple approaches that applied arbitrary criteria to all communities. This approach establishes unique criteria, representative of local community patterns, and, while a community may not completely agree, a common frame of reference is established. Critics of the RTV technique have questioned the arbitrary selection of the maximum allowable deviations to indicate impact significance, but the process has proven workable over the years.

The Application of EIFS to the Proposed Action

The projected lodging complex consists of 860 rooms: 800 regular rooms and 60 family suites (Email from Sabine Rogers, 10 December 2009). The family suites are estimated to maintain a 90% occupancy rate and a family size of 4. This translates into a average occupancy of 216 individuals (as family units) (60 rooms @ 4 persons per room @ 90% occupancy). The 800

regular rooms are estimated to have an 80% occupancy and 2 persons per room, translating into a average occupancy or 1280 (800 rooms @ 2 persons per room @80% occupancy). The approximate cost of construction will be $106 million. In addition, the lodging operation will employ approximately 130 individuals.

To effect these analyses, the inputs to the EIFS model must be estimated. The normal EIFS inputs include:

Number of affected (moving) civilians and their salaries
Number of affected (moving) military employees and their salaries
Percentage of affected military employees living on-post
Changes in local procurement, contracting, and purchases
Definition of the multi-county region of influence (ROI)

The Region of Influence (ROI) for Fort Benning consists of : Muscogee, Chattahoochee, Harris, and Marion counties in Georgia, and Russell county in Alabama (*Final Environmental Impact Statement, Maneuver Center Of Excellence, Fort Benning, GA,* U.S. Army Corps of Engineers, Mobile District, June 2009).

The EIFS analyses can be separated into three major components: (1) construction of the lodging complex, (2) operation of the lodging complex, and (3) increase in demand for off-post lodging.

The effects of the construction phase can be estimated by allocating the total construction cost ($106m) over the 3 year duration on a monthy basis. This will thus allocate 25% of the cost ($26.5 million) in 2010 and 2012, and 50% of the cost ($53 million) in 2011. The 2011 impacts are used to estimate the impacts of the construction phase.

FORECAST INPUT	
Change In Local Expenditures	$53,000,000
Change In Civilian Employment	0
Average Income of Affected Civilian	$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT		
Multiplier	2.27	
Sales Volume - Direct	$24,709,980	
Sales Volume - Induced	$31,381,680	
Sales Volume - Total	$56,091,670	0.51%
Income - Direct	$4,156,228	
Income - Induced	$5,278,410	
Income - Total	$9,434,638	0.16%
Employment - Direct	135	
Employment - Induced	172	
Employment - Total	307	0.19%
Local Population	0	
Local Off-base Population	0	0%

RTV SUMMARY				
	Sales Volume	Income	Employment	Population
Positive RTV	6.89 %	6.93 %	5.25 %	3.13 %
Negative RTV	-5.79 %	-5.19 %	-9.4 %	-2.12 %

The results of the analyses are shown as percentage changes in total business volume, employment, income, and population, along with the applicable RTVs, as follows:

Change in business volume:	0.51%	RTV:	6.89%
Change in income:	0.16%	RTV:	6.93%
Change in employment:	0.19%	RTV:	5.25%
Change in population:	0%	RTV:	3.13%

These estimated impacts are well below the RTV thresholds for the affected variables.

The net direct impact of the lodging facility operations consists of (1) the negative effects of potentially lost revenues in the local economy and (2) the positive effects of the new Fort Benning employees that work at the lodging facility). The estimated 216 family residents represent 54 family units (60 suites @ 90% occupancy). Allowable per diem reimbursement rates for lodging and meals and incidental expenses (M&IE) total $137 at Fort Benning in the Columbus, GA area (obtained from http:/www.gsa.gov., "FY 2010 Per Diem Rates, Columbus, GA"). Applied to the family lodging facility, this represents the loss of a total of $2,700,270 (54 rooms for 365 days @ $137 per day). Lost revenue in the local community due to individuals lodged ate the facility (the 800 regular rooms): This revenue is attributed to approximately 1280 individuals (800 double occupancy rooms @ 80% occupancy). Applied to the regular rooms, this represents the loss of a total of $64,006,400 (1280 individuals for 365 days @ $137 per day). The net impact of lodging operations is represented by a net decrease of $66,706,670 in revenues ($2,700,270 from families and $64,006,400 from individual soldiers) and the employment of 130 employees at an assumed salary of $50,000 per year. The operations are assumed to start in May 2012 and reach full (12 month) operation in 2013. The lost revenue calculations are high (and thus slightly overstate the likely impacts), due to the 75% reductions in lodging reimbursement (lodging and M&IE) for long term stays. The calculations are still used, as no estimates for the proportions of long-term and short-term tenants were available. These calculations can be used as inputs to the EIFS model, producing the following results:

FORECAST INPUT	
Change In Local Expenditures	($66,706,670)
Change In Civilian Employment	130
Average Income of Affected Civilian	$50,000
Percent Expected to Relocate	100
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Multiplier	2.27	
Sales Volume - Direct	($62,351,670)	
Sales Volume - Induced	($79,186,620)	
Sales Volume - Total	($141,538,300)	-1.29%
Income - Direct	($4,720,085)	
Income - Induced	($13,319,220)	
Income – Total	($18,039,300)	-0.31%
Employment - Direct	-211	
Employment - Induced	-433	
Employment - Total	-644	-0.41%
Local Population	0	
Local Off-base Population	0	0%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	6.89 %	6.93 %	5.25 %	3.13 %
Negative RTV	-5.79 %	-5.19 %	-9.4 %	-2.12 %

The results of the analyses are shown as percentage changes in total business volume, employment, income, and population. These are best shown as percentages (of the activity in the total ROI), and can be prepared to the RTVs for that variable in that ROI. The results are as follows:

Change in business volume:	-1.29%	RTV:	-5.79%
Change in income:	-0.31%	RTV:	-5.19%
Change in employment:	-0.41%	RTV:	-9.4%
Change in population:	0	RTV:	3.13%

These estimated impacts are well below the RTV thresholds for the affected variables.

The effects for continued (and slightly increased) demand for off-post lodging will remain after the construction of this lodging facility and will actually increase from approximately 197 to 230 rooms per night, an increase of 33 rooms (Correspondence with Precious Patterson, 8 January, 2010) over the demand in 2008.

FY 2008 Lodging "Student" Requirements:

Average (per night) requirement = 980

Average number of available On-Post Army Lodging Rooms = 668

Average Off-Post Room requirements = 197

Projected FY 2011 Lodging "Student" Requirements:

Average (per night) requirement = 1150

Projected number of available On-Post Army Lodging Rooms = 920

Projected Off-Post Room requirements = 230

The continued (and slightly expanded) need for off-post lodging can produce new ROI revenue totaling some $11,501,150 (230 rooms for 365 days @ $137 per day). Similar to the lost revenue calculations associated with lodging operations, the estimates of likely revenues are high (and thus slightly overstate the likely impacts), due to the 75% reductions in lodging reimbursement (lodging and M&IE) for long term stays. The calculations are still used, as no estimates for the proportions of long-term and short-term tenants were available. This can be used to produce the following EIFS output:

FORECAST INPUT	
Change In Local Expenditures	$11,501,150
Change In Civilian Employment	0
Average Income of Affected Civilian	$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	$0
Percent of Military Living On-post	0

FORECAST OUTPUT		
Multiplier	2.27	
Sales Volume - Direct	$11,501,150	
Sales Volume - Induced	$14,606,460	
Sales Volume - Total	$26,107,610	0.24%
Income - Direct	$1,934,497	
Income - Induced	$2,456,812	
Income - Total	$4,391,309	0.08%
Employment - Direct	63	
Employment - Induced	80	
Employment - Total	143	0.09%
Local Population	0	
Local Off-base Population	0	0%

RTV SUMMARY	Sales Volume	Income	Employment	Population
Positive RTV	6.89 %	6.93 %	5.25 %	3.13 %
Negative RTV	-5.79 %	-5.19 %	-9.4 %	-2.12 %

The results of the analyses are again shown as percentage changes in total business volume, employment, income, and population, along with the applicable RTVs, as follows:

Change in business volume:	0.24%	RTV:	6.89%
Change in income:	0.08%	RTV:	6.93%
Change in employment:	0.09%	RTV:	5.25%
Change in population:	0%	RTV:	3.13%

These estimated impacts are well below the RTV thresholds for the affected variables.

The net effects of the lodging facility can be summarized as follows:

	2010			2011			2012			2013 & Beyond		
	BV	***Inc***	***Empl***	***BV***	***Inc***	***Empl***	***BV***	***Inc***	***Empl***	***BV***	***Inc***	***Empl***
Construction	0.25	0.08	0.09	0.51	0.16	0.19	0.25	0.08	0.09			
Operation										0.33	0.20	0.22
Total	0.25	0.08	0.09	0.51	0.16	0.19	0.41	0.18	0.20	0.33	0.20	0.22
Applicable RTV	6.98	6.93	5.25	6.89	6.93	5.25	6.98	6.93	5.25	6.89	6.93	5.25

As indicated, the indicated impacts fall well within the applicable RTVs, all less than 1%, comparing to RTVs ranging from 5% to 7%.

Sales tax rates vary slightly among the counties in the ROI, but a sales tax rate of 7% is a reasonable estimate for the ROI as a whole. In addition, Muscogee county (Columbus levees a 7% occupancy tax on hotel rooms (http://www.georgiafacts.com). Lost sales tax and occupancy tax revenues from the lodging activity would be less than the percentage values shown for business volume, as many items that comprise the business volume estimates (retail sales, wholesale trade, service sectors, etc.) are not subject to sales taxation. The proportionalities used for the significance evaluations would also apply to these revenue streams.

This Proposed Action is occurring against the backdrop of the ongoing economic growth at Fort Benning. This overall growth at Fort Benning was assessed in the Final Environmental Impact Statement, BRAC 2005 And Transformation Actions at Fort Benning, Georgia, U.S. Army Corps of Engineers, Mobile District, October 2007 (USACE 2007) as significant direct and indirect beneficial impacts on employment and local business volume, with minor direct and indirect beneficial impacts on population and negative impacts on needed services. Significant impacts on local traffic were identified at several intersections where the level of service fails during peak hours. Using the EIFS model to evaluate this background growth, significant direct and indirect beneficial effects were identified. Under this growth scenario, a total of 5,605 military personnel (2,442 in the peak year of 2009 for incoming military personnel) and 3,226 total civilian employees would be added to Fort Benning (1500 in the peak year 2011 for incoming civilian employees) from outside the ROI. As noted above, the peak year for total impacts would be 2011, when 1,010 military employees and 2,126 government and contractor civilian employees are expected to migrate to the ROI. This was estimated to generate a total net gain of 10,454 jobs in the Fort Benning economic ROI, including 4,437 induced jobs during the peak year. This increase in employment would represent a 6.55 percent increase in the region's employment levels and exceeds the maximum RTV value. The BRAC-related growth was also estimated to generate positive changes in the other economic indicators estimated by the EIFS model, including a 15.63 percent increase in sales volume (a significant beneficial effect), and a

6.20 percent increase in regional personal income (a minor beneficial impact). This initial analysis of Fort Benning growth was updated (*Final EIS, Maneuver Center Of Excellence, Fort Benning, Ga*, Prepared by U.S. Army Corps of Engineers, Mobile District, June 2009), and both analyses (in 2007 and 2009) are summarized as follows:

	MCOE Estimates (2009)		
Variable	Est. impact	%	RTV
Sales Volume	$1,695,254,000	16.17%	6.89%
Income	$381,645,300	6.46%	6.93%
Employment	10,823	6.79%	5.25%

The following table illustrates the ongoing levels of change in the Fort Benning ROI (based on the analyses of 2007 and 2009), the maximum positive and negative RTVs for the ROI, and the yearly changes predicted for proposed lodging facility. The effects of the lodging facility are shown in three categories: (1) construction, (2) operations, and (3) net revenues in the community from the continuing demand for off-post housing (in excess of that available on-post). It should be noted that the impacts of housing operations include the positive effects attributable to employees at the on-post lodging facilities and the negative effects of lost revenues in the economy from the use of on-post rooms. The “lost” revenues are not reductions in the on going demand for off post facilities, but are “opportunity costs” (revenue that would have accrued if no new on-post lodging facilities were built. In fact, even with the new facility, the demand for off-post rooms will increase (albeit a minor increase).

Year		**2011**	**2012**	**2013+**
Sales Volume				
	2009 Est for 2011	15.63		
	2007 Est for 2011	16.17		
	Pos RTV	6.89	6.89	6.89
	Lodging Constr	0.51	0.25	
	Lodging Revenues		0.12	0.24
	Lodging Ops		-0.64	-1.29
	Net Impact	**0.51**	**-0.27**	**-1.05**
	Neg RTV	-5.79	-5.79	-5.79
Income				
	Pos RTV	6.93	6.93	6.93
	2009 Est for 2011	6.2		
	2007 Est for 2011	6.46		
	Lodging Constr	0.16	0.08	
	Lodging Revenues		0.04	0.08
	Lodging Ops		-0.15	-0.31
	Net Impact	**0.16**	**-0.03**	**-0.23**
	Neg RTV	-5.19	-5.19	-5.19
Employment				

	2009 Est for 2011	6.55		
	2007 Est for 2011	6.79		
	Pos RTV	5.25	5.25	5.25
	Lodging Constr	0.19	0.09	
	Lodging Revenues		0.05	0.09
	Lodging Ops		-0.2	-0.41
	Net Impact	**0.19**	**-0.06**	**-0.32**
	Neg RTV	-9.4	-9.4	-9.4

These relationships are shown in the following three figures for business volume, income, and employment, respectively.

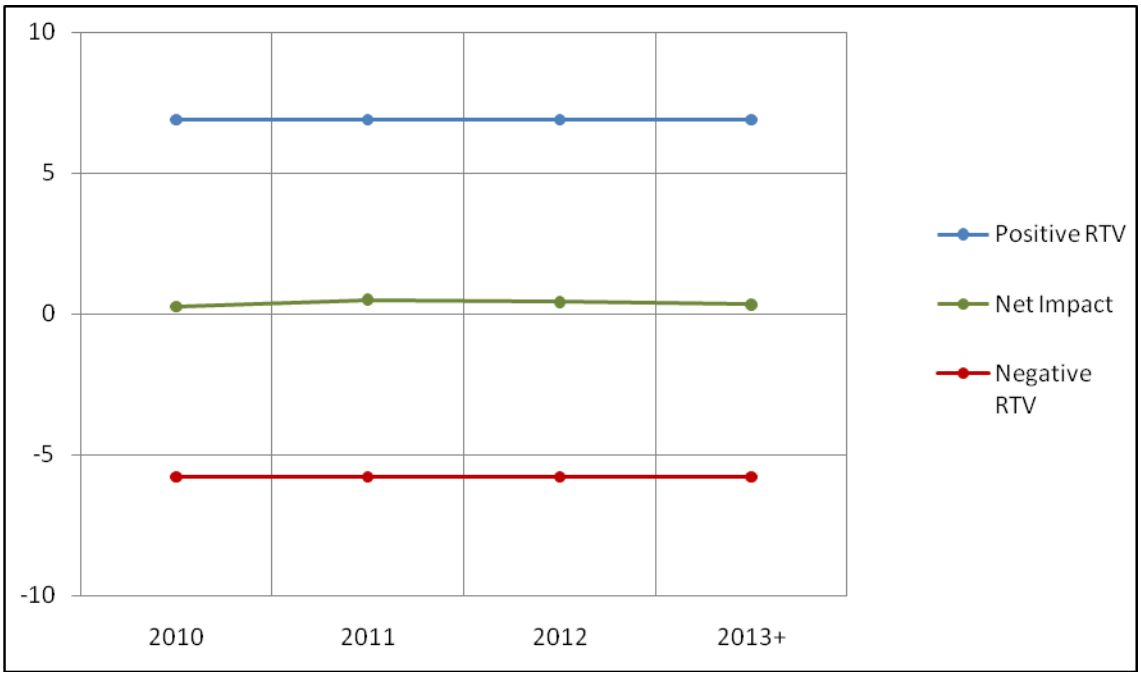


Figure 12a - Shows project net impact to sales volume is slightly positive

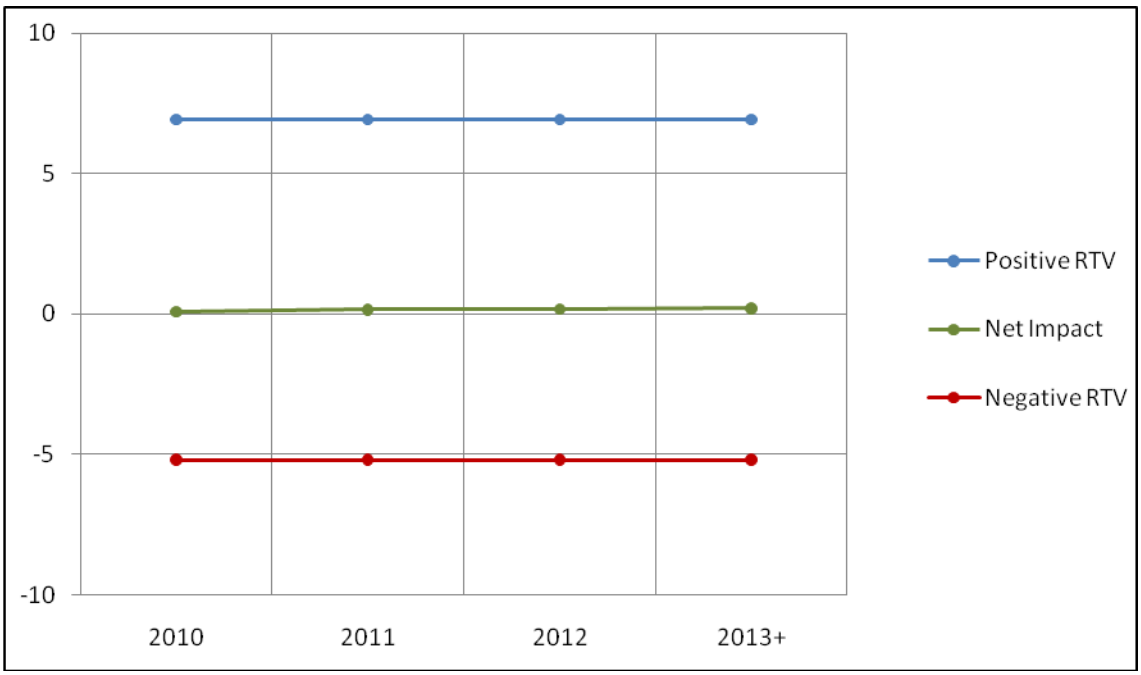


Figure 12b - Shows project net impact to income is almost neutral

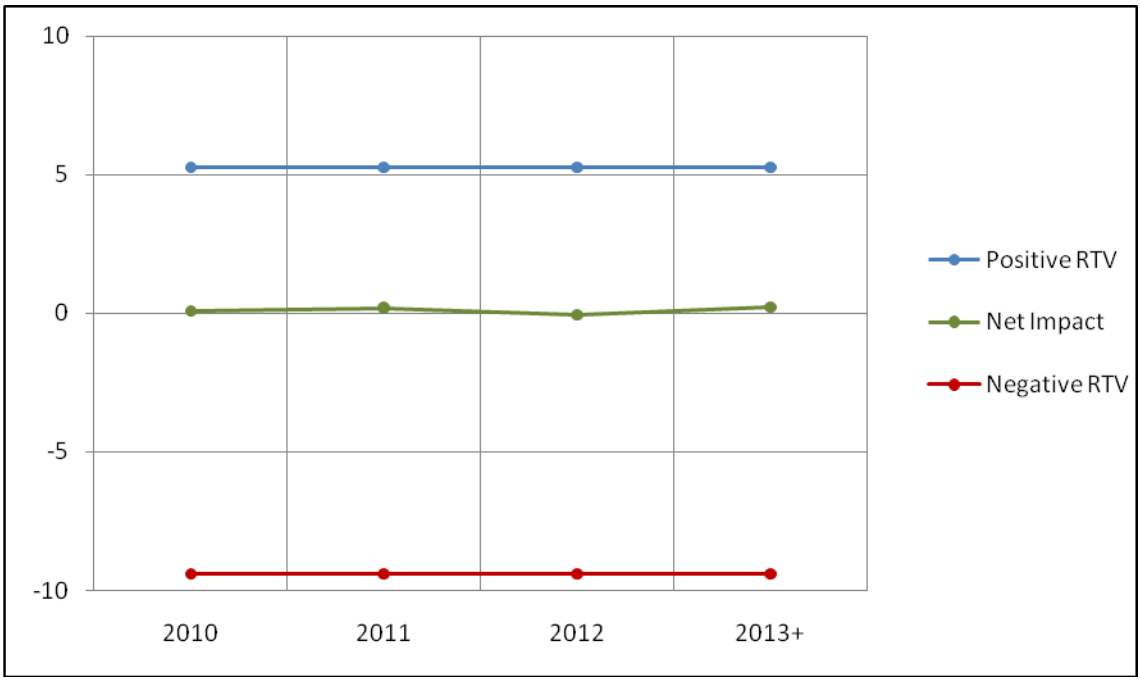


Figure 12c - Shows project net impact to employment is almost neutral

These figures indicate the scale of the projected "net" impacts of the proposed action and places these projections in perspective with both on-going levels of change in the Fort Benning ROI. These net effects are minor, falling on the minor positive or minor negative scale from year to year and among the various components of the facility construction and operations. They fall

well within the RTV “brackets” for positive and negative change and are well below the ongoing major flux in the ROI as a result of growth already underway.

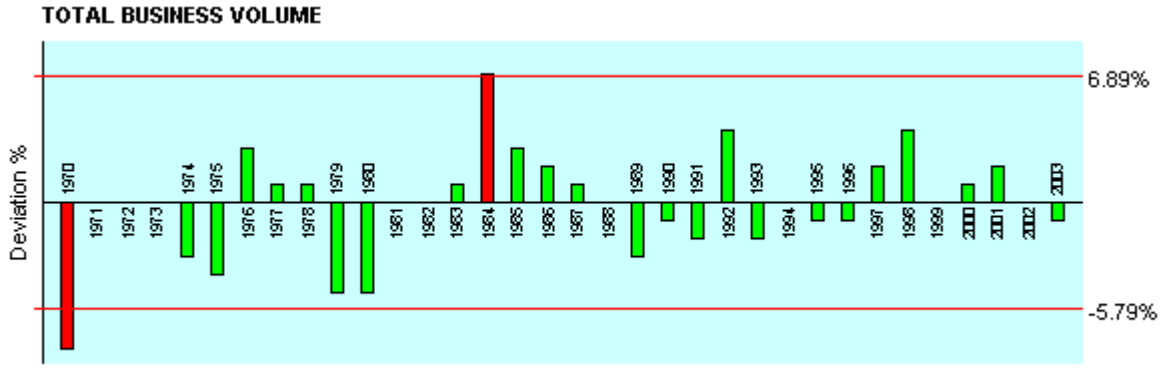
Summary

The projected regional economic impacts of the lodging construction and operations is quite minor, with the effects of various aspects shown to be minor positive or minor negative impacts, but very small nonetheless. These impacts will occur at the same time that major and seemingly unprecedented (based on RTVs) regional economic growth is projected from increased military activities at Fort Benning.

Detailed RTV Analysis for the ROI

RTV DETAILED

SALES VOLUME

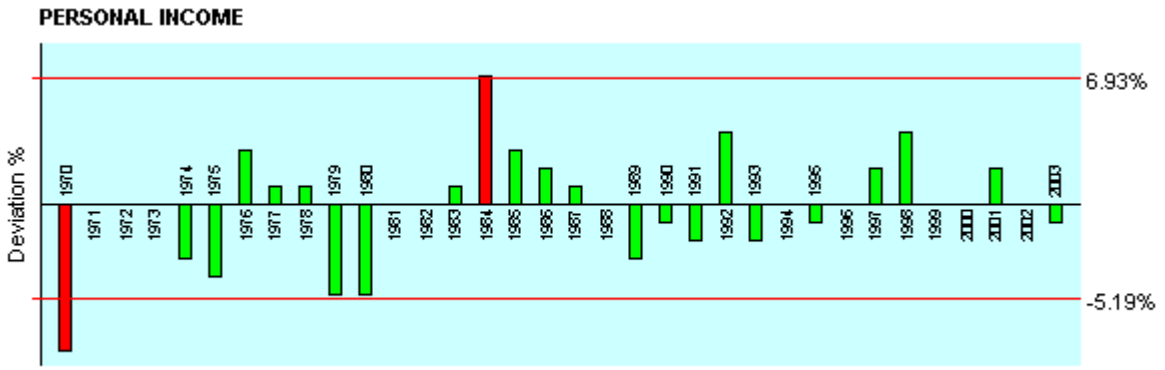


Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	1630920	8578639	0	-206979	0
1970	1637694	8155716	-422923	-629902	-7.72
1971	1756276	8377437	221720	14741	0.18
1972	1854652	8568492	191056	-15923	-0.19
1973	2022992	8800015	231523	24544	0.28
1974	2242660	8768801	-31215	-238194	-2.72
1975	2415464	8671516	-97285	-304264	-3.51
1976	2683888	9125219	453703	246724	2.7

1977	2956918	9432568	307349	100370	1.06
1978	3273672	9690069	257501	50522	0.52
1979	3529272	9387864	-302206	-509185	-5.42
1980	3913012	9156448	-231415	-438394	-4.79
1981	4384896	9339828	183380	-23599	-0.25
1982	4788360	9576720	236892	29913	0.31
1983	5104044	9901845	325125	118146	1.19
1984	5837040	10856894	955049	748070	6.89
1985	6312708	11362874	505980	299001	2.63
1986	6708988	11807819	444944	237965	2.02
1987	7127768	12117206	309387	102408	0.85
1988	7547136	12301832	184626	-22353	-0.18
1989	7819154	12197880	-103951	-310930	-2.55
1990	8231060	12264279	66399	-140580	-1.15
1991	8618364	12238077	-26203	-233182	-1.91
1992	9385002	12951303	713226	506247	3.91
1993	9595482	12857946	-93357	-300336	-2.34
1994	10006736	13008757	150811	-56168	-0.43
1995	10349064	13143311	134554	-72425	-0.55
1996	10796576	13279788	136477	-70502	-0.53
1997	11510452	13812542	532754	325775	2.36
1998	12267748	14598620	786078	579099	3.97
1999	12745548	14784836	186216	-20763	-0.14
2000	13455754	15070444	285609	78630	0.52

2001	14325930	15615264	544819	337840	2.16
2002	14752204	15784858	169595	-37384	-0.24
2003	15069434	15822906	38047	-168932	-1.07

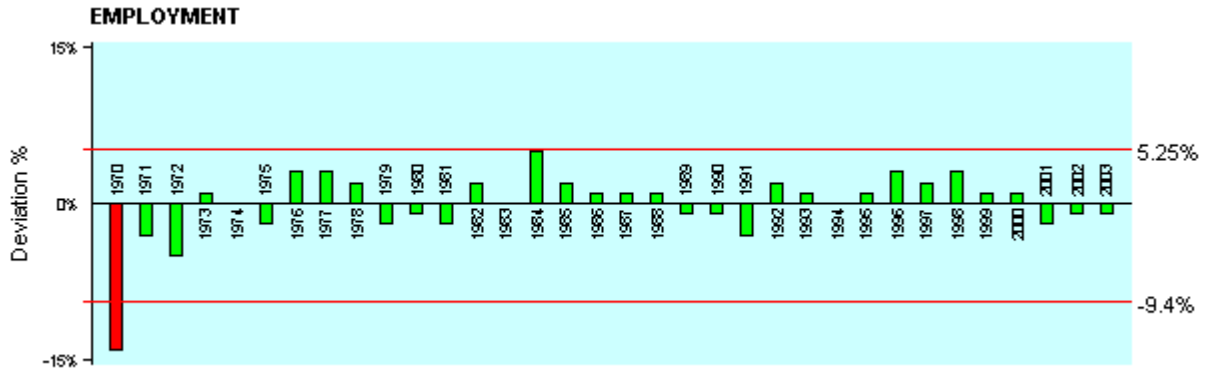
INCOME



Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	819613	4311164	0	-103374	0
1970	822770	4097395	-213770	-317144	-7.74
1971	882190	4208046	110652	7278	0.17
1972	931996	4305822	97775	-5599	-0.13
1973	1018269	4429470	123649	20275	0.46
1974	1127002	4406578	-22892	-126266	-2.87
1975	1212141	4351586	-54992	-158366	-3.64
1976	1348870	4586158	234572	131198	2.86
1977	1482290	4728505	142347	38973	0.82
1978	1643112	4863612	135106	31732	0.65
1979	1773119	4716497	-147115	-250489	-5.31
1980	1962162	4591459	-125037	-228411	-4.97

1981	2203956	4694426	102967	-407	-0.01
1982	2404824	4809648	115222	11848	0.25
1983	2558793	4964058	154410	51036	1.03
1984	2927351	5444873	480814	377440	6.93
1985	3161996	5691593	246720	143346	2.52
1986	3358831	5911543	219950	116576	1.97
1987	3570842	6070431	158889	55515	0.91
1988	3782883	6166099	95668	-7706	-0.12
1989	3919080	6113765	-52334	-155708	-2.55
1990	4123180	6143538	29773	-73601	-1.2
1991	4320874	6135641	-7897	-111271	-1.81
1992	4702491	6489438	353796	250422	3.86
1993	4808508	6443401	-46037	-149411	-2.32
1994	5016649	6521644	78243	-25131	-0.39
1995	5183571	6583135	61491	-41883	-0.64
1996	5410617	6655059	71924	-31450	-0.47
1997	5767795	6921354	266295	162921	2.35
1998	6147485	7315507	394153	290779	3.97
1999	6393221	7416136	100629	-2745	-0.04
2000	6740100	7548912	132776	29402	0.39
2001	7178431	7824490	275578	172204	2.2
2002	7385101	7902058	77568	-25806	-0.33
2003	7551657	7929240	27182	-76192	-0.96

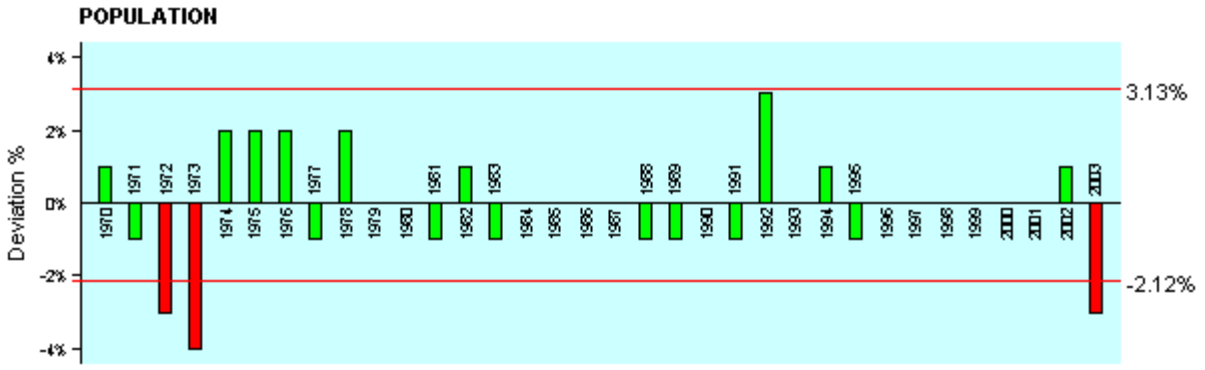
EMPLOYMENT



Year	Value	Change	Deviation	%Deviation
1969	139152	0	-677	0
1970	122621	-16531	-17208	-14.03
1971	120023	-2598	-3275	-2.73
1972	115159	-4864	-5541	-4.81
1973	116479	1320	643	0.55
1974	117041	562	-115	-0.1
1975	114969	-2072	-2749	-2.39
1976	119817	4848	4171	3.48
1977	124512	4695	4018	3.23
1978	127463	2951	2274	1.78
1979	126219	-1244	-1921	-1.52
1980	125917	-302	-979	-0.78
1981	123860	-2057	-2734	-2.21
1982	126492	2632	1955	1.55
1983	126598	106	-571	-0.45
1984	134330	7732	7055	5.25

1985	137507	3177	2500	1.82
1986	140127	2620	1943	1.39
1987	142697	2570	1893	1.33
1988	145067	2370	1693	1.17
1989	143682	-1385	-2062	-1.44
1990	142848	-834	-1511	-1.06
1991	139456	-3392	-4069	-2.92
1992	143157	3701	3024	2.11
1993	145775	2618	1941	1.33
1994	147023	1248	571	0.39
1995	148522	1499	822	0.55
1996	153823	5301	4624	3.01
1997	158404	4581	3904	2.46
1998	163536	5132	4455	2.72
1999	165080	1544	867	0.53
2000	167205	2125	1448	0.87
2001	165280	-1925	-2602	-1.57
2002	163828	-1452	-2129	-1.3
2003	162834	-994	-1671	-1.03

POPULATION



Year	Value	Change	Deviation	%Deviation
1969	251025	0	-759	0
1970	254664	3639	2880	1.13
1971	253660	-1004	-1763	-0.7
1972	246940	-6720	-7479	-3.03
1973	237599	-9341	-10100	-4.25
1974	244309	6710	5951	2.44
1975	249515	5206	4447	1.78
1976	255031	5516	4757	1.87
1977	253528	-1503	-2262	-0.89
1978	259685	6157	5398	2.08
1979	260109	424	-335	-0.13
1980	259921	-188	-947	-0.36
1981	259295	-626	-1385	-0.53
1982	263318	4023	3264	1.24
1983	261838	-1480	-2239	-0.86
1984	262983	1145	386	0.15

1985	264556	1573	814	0.31
1986	266407	1851	1092	0.41
1987	267567	1160	401	0.15
1988	266586	-981	-1740	-0.65
1989	265634	-952	-1711	-0.64
1990	266931	1297	538	0.2
1991	266314	-617	-1376	-0.52
1992	275715	9401	8642	3.13
1993	277655	1940	1181	0.43
1994	280889	3234	2475	0.88
1995	279663	-1226	-1985	-0.71
1996	279725	62	-697	-0.25
1997	280896	1171	412	0.15
1998	280686	-210	-969	-0.35
1999	280899	213	-546	-0.19
2000	282122	1223	464	0.16
2001	283096	974	215	0.08
2002	286161	3065	2306	0.81
2003	277580	-8581	-9340	-3.36

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APPENDIX B
SOILS

USDA, NATIONAL RESOURCES CONSERVATION SERVICE WEB SOILS SURVEY DATA
IN SUPPORT OF
PROPOSED ARMY LODGING,
FIVE ALTERNATIVE LOCATIONS,
FORT BENNING, GEORGIA

The following information was gathered through the U.S. Department of Agriculture's National Resources Conservation Service (NCRS) Web Soils Survey (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx).

The soils analysis for this Environmental Assessment includes the following key factors; building site development, land classifications, and soil erosion. The building site development analysis of the NRCS soil classification system provides information on how soil properties influence the development of building sites, specifically for structures less than three stories high. The land classification analysis was used to determine whether the soils at each site were hydric or not hydric. Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2009). The soil erosion analysis was used to determine erosion factor K_X, which indicates the soils susceptibility to sheet and rill erosion by water.

Small Commercial Buildings Analysis

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. This table shows the degree and kind of soil limitations that affect dwellings and small commercial buildings.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and

compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Information in these tables is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil. The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Report—Dwellings and Small Commercial Buildings
[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Map symbol and soil name	Pct. of map unit	Rating class and limiting features	Value
OuB – Orangeburg-Urbanland complex, 2 to 5 % slope			
Orangeburg	55	Not limited	
Urban land	45	Not rated	
UdC-Urban land, 0 to 10 % slopes			
Urban land	100	Not rated	
UoC-Urban land-Orangeburg complex, 0 to 10 % slopes			
Urban land	55	Not rated	
Orangeburg	45	Somewhat limited	
		Slope	**0.13**

Table 1: Small Commercial Building Analysis for Alternatives B, C, and E

Map symbol and soil name	Pct. of map unit	Rating class and limiting features	Value
Ub-Udorthents-Urbanland complex, 0 to 10 % slopes			
Udorthents	55	Not limited	
Urban land	45	Not rated	
UdC-Urban land, 0 to 10 % slopes			
Urban land	100	Not rated	

Table 2: Small Commercial Building Analysis for Alternative D

Map symbol and soil name	Pct. of map unit	Rating class and limiting features	Value
OuB – Orangeburg-Urbanland complex, 2 to 5 % slope			
Orangeburg	55	Not limited	
Urban land	45	Not rated	
UoC-Urban land-Orangeburg complex, 0 to 10 % slopes			
Urban land	55	Not rated	
Orangeburg	45	Somewhat limited	
		Slope	**0.13**

Table 3: Small Commercial Building Analysis for Alternative F

Data Source Information

Soil Survey Area: Chattahoochee and Marion Counties, Georgia
Survey Area Data: Version 7, Jul 17, 2009

Hydric Soils Analysis

This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is designated as "all hydric," "partially
hydric," "not hydric," or "unknown hydric," depending on the rating of its respective components.

"All hydric" means that all components listed for a given map unit are rated as being hydric, while "not hydric" means that all components are rated as not hydric. "Partially hydric" means that at least one component of the map unit is rated as hydric, and at least one component is rated as not hydric. "Unknown hydric" indicates that at least one component is not rated so a definitive rating for the map unit cannot be made.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register,
2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in

"Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Map unit symbol	Map unit name	Rating	Acres in AOI	% of AOI
OuB	Orangeburg-Urban land complex, 2 to 5 % slopes	Not Hydric	36.7	75.6%
UdC	Urban land, 0 to 10 % slopes	Not Hydric	0.1	0.2%
UoC	Urban land-Orangeburg complex, 0 to 10 % slopes	Not Hydric	11.8	24.3%
Totals for Area of Interest			48.5	100.0%

Table 5: Hydric Rating by Map Unit for Alternatives B and E

Map unit symbol	Map unit name	Rating	Acres in AOI	% of AOI
OuB	Orangeburg-Urban land complex, 2 to 5 % slopes	Not Hydric	25.0	52.5%
UdC	Urban land, 0 to 10 % slopes	Not Hydric	0.6	1.3%
UoC	Urban land-Orangeburg complex, 0 to 10 % slopes	Not Hydric	22.0	46.2%
Totals for Area of Interest			47.7	100.0%

Table 6: Hydric Rating by Map Unit for Alternative C

Map unit symbol	Map unit name	Rating	Acres in AOI	% of AOI
Ub	Udorthents	Unknown	45.6	%

Table 7: Hydric Rating by Map Unit for Alternative D

Map unit symbol	Map unit name	Rating	Acres in AOI	% of AOI
OuB	Orangeburg-Urban land complex, 2 to 5 % slopes	Not Hydric	7.4	78.6%
UoC	Urban land-Orangeburg complex, 0 to 10 % slopes	Not Hydric	2.0	21.4%
Totals for Area of Interest			9.4	100.0%

Table 8: Hydric Rating by Map Unit for Alternative F

Soil Erosion Analysis

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Map symbol and soil name	% of map unit	Kf	T	Representative value		
				% Sand	% Silt	% Clay
Orangeburg-Urban land complex, 2 to 5 % slopes						
Orangeburg	55	.10	**5**	**83.8**	**9.2**	**7.0**
Urban land	45	-	**-**	**-**	**-**	**-**
UdC-Urban land, 0 to 10 % slopes						
Urban land	100	-	**-**	**-**	**-**	**-**
UoC- Urban land-Orangeburg complex, 0 to 10 % slopes						
Urban land	55	-	**-**	**-**	**-**	**-**
Orangeburg	45	.10	**5**	**83.8**	**9.2**	**7.0**

Table 10: Erosion factors for Alternatives B, C, E, and F

APPENDIX C

ANTICIPATED LEED POINTS

LEED SCORECARD AND NARRATIVE

The project is required to achieve minimum LEED "Silver" rating in compliance with U.S. Green Building Council standards. LEED v3.0 for New Construction and Major Renovations has been designated as the applicable rating system given the scope of work currently included in the project. To receive a "Silver" rating, the project must receive a minimum of 50 points based on the established guidelines. The Summary Checklist v3.0 included at the end of this narrative is presented as a starting point to further clarify which items will be pursued, identify the methods that will be employed to satisfy each targeted item, and to identify issues that may guide the strategy to achieve the overall rating. It should be noted that the Design-Build team is indicating a minimum of 55 points as achievable. The following are the proposed credits that will be pursued throughout the design and construction process in order to achieve a LEED "Silver" rating. The narrative descriptions below reflect the strategy and rationale for the LEED NC (Version 3.0) credit items identified in the Target LEED Check List that are intended to be incorporated into the project:

Sustainable Sites

Prerequisite 1 Construction Activity Pollution Prevention: An Erosion and Sedimentation Control (ESC) Plan for all construction activities associated with the project will be created. Methods shall be employed to control airborne dust generated by construction activities. Also soil erosion and sedimentation controls shall be used to minimize impact to the site and surrounding environment including protecting topsoil by stockpiling for reuse. Means and Methods shall be identified during the Work Plan phase of the project.

Credit 1 Site Selection (1 point-attempted): The project site has been selected to avoid development of: Land identified as Prime Farmland by USDA, Previously undeveloped land whose elevation is lower than 5 feet above the 100-year flood, Land identified as habitat for endangered species, Land within 100 feet of any wetlands, Previously undeveloped land that is within 50 feet of a body of water, Land that was previously public park land

Credit 2 Development Density & Community Connectivity (5 points-attempted): The project site will be evaluated to see if the location meets the development density and connectivity requirements to
achieve this credit.

Credit 4.2 Alternative Transportation: Bicycle Storage & Changing Rooms (1 point-attempted): The project provides secure bike racks within 200 yards of the main building entrance for 5% or more of all hotel staff. It is unlikely that the transient guests of the lodge will arrive by bicycle and as such are exempt from the calculation. Shower and changing facilities are located within the building for 5% of fulltime (FTE) occupants. This will reduce pollution and land development impacts from automobile use.

Credit 4.3 Alternative Transportation: Low Emitting and Fuel Efficient Vehicles (3 points-attempted): To reduce pollution and land development impacts from automobile use, the project has Chosen Option 1 that provides preferred parking for low-emitting and fuel efficient vehicles for 5% of the total vehicle parking capacity of the site.

Credit 4.4 Alternative Transportation: Parking Capacity (2 points-attempted): To reduce pollution and land development impacts from automobile use, the project has Chosen Option 1 that sizes parking capacity to meet but not exceed minimum local zoning requirements. This option also provides preferred parking for carpools or vanpools for 5% of the total parking spaces.

Credit 5.1 Site Development: Protect or Restore Habitat (1 point-attempted): To conserve existing natural areas and restore damaged areas to provide habitat and promote bio-diversity, the project, as a previously developed site, will restore or protect a minimum of 50% of the site (excluding the building footprint) or 20% of the total site area (including the building footprint), whichever is greater, with native or adaptive vegetation.

Credit 5.2 Site Development: Maximize Open Space (1 point-attempted): To promote biodiversity by providing a high ratio of open space to development footprint, this project will invoke Case 2 "Sites with No Local Zoning Requirements" by providing vegetated open space area adjacent to the building that is equal to the building footprint.

Credit 6.1 Storm Water Design: Quantity Control (1 point-might be attempted): The feasibility of attaining this credit will be determined once amore in depth site assessment can be conducted to determine the storm water management features.

Credit 6.2 Storm Water Design: Quality Control (1 point-attempted): To reduce or eliminate water pollution by reducing impervious cover, increasing on-site infiltration, eliminating sources of contaminants, and removing pollutants from stormwater runoff by implementing a stormwater management plan.

Credit 8 Light Pollution Reduction (1 point-attempted): Full cut-off luminaires will be provided for the exterior building and site lighting so as to minimize light trespass and to reduce sky-glow. All interior lighting will be automatically controlled to turn off during non-business hours.

Water Efficiency

Prerequisite 1 Water Use Reduction: The strategy to satisfy the requirements of this prerequisite will be to use ultra low flow and low flow fixtures typically at all locations throughout the facility in excess of the baseline prerequisite requirements. Note that Credit 3 below is also to be attained over and above this prerequisite.

Credit 1 Water Efficient Landscaping – 50% Reduction in Potable Water Use for Landscaping (2 points-attempted): Per the RFP a permanent irrigation system is to be installed for all grass areas around the facility, we are striving to use native planting at all other areas in order to reduce the potable water use for all landscaping to more than a 50% reduction.

Credit 3.1 Water Use Reduction - 30% (2 points-attempted): A 30% reduction from baseline will be designed and provided utilizing low flow 1.28 gallon per flush water closets, 0.5 gpm aerators on lavatory faucets, 0.125 gallon per flush urinals, and 1.5 gpm shower heads.

Energy & Atmosphere

Prerequisite 1 Fundamental Commissioning of the Building Energy Systems: The project is under the 50,000-SF threshold and as such, allows the commissioning authority (CxA) to be a part of the A/E and construction team. Full validation of installation and performance of the applicable systems will be performed. The CxA will lead this review and oversee the completion of the commissioning process that includes reviewing the Owner's Project Requirements (OPR) in this case, the RFP, developing and incorporating the commissioning requirements into the construction documents, developing and implementing a commissioning plan, verifying the installation and performance of the systems to be commissioned for both LEED, and completing a summary commissioning report. Note that the commissioning process shall address the following systems: HVAC systems and associated controls, general lighting controls, refrigeration systems and controls and the domestic hot water systems.

Prerequisite 2 Minimum Energy Performance: Option 1 under this category is applicable. A whole building energy simulation will be conducted in compliance with ASHRAE 90.1-2007 Appendix G to demonstrate at least 10 percent energy efficiency savings against baseline building criteria. Other related credits being pursued in the comprehensive LEED strategy contribute to the overall compliance with energy performance standards. Building envelope systems will be designed to meet baseline requirements as well.

Prerequisite 3 Fundamental Refrigerant Management: All refrigerant utilized on the project shall contain no CFC based material. Zero use of CFC based refrigerants in the building HVAC&R systems will be maintained.

Credit 1 Optimize Energy Performance (10points-attempted): Option 1 under this category is applicable. The completed system, in conjunction with building envelope, HVAC equipment and temperature controls, site orientation, roof overhangs, daylighting, daylighting lighting controls, etc., shall be utilized to provide an overall performance enhancement of 30 percent over baseline building performance referenced in ASHRAE 90.1-2007. A whole building energy simulation will be performed during the Work Plan phase of the project. The building will be designed keeping in mind the importance of energy conservation and usage.

Credit 3 Enhanced Commissioning (2 points-attempted): The project will implement, or have a contract in place to implement the additional commissioning process activities as detailed in the LEED Reference Guide for Green Building Design and Construction, 2009 Edition, page 299.

Credit 4 Enhanced Refrigerant Management (2 points-attempted): Option 2 under this category is applicable. Only approved refrigerants will be utilized in the system. All refrigerants utilized on the project shall contain no CFC based material. The quantity of installed refrigerant charges for refrigerated equipment shall be limited in mass to allow for compliance.

Materials & Resources

Prerequisite 1 Storage and Collection of Recyclables: To facilitate the reduction of waste generated by occupants and visitors to the building, a dedicated area for the collection of

recyclable items shall be designated. Paper, cardboard, glass, plastics, and metals shall be collected and maintained by an ongoing recycling effort by the management of the facility carried out by the Real Estate Manager and/or Onsite Superintendent.

Credit 2 Construction Waste Management (1 point-attempted): To facilitate the effort to divert construction and demolition debris from disposal in landfills, the Contractor shall engage a local waste management company to redirect recyclable materials back into the manufacturing process or for reuse at other sites. The minimum standard is 50% of waste shall be salvaged but this project is seeking to achieve 75%.

Credit 4 Recycled Content (2 points available – 1 point attempted): Materials for use in the building project shall be specified such that the sum of post-consumer recycled content plus ½ of the preconsumer content will constitute at least 10% of the total value of materials included in the project, though we will strive for 20%.

Credit 5 Regional Materials (2 points available – 1 point attempted): Materials are required to be extracted, harvested or recovered within 500 miles of the project site and is calculated by weight. Materials such as asphalt, concrete, steel, rebar, stone veneer, and flooring secured from local vendors or quarries shall contribute heavily towards the intent of this point in addition to other selected items included in the work. Due to the project location (West-Central Georgia) a large portion of the 500 mile radius is either in the Gulf of Mexico or Atlantic Ocean, therefore only one point will be attempted though we will strive to meet 20%.

Credit 7 Certified Wood (1 point-attempted): The use of a minimum of 50% FSC certified wood-based materials and products that are certified in accordance with the Forest Stewardship Council (FSC) that encourage environmentally responsible forest management. To achieve this credit, the use of 50% of wood-based materials and products based on cost. Wood products at a minimum are to include structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes. Certified Wood credit is a mandatory credit requirement.

Indoor Environmental Quality

Prerequisite 1 Minimum IAQ Performance: Case 1 Mechanically Ventilated Spaces under this category are applicable. HVAC mechanical ventilation systems shall be designed based on the ventilation rate procedure in accordance with requirements of ASHRAE Standard 62.1-2007 or per the requirements of the RFP, whichever is more stringent.

Prerequisite 2 Environmental Tobacco Smoke (ETS) Control: Option 1 under this category is applicable. Smoking will be prohibited within the completed facility and restricted to outside a minimum distance of 25 feet from entries, outdoor air intakes and by the incorporation of signage and on-going efforts of the Building Users.

Credit 1 Outdoor Air Delivery Monitoring (1 point-attempted): A permanent outdoor air monitoring system shall be provided for each air handling unit to monitor and control the minimum outdoor air flow rates to the occupied spaces. Additionally, CO2 monitoring shall be

provided for all densely occupied spaces to provide an alert if the system is not functioning properly.

Credit 3.1 Construction IAQ Management Plan, During Construction (1 point-attempted): An Indoor Air Quality Management Plan shall be submitted by the Contractor prior to the onset of construction. All absorptive materials stored and installed on the project site during construction shall be protected from moisture damage. Air filtration shall be employed throughout the duration of construction as applicable. Control measures shall comply with SMACNA Indoor Air Quality Standards.

Credit 3.2 Construction IAQ Management Plan, Before Occupancy (1 point-attempted): Provided the accelerated construction schedule that will be enforced for this project, Option 1b flush-out with early occupancy under this category is applicable. This procedure involves flushing the building with 3,500 cubic feet of outdoor air per square foot of floor area at a designated humidity level and flushing the building a minimum of 3 hours prior to and during occupancy each day until a total of 14,000 cubic feet of outside air has been delivered to the space. This is a mandatory credit requirement.

Credit 4.1 Low-Emitting Materials, Adhesives and Sealants (1 point-attempted): All specified and implemented adhesives and sealants shall contain low VOC (Volatile Organic Compounds) within acceptable limits identified in the South Coast Air Quality Management District Rule 1168 and Green Seal Standard for commercial adhesives.
Credit 4.2 Low-Emitting Materials, Paints and Coatings (1 point-attempted): All specified and implemented paints and coatings shall contain a low VOC (Volatile Organic Compounds) within acceptable limits identified in the South Coast Air Quality Management District Rule 1113 and Green Seal Standard GS-11 and GC-03 for paints.

Credit 4.3 Low-Emitting Materials, Flooring Systems (1 point-attempted): All specified flooring materials shall contain a low VOC (Volatile Organic Compounds) within acceptable limits identified in the South Coast Air Quality Management District Rule 1113 and 1168.

Credit 4.4 Low-Emitting Materials, Composite Wood & Agrifiber Products (1 point-attempted): All specified and implemented products applicable to this category shall contain no added ureaformaldehyde resins. Products subject to this requirement would include particle board, plywood, panel substrates and door cores, etc.

Credit 5 Indoor Chemical and Pollutant Source Control (1 point-attempted): Permanent walk-off mats at entry points into the building shall be utilized to help control particulates from entering the facility. Filters shall be installed in the HVAC systems with a minimum MERV 13 rating to filter all return air and outdoor air that is delivered as supply air to the occupied spaces. Hazardous liquid wastes or gases are not anticipated for use in this facility.

Credit 6.1 Controllability of Systems: Lighting (1 point-attempted): Individual lighting controls will be provided for a minimum of 90% of the building occupants to enable adjustment to suit task needs and preferences.

Credit 6.2 Controllability of Systems: Thermal Comfort (1 point-attempted): Individual thermal comfort controls will be provided for a minimum of 50% of the building occupants to enable adjustment to suit task needs and preferences.

Credit 7.1 Thermal Comfort, Design (1 point-attempted): HVAC systems to be provided for the building will meet the requirements of ASHRAE 55-2004. An active mechanical ventilation system shall be incorporated to maintain an acceptable thermal environment level for the building occupants and provide a comfortable space that promotes productivity and well-being.

Innovation & Design Processes

Credit 1.1 through 1.5 Innovation in Design (5 point-might be attempted): Innovation in Design and Exemplary Performance credits will be identified throughout the design and construction phases of the project.

Credit 2 LEED Accredited Professional (1 point): A LEED Accredited manager will be assigned to the project. The LEED manager has successfully attained the LEED Accredited Professional Credential through the USGBC.

Regional Priority

Credit 1 through 4 Regional Priority (4 point-might be attempted): Innovation in Design and Exemplary Performance credits will be identified throughout the design and construction phases of the project.

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APPENDIX D

NOTIFICATION AND DISTRIBUTION LIST

The following provides the distribution list for the NOA of the Final EA and Draft FNSI.

I. ELECTED AND APPOINTED GOVERNMENT OFFICIALS

Mayor Teresa Tomlinson
100 10th Street, Six Floor
Government Center Tower
Columbus, GA 31901

Office of the Governor
203 Georgia State Capitol
Atlanta, GA 30334

Mayor Sonny Coulter
601 12th Street
Phenix City, AL 36867

Russell County Commission
1000 Broad Street
Phenix City, AL 36867

Senator Johnny Isakson
131 Russell Senate Office Bldg.
Washington, DC 20510

Senator Saxby Chambliss
416 Russell Senate Office Bldg.
Washington, DC 20510

Georgia – 2nd District
2429 Rayburn HOB
Washington, DC 20515

State Senate District 15
P.O. Box 1292
Columbus, GA 31902

State Senate District 29
P.O. Box 2565
Columbus, GA 31902

Chattahoochee County
County Manager
P.O. Box 299
Cusseta, GA 31805-0299

II. LOCAL and REGIONAL ADMINISTRATORS, FEDERAL AGENCIES, or COMMISSIONS WITH REGULATORY INTEREST IN FORT BENNING.

* U.S. Fish & Wildlife Service
P.O. Box 52560
Fort Benning, GA 31905

* Georgia State Clearinghouse
270 Washington Street SW,
8th Floor
Atlanta, GA 30334

* GA DNR, EPD
2 Martin Luther King Jr. Drive, SE
Suite 1152 East
Atlanta, GA 30334

* USACE, Albany Field District
1104 North Westover Road
Albany, GA 31707

USDI, Office of Environmental Policy & Compliance
1849 C Street NW (MS 2462)
Washington, DC 20240

* Savannah District USACE
P.O. Box 889
Savannah, GA 31402

GA DNR, Historic Preservation
254 Washington Street SW
Ground Level
Atlanta, GA 30334

* U.S. EPA Region IV
61 Forsyth Street SW
Atlanta, GA 30303

GSWCC, Region 5
4344 Albany Highway
Dawson, GA 39842

Columbus Planning Division
420 10th Street; Suite 2
Columbus, GA 31901

III. CITIZEN ADVISORY GROUPS and LOCAL INTEREST GROUPS OR PERSONS

The Nature Conservancy
Chattahoochee Fall Line Office
P.O. Box 52452
Columbus, GA 31905

The Valley Partnership
P.O. Box 1200
Columbus, GA 31902

Columbus Chamber of Commerce
1200 6th Avenue
Columbus, GA 31902

Southern Environmental Law Center
127 Peachtree Street
Suite 605
Atlanta, GA 30303-1840

Chamber of Commerce
Phenix City – Russell County
1107 Broad Street
Phenix City, AL 36867

Columbus Consolidated Govt.
Planning Division
10th Street; 6th Floor
Government Center Tower
Columbus, GA 31901

IV. Native American Tribal Representatives

* Ms. Augustine Asbury
Cultural Preservation Officer
Alabama/Quassarte Tribe of OK
P.O. Box 187
Wetumka, OK 74880

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

* Ms. Gingy Nail
Director of Cultural Resources
Chickasaw Nation
P.O. Box 1548
Ada, OK 74820

* Mr. Henry Harjo
Representative
Kialegee Tribal Town
P.O. Box 332
Wetumka, OK 74883

* Mr. Robert Thrower
Tribal Historic Preservation Officer
Poarch Band of Creek Indians
5811 Jack Springs Road
Atmore, AL 36502

* Ms. Natalie Deere
Historic Preservation Officer
Seminole Nation of Oklahoma
P.O. Box 1498
Wewoka, OK 74884

* Mr. Ken Carlton
Tribal Historic Preservation Officer
Mississippi Band of Choctaw Indians
P.O. Box 6010
Choctaw, MS 39350

* Mr. Willard Steele
Deputy Tribal Historic Pres. Officer
Seminole Tribe of Florida
AH-THA-THI-KI Museum
HC 61, Box 21A
Clewiston, FL 33440

* Mr. Tim Isham
Cultural Preservation Officer
Muscogee (Creek) Nation of OK
P.O. Box 580
Okmulgee, OK 74447

* Ms. Lisa LaRue
Representative
United Keetoowah Band of the Cherokee Indians
P.O. Box 746
Tahlequah, OK 74465

* Mr. Charles Coleman
Representative
Thlopthlocco Tribal Town
P.O. Box 188
Okemah, OK 74859

V. Army Offices

Installation Management Command
Atlantic Region
705 Washington Blvd, West Wing
Ft. Eustis, VA 23604

HQ FORSCOM
NEPA Manager
AFEN-ENE
1777 Hardee Avenue NW
Fort McPherson, GA 30330

TRADOC OCG
Commanding General
7 Fenwick Road
Fort Monroe, VA 23651

Office of the TRADOC Engineer
5B North Gate Road
Fort Monroe, VA 23651

MG Robert B. Brown
MCoE Commanding General
Maneuver Center of Excellence
1 Karker Street
Fort Benning, GA 31905-5000

COL Jeffery Fletcher
Garrison Commander
Maneuver Center of Excellence
1 Karker Street
Fort Benning, GA 31905-5000

Deputy CG/Assistant Commandant
1 Karker Street
Fort Benning, GA 31905-5000

Office of the Staff Judge Advocate
6450 Way Street
Bldg. 2839
Fort Benning, GA 31905

COL Walter E. Piatt
Infantry Commandant
1 Karker Street
Fort Benning, GA 31905-5000

COL (P) Thomas S. James
Armor School Commandant
1 Karker Street
Fort Benning, GA 31905-5000

VI. LOCAL NEWS, MEDIA and LIBRARIES

Columbus Ledger-Enquirer
17 West 12th Street
Columbus, GA 31901

The Bayonet
Public Affairs Office
35 Ridgeway Loop; Suite 381
Fort Benning, GA 31905

Stewart Webster Journal Patriot-Citizen
P.O. Box 250
Richland, GA 31825

Tri-County Journal &
Chattahoochee Chronicle
P.O. Box 850
Buena Vista, GA 31803

** Fort Benning Main Post Library
93 Wold Avenue; Bldg. 93
Fort Benning, GA 31905

** South Columbus Branch Library
2034 South Lumpkin Road
Columbus, GA 31903

** Columbus Public Library
3000 Macon Road
Columbus, GA 31906

** Cusseta-Chattahoochee Public Library
262 Broad Street
Cusseta, GA 31805

** Phenix City – Russell County Public Library
1501 17th Avenue
Phenix City, AL 36867

** North Columbus Branch Library
5689 Armour Road
Columbus, GA 31909