Environmental Assessment for 362nd Engineer Multi-Role Bridge Company Establishment at Fort Benning, Georgia

U.S. Army Infantry Center
Fort Benning, Georgia

and

U.S. Army Corps of Engineers
Fort Worth District, Texas

October 2005

Environmental Assessment

of the

362nd Engineer Multi-Role Bridge Company

Establishment

Fort Benning, Georgia

APPROVED BY: _____ Date: 8 Sept 05

~~CRAIG TAYLOR~~
Acting Director of Public Works
Fort Benning

Environmental Assessment
362nd Engineer Multi-Role Bridge Company
Establishment at Fort Benning, Georgia

Prepared for
U.S. Army Infantry Center
Fort Benning, Georgia

Under the Direction of
U.S. Army Corps of Engineers, Fort Worth District
DACA63-03-D-0008 #0028
Fort Worth, Texas

Prepared by
TEC Inc.

October 2005

Environmental Assessment for 362nd Engineer Multi-Role Bridge Company Establishment Fort Benning, Georgia

Lead Agency:	U.S. Army Infantry Center, Fort Benning, Georgia
Title of the Proposed Action:	362nd Engineer Multi-Role Bridge Company Establishment
Affected Jurisdictions:	State of Georgia, Chattahoochee and Muscogee Counties State of Alabama, Russell County
Prepared by:	United States Army Infantry Center Fort Benning, Georgia
Recommended for Approval by:	Mr. John J. Brent Chief, Environmental Management Division Fort Benning
Contact Person for EA:	Mr. John E. Brown NEPA Program Manager Meloy Hall (Building 6), Room 310 Fort Benning, GA 31905-5122 706-545-4211

ABSTRACT

As part of its transformation efforts, the Army proposes to establish facility and training support for the stationing of the 362nd Engineer Multi-Role Bridge Company at Fort Benning, Georgia. The proposal includes an addition of 142 military personnel to the existing 36th Engineer Group, maintenance facilities and storage capacity for about 200 pieces of bridge-building and rafting equipment, administrative and infrastructure improvements at existing facilities, and identification of areas for bridge construction and rafting training. Training for combat readiness would include dry span, still water, fast water, and helicopter transport. These would be accomplished within Fort Benning boundaries at existing ranges, ponds, and along/on the Chattahoochee River in both Georgia and Alabama.

This environmental assessment analyzes the proposed action to establish areas to support administration, operations, maintenance, and training at Fort Benning, Georgia and Alabama. The preferred alternative would provide dry span, still water, fast water, and helicopter transport training at Fort Benning. An alternative would be to conduct only dry span and still water training. The no-action alternative is also analyzed whereby the Multi-Role Bridge Company would be established at Fort Benning but would conduct all training at other locations that already experience this type of training. However, the exact location has yet to be determined and would need to be identified if the no-action alternative were chosen and appropriate environmental documentation would be conducted. The natural and human environment topics are listed in Table ES-1. With implementation of best management practices and mitigation measures identified in this EA, no significant impacts were identified during the impact assessment. Cumulative impacts also are analyzed in the EA.

FINDING OF NO SIGNIFICANT IMPACT

1.0 INTRODUCTION

The United States Army prepared an environmental assessment (EA) to identify and evaluate potential environmental effects from establishing a Multi-Role Bridge Company (MRBC) at Fort Benning, Georgia and Alabama. The EA was prepared in accordance with the National Environmental Policy Act, the Council on Environmental Quality Regulations 40 Code of Federal Regulations (CFR) Part 1500-1508 and 32 CFR Part 651 (*Environmental Analysis of Army Actions*).

2.0 DESCRIPTION OF THE PROPOSED ACTION

The proposed action consists of providing facilities and training at Fort Benning in support of the MRBC mission to assemble bridges in combat situations. This mission includes training, operating, and maintaining the bridging equipment and the associated sites and facilities needed to support these training, operational, and maintenance activities. The Army proposes to establish facility and training support that would add 142 military personnel to the existing 36th Engineer Group and improve existing administrative, maintenance, and motor pool facilities to support an additional 200 pieces of bridge-assembly and rafting equipment, and training areas to support bridging and rafting operations. Proposed training would include assembly of temporary (float and/or fixed) bridges over a dry span, still water, fast water, and include practice with helicopter transport of bridge equipment and bridging protection exercise with training ordnance. This training would be accomplished within Fort Benning boundaries at existing training areas and ranges (dry span), ponds (still water), at previously disturbed sites along/on the Chattahoochee River (fast water) in both Georgia and Alabama, and helicopter transport during fast water training at Lawson Army Airfield to the landing sites along the Chattahoochee River.

Other NEPA documents that are related, but not part of the scope of this EA include the Programmatic Environmental Impact Statement for Army Transformation addressing transformation of the Army to adapt to 21st century military demands.

3.0 DESCRIPTION OF THE ALTERNATIVES

Proposed action alternatives were developed as part of the planning process and include:

Alternative A (preferred alternative): Under the preferred alternative, the MRBC would:

- use existing facilities at the 36th Engineer Group (ENG GRP) and Installation barracks and housing;
- share but upgrade and improve the current 36th ENG GRP wash rack and maintenance bays;
- construct two new maintenance bays;
- pave with concrete the existing gravel parking area at the rear of the 36th ENG GRP motor pool for equipment storage;
- conduct dry span and still water training within the existing ranges/training areas and at ponds within the training areas that meet the size and operational needs provided above;
- undertake fast water training at Engineer and Bradley Landings which also includes rafting and bridge protection training; and
- practice helicopter transport within Fort Benning boundaries at Lawson Army Airfield and at Engineer and Bradley Landings.

Alternative B: Under this alternative, the MRBC would conduct all administrative tasks, maintenance, equipment storage, and dry span and still water training as presented under Preferred Alternative A.

However, no fast water training (including bridge protection and helicopter transport) would occur at Fort Benning.

Alternative C (no action): For the no-action alternative, the MRBC would stand-up at Fort Benning but no facilities (i.e., maintenance bays and concrete pavement at the motor pool) would be constructed to support their stationing. All training (dry span, still water, fast water, and helicopter transport) would occur at other locations in the United States that have yet to be identified. If this alternative were chosen, the training locations would be identified and the appropriate environmental analysis and documentation conducted.

4.0 ANTICIPATED ENVIRONMENTAL EFFECTS

The analysis contained in this EA indicates that Alternative A would have minor adverse effects at Fort Benning because of the inclusiveness of all types of training: dry span, still water, fast water, and helicopter transport. The EA indicates that with adherence to applicable environmental laws and regulations and implementation of mitigation, no significant adverse environmental impacts would result from the proposed action as implemented by any of the Alternatives A, B, or C. This determination is based on the following findings:

- The action alternatives would not adversely affect any threatened or endangered species potentially occurring in the project area; however, RCW habitat analysis would be conducted in conjunction with the design at the fast water training site for Alternative A.
- The action alternatives would not adversely affect cultural resources, assuming construction and training would avoid cultural resources sites.
- The action alternatives would result in no effects to air quality.
- The action alternatives would not adversely affect wetlands, though mitigation measures would be needed for potentially-impacted streambanks along the Chattahoochee River for Alternative A.
- Mitigation measures would minimize the potential adverse effects to soils and water quality that may result from ground disturbance.
- No unacceptable adverse cumulative or secondary impacts would result from implementing the proposed action through Alternatives A or B.

In accordance with 32 CFR 651.15, the Army must indicate if any mitigation measures would be needed to implement the proposed action or any alternative selected as the preferred alternative under this environmental assessment. For purposes of this EA, it was determined that mitigation measures would be needed to arrive at a finding of no significant impact as specified in the EA, which is hereby incorporated by reference. Any future changes must be submitted on a Fort Benning form 144-R to the Fort Benning Environmental Management Division (EMD) and environmental concurrence received at least 2 weeks in advance of implementation prior to initiating any planned project changes. Unplanned project changes must also be submitted in this manner as soon as practical, after the fact, to the EMD.

5.0 PUBLIC AVAILABILITY

a. The EA and draft Finding of No Significant Impact (FNSI) for the proposed action were available for a public review period of 30 days starting from the first day of publication in *The Columbus Ledger-Enquirer*, in accordance with 40 CFR Part 1501.4 (e)(1) and Army Regulation 200-2 (as promulgated in 32 CFR 651.36). These documents were available at the W.C. Bradley Memorial Library, South Lumpkin Library, Fort Benning Main Post Library, and at the Installation website: http://www.benning.army.mil/EMd/ program mgt/legal/index.htm. A notice of availability (NOA) of the EA and draft FNSI was mailed to all agencies/individuals/ organizations on the

distribution (mailing) list for the proposed action and was also posted at the Uchee Creek Recreation Area.

b. Summary of Public Comments:
   - On 16 September 2005, the Georgia State Clearinghouse (GSC) sent a letter confirming receipt of the EA and draft FNSI and that the documents would be forwarded, through them, for the appropriate state-level reviews.
   - On 6 October 2005, the GSC sent an additional letter confirming that its initiated state-level reviews had been completed. This review was confirmed via attached letters from the Georgia Department of Natural Resources, Hazardous Waste Management Branch, and the Georgia Environmental Protection Division (EPD)-Floodplain Management Branch. Both indicated that the EA was "consistent with state and regional goals" and was therefore an approved action.

6.0 CONCLUSION

Based on review of the information contained in this EA, I have determined that implementation of Alternative A is the best course of action, providing the facilities and full range of required training for the MRBC. While Alternative B provides some training, it would not provide the MRBC with the training required to maintain their combat readiness. Alternative C would result in the least environmental impacts, but would provide neither the required facilities nor training. Therefore, I have determined that the establishment of the MRBC at Fort Benning would not result in significant potential environmental impacts. Accordingly, the preparation of an Environmental Impact Statement (EIS) is not required.

FINDING OF NO SIGNIFICANT IMPACT
REVIEWED AND APPROVED BY:

10-31-05
Date

Ricardo R. Riera
Colonel, IN
Garrison Commander

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Environmental Assessment (EA) provides an analysis of the effects on the natural and human environment that would result from the establishment of the 362nd Engineer Multi-Role Bridge Company (MRBC) personnel, administrative functions, maintenance, equipment storage, and training operations at Fort Benning in Georgia and Alabama.

The Army intends to establish facility and training support that would include an addition of 142 military personnel to the existing 36th Engineer Group, administrative and infrastructure improvements at existing facilities, maintenance and storage facilities to support an additional 200 pieces of bridge-building and rafting equipment, and training areas to support bridging and rafting operations. Proposed training would include dry span, still water, fast water, and helicopter transport. These would be accomplished within Fort Benning boundaries at existing ranges (dry span), ponds (still water), at previously disturbed sites along/on the Chattahoochee River (fast water) in both Georgia and Alabama, and helicopter transport during fast water training at Lawson Army Airfield to the landing sites along the Chattahoochee River.

Three alternatives and their respective primary environmental effects are considered in this document, as described below. Table ES-1 presents a summary comparison of potential impacts among the alternatives. As this table demonstrates, minor impacts would result.

Table ES-1 Comparative Summary of Impacts			
Resource	***Level of Impacts by Alternative***		
	Alternative A	*Alternative B*	*No Action*
Natural Environment			
Soils	Minor Adverse	Minor Adverse	None
Water Quality	Short-term Moderate Adverse	Minor Adverse	Minor Adverse
Biological Resources	Minor Adverse to RCW Foraging Habitat	Minor Adverse	None
Human Environment			
Land Use	None	None	None
Recreation Resources	Temporary Minor Adverse to boating and fishing	None	None
Socioeconomics and Environmental Justice	Minor Beneficial (employment) None (Environmental Justice)	Minor Beneficial (employment) None (Environmental Justice)	Minor Beneficial (employment) None (Environmental Justice)
Cultural Resources	None	None	None
Hazardous Materials and Waste	None	None	None
Air Quality	None	None	None
Transportation	None	None	None
Utilities	None	None	None
Public Health and Safety	None	None	None
Noise	None	None	None
Protection of Children	None	None	None
Visual Resources	None	None	None

Alternative A (Preferred Alternative)

Under the preferred alternative, the MRBC would:

- use existing facilities at the 36th Engineer Group (ENG GRP) and Installation barracks and housing;
- share but upgrade and improve the current 36th ENG GRP wash rack and maintenance bays;
- construct two new maintenance bays;
- pave with concrete the existing gravel parking area at the rear of the 36th ENG GRP for equipment storage;
- conduct dry span and still water training within the existing ranges and training areas at ponds that meet the size and operational needs of the 362nd MRBC;
- undertake fast water training at Engineer and Bradley Landings which also includes rafting and bridging protection training; and
- practice helicopter transport within Fort Benning boundaries from Lawson Army Airfield to Engineer and Bradley Landings.

Alternative B

Under this alternative, the MRBC would conduct all administrative tasks, maintenance, equipment storage, and dry span and still water training as presented under Preferred Alternative A. However, no fast water training (including bridge protection and helicopter transport) would occur at Fort Benning.

Alternative C (No Action)

For the no-action alternative, the MRBC would stand-up at Fort Benning but would conduct all training at other locations in the United States, that have yet to be identified. If this alternative were chosen, the training locations will be identified and the appropriate level of environmental documentation conducted.

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CHAPTER 1

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

In October 1999, the Secretary of the Army and the Chief of Staff of the Army articulated a multi-phased plan to transform the Army over a 30-year period to adapt to the warfare challenges emerging in the 21st century. The ability to respond to different types of military operations includes the need to react quickly and to be more deployable, agile, versatile, lethal, survivable, and sustainable. By 2007, the Army expects to have created a modular Army by divesting Cold War headquarters and structures, transitioning from a Division-based force to a Brigade-based force, and restructuring the Reserves (Roosevelt 2004). The proposal to transform the Army to adapt to 21st century military demands has been addressed in a Programmatic Environmental Impact Statement (EIS) prepared by the U.S. Army Corps of Engineers, Mobile District in 2002 (USACE 2002). Stationing decisions, including the establishment of the 362nd Engineer Multi-Role Bridge Company (MRBC) at Fort Benning, are addressed in that Transformation Programmatic EIS. In this EA, the analysis focuses on providing the facilities and training areas to support the establishment of the 362nd MRBC at Fort Benning.

1.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

A Multi-Role Bridge Company is an engineer unit for the placement and erection of bridges for troop and materiel movement in battlefield situations. As part of the transformation efforts, the Army is stationing the 362nd MRBC at Fort Benning (Figure 1) for the purposes of bridge-assembly and rafting training (including operating and maintaining all bridge assembly equipment) and combat readiness (i.e., ability to transport and assemble bridges in still and fast water conditions). Therefore, the purpose of the proposed action is to provide the facilities and training areas to support the 362nd MRBC at Fort Benning. The need for the proposed action is to ensure the MRBC is ready to assemble bridges in combat situations.

In military terms, the purpose of any river crossing is to project combat power across a water obstacle in order to accomplish the mission. Transporting, preparing, and training for emplacement of these temporary bridge crossings or rafting equipment is mission essential. Specific procedures are required because water obstacles and/or river crossings prevent normal ground movement of troops, supplies, and equipment in combat situations. Bridge assembly also requires detailed planning and control measures to prevent the loss of troops and combat equipment. The challenge is to minimize the water obstacle's impact on the commander's ability to maneuver. To achieve this takes practice and training. Fort Benning offers the right conditions and proximity to troops and equipment to affect good practices that would be needed under combat conditions.

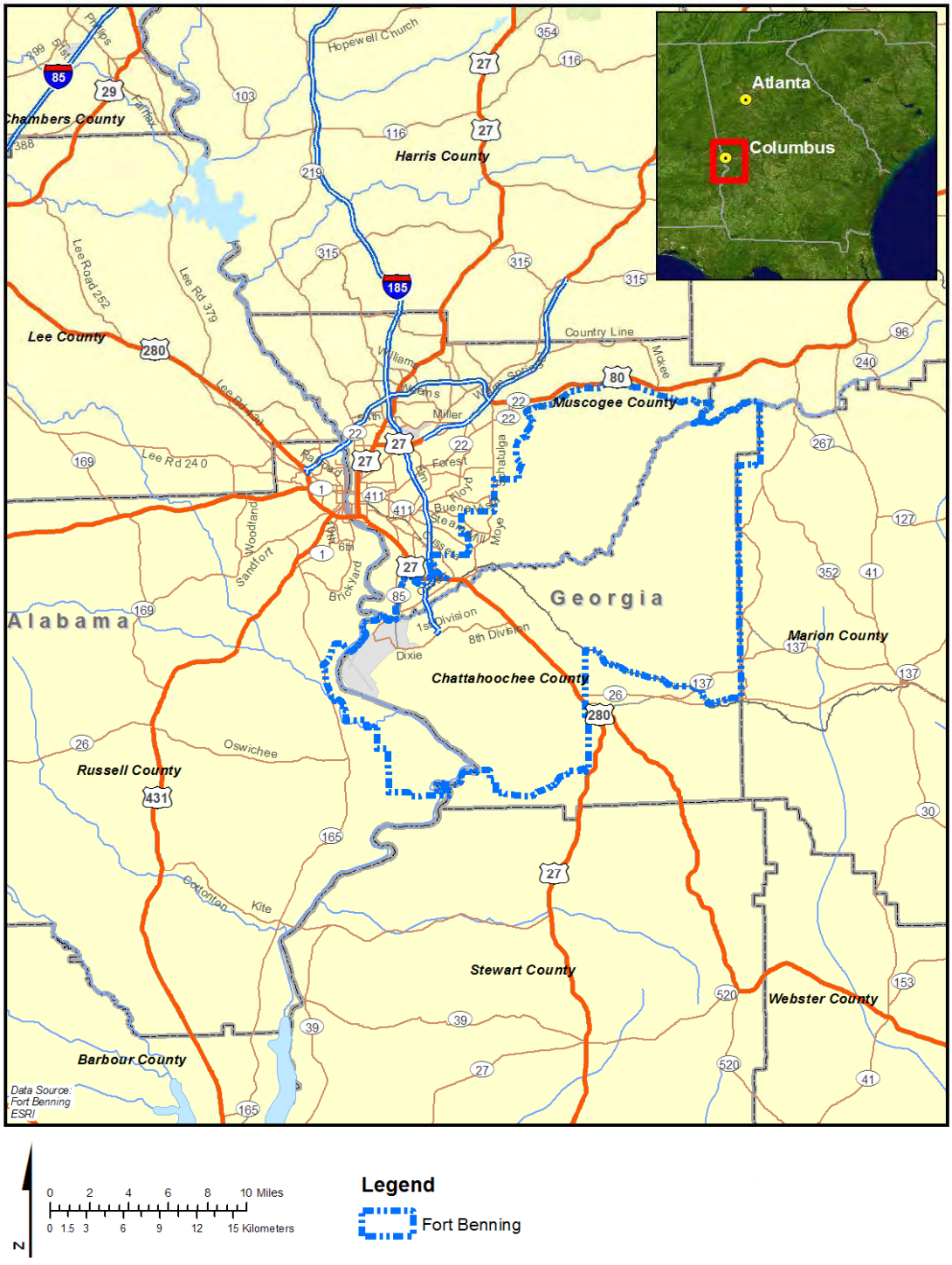

Figure 1-1 Project Vicinity

Fort Benning has supported similar bridge-building training in the past, the latest known training occurred in 1997 (Brown 2005). Two sites along the Chattahoochee River were previously used for bridge assembly practice and helicopter transport training and are intended to be used again for fast-water training (including helicopter transport training); for still water and dry bridging training, all activities

would be located in existing training areas and/or ranges. Helicopter transport training would be supported from Lawson Army Airfield to the landing sites along the Chattahoochee River and combat training (small arms with blanks and simulated grenade launching) would occur at Engineer and Bradley Landings. All proposed training activities will be addressed in this Environmental Assessment (EA). All proposed activities would occur within Fort Benning boundaries, training areas, ranges, and airfields, and be located according to mission compatibility with existing activities in these training areas and ranges. In other words, all transport, bridging, and rafting activities would occur in areas with existing levels of disturbance and approved for such activities.

1.3 ENVIRONMENTAL COMPLIANCE AND DECISION TO BE MADE

Fort Benning is preparing this EA to identify, evaluate, and compare the potential environmental effects of establishing the 362nd MRBC personnel, operations, and training at Fort Benning's existing and improved facilities, ranges, and training areas. This EA is prepared in accordance with the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) regulations that implement NEPA; and 32 Code of Federal Regulations (CFR) Part 651 (Army Regulation 200-2, *Environmental Effects of Army Actions*). NEPA is implemented by CEQ regulations contained in Title 40, CFR Parts 1500 to 1508. In general, the CEQ regulations require that prior to implementing any major action, the Federal agency must evaluate the proposal's potential environmental effect as well as notify and involve the public in the agency's decision-making process (Appendix A provides the distribution list of the EA and Appendix B provides a copy of the public involvement plan associated with this proposal).

This EA identifies the potential environmental effects of the alternatives, and contains discussions of any mitigation and permit requirements, and findings and conclusions in accordance with NEPA. Such information provides the basis for the agency to determine whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact (FNSI).

The use of the term "significant" (and derivations thereof) in this EA is consistent with the definition and guidelines provided in the CEQ regulations (40 CFR 1508.27), which require consideration of both the context and intensity of impacts.

The agency proponent for this activity is the U.S. Army 36th Engineer Group (36th ENG GRP). The 36th ENG GRP is located at Fort Benning.

CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the project alternatives being considered as well as those eliminated from detailed consideration.

2.1 PROPOSED ACTION

The proposed action is to provide training, upgrades to existing facilities, and new construction, as needed, at Fort Benning in support of the 362nd MRBC mission to assemble bridges in combat situations. This mission includes training, operating, and maintaining the bridging equipment and the associated sites and facilities needed to support these training, operational, and maintenance activities. The proposed action would establish the 362nd MRBC at Fort Benning, Georgia (GA) and include providing training areas and facilities in support of their mission within Fort Benning boundaries in GA and Alabama (AL). Training activities in support of the 362nd MRBC mission include:

- bridge assembly under dry conditions during the first phase of bridge assembly training;
- the second phase of training on still water (i.e., ponds); and
- training over fast water in the form of a river that would constitute the final phase of water obstacle training.

Transporting bridge components also constitutes part of the overall MRBC training and includes both land and air transport. Heavy duty trucks and helicopters (using Chinooks C-47s) is also an important factor for both land- and air-based bridge assembly training. Another facet of the mission is training Soldiers to provide protection during bridge assembly, under combat situations. This includes small arms (with blanks), grenade simulators, star clusters (a hand-held, ground launched pyrotechnic used for signaling, illuminating, and obscuring), parachute flares, and artillery simulators; these activities would be conducted and occur around and along the fast water crossing areas (Zambrano 2005). It is assumed that all training would occur during daylight hours; if it is decided that nighttime training is required then a Fort Benning 144-R form and proper NEPA documentation would be needed and undertaken at that time prior to any nighttime training.

The proposal would involve the following elements to meet the 362nd MRBC training mission:

Personnel. The 362nd MRBC would total 183 personnel. Currently, the 36th ENG GRP has 41 personnel, with the additional 142 personnel coming from locations in Korea and across the United States. An MRBC is usually assigned to a corps and normally task-organized to a corps or divisional engineer battalion, or in the case of the 362nd Engineer Company, a combat engineer group (the 36th ENG GRP) to support bridging operations. The 362nd MRBC has the mission to provide personnel and equipment to transport, assemble, disassemble, retrieve, and maintain all standard U.S. Army bridging systems, and to

provide transportation of palletized loading system (PLS) configured cargo. The MRBC is organized with a company headquarters, two bridge platoons, and a support platoon. Each bridge platoon has two bridge sections and a support section. The bridge sections contain the primary equipment for assault float bridge (Ribbon) operations. The support section contains the primary equipment for fixed bridge operations. The support platoon has a maintenance section, equipment section, park section, and mess section. During river and gap crossing operations the MRBC may function as a single entity, or could be tasked and organized into several sections spread across the division and corps area.

Administration and Infrastructure. 362nd MRBC administrative functions would be collocated within the existing 36th ENG GRP facilities (buildings 2920, 2921, 2922, 2923, and 2925) on the Installation. The Motor Pool would be placed at the back of the existing maintenance bays in the gravel area adjacent to building 2025. Approximately 2.5 acres of the existing gravel would be hardened with reinforced concrete to accommodate the required equipment (Figure 2-1).

Proposed Motor Pool Location

Existing Maintenance Bays

As an initial work around, the 362nd MRBC would use six of the existing vehicle maintenance bays with internal improvements/upgrades, but two new maintenance bays would be required to adequately meet the maintenance needs of the 362nd MRBC. These maintenance bays would be constructed adjacent to existing facilities (building 2920) within the 36th ENG GRP compound (see picture to the left). The 362nd MRBC would use the existing wash rack with internal improvements/upgrades to accommodate their equipment. Exact numbers of Soldiers choosing on-post or off-post housing is only determined once the Soldiers arrive at Fort Benning (Kendrick 2005), however, there is sufficient space both on post and off to accommodate the 143 increase in Soldiers under this proposed action.

Equipment. At level of organization 1 (ALO 1) the unit is capable of performing temporary fixed and float bridge operations. For fixed bridging, the unit has four heavy dry support sets with sufficient components for the assembly of various spans and load classes of single- and double-story bridges. Under normal conditions the sets provide four, 40- to 48-meter spans, Class 80 bridges (tracked vehicles). When the unit performs float bridging (i.e., Ribbon Bridge) it provides approximately 213 meters of Class

75 (tanks) and Class 96 (wheeled vehicles) of float bridge, or six rafts of Class 75 and Class 96 based on a 0 to 3 feet per second stream velocity. The unit also provides technical advice and assistance to other organizations in the construction of standard U.S. Army bridging systems.

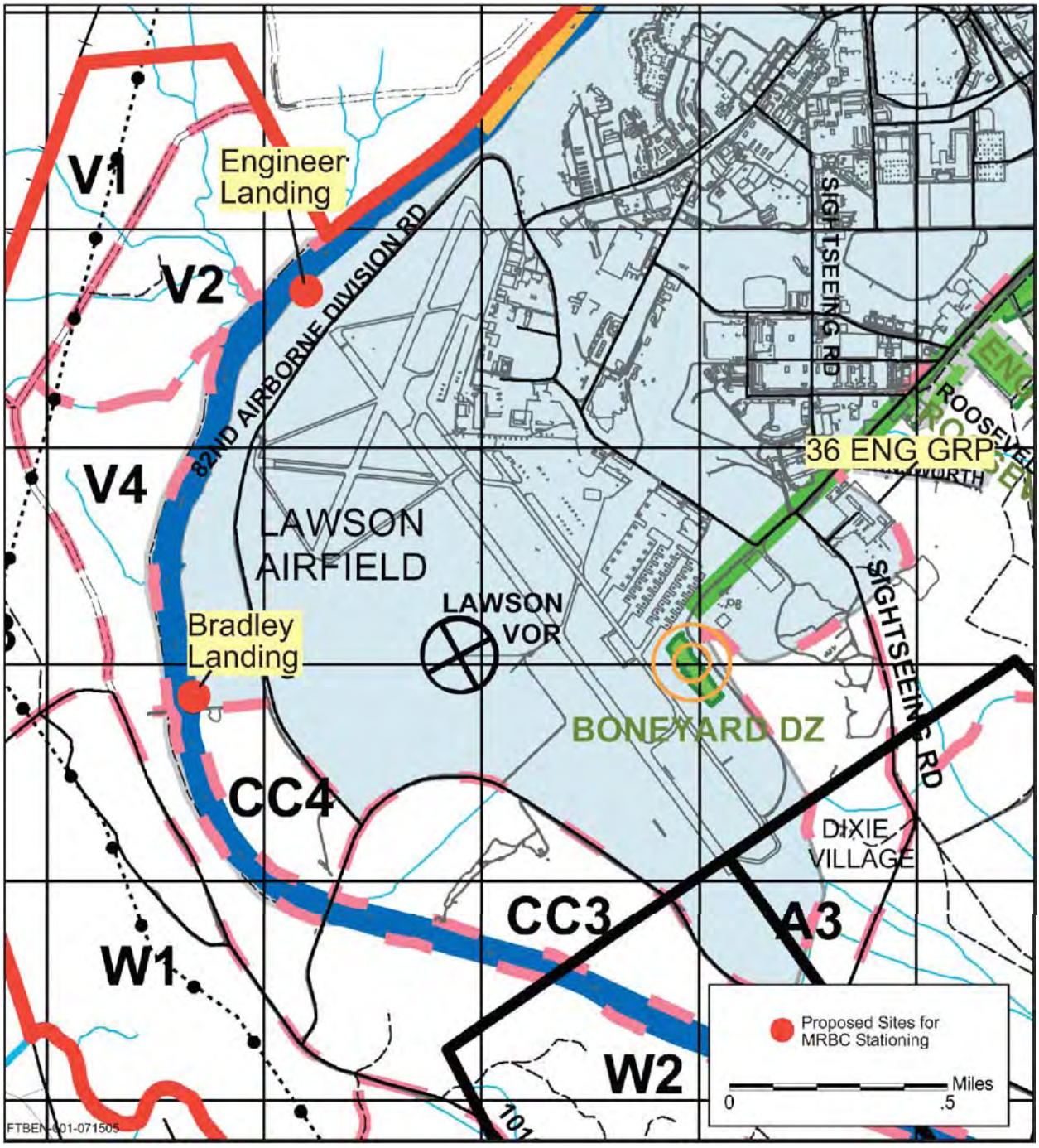

Figure 2-1 Proposed Action Regional Vicinity for Fast Water Training

The major equipment accorded an MRBC from the U.S. Army Table of Operations and Equipment (TOE) is as follows:

30 Interior Floating Bays
12 Ramp Floating Bays
4 Heavy, Dry Support Bridge (HDSB)
4 Heavy, Dry Support Launch
14 Improved Boat Cradles
14 Bridge Erection Boats
56 Common Bridge Transporters (CBT) (32 are Palletized Loading System Trailers (PLST))
32 Palletized Loading System Flat Racks
44 Bridge Adapter Pallets
1 Bulldozer (D7)
3 Bobcats
1 Small Equipment Excavators
1 Crane (25 ton)
2 Heavy Expanded Mobility Tactical Trucks (HEMTT)
2 High-Mobility Multipurpose Wheeled Vehicles (HUMVEES), 1 ¼ ton truck
6 Light Medium Tactical Vehicles (LMTVs)
2 Family of Medium Tactical Vehicles (FMTVs)
2 M920s (truck tractor Medium Equipment Transporter)
2 M870 Semi-trailers

Training. To meet the 362nd MRBC mission, four types of training are required, as identified in Field Manual (FM) 90-13 (Marine Corps Warfighting Publication [MCWP] 3-17.1) *River-Crossing Operations*, and Training Circular (TC) 5-210, *Military Float Bridging Equipment*: 1) dry span, 2) still water, 3) fast water, and 4) helicopter transport. To meet these mission needs the following were identified:

1. *Dry Span*: Site needed to support practice bridge construction. A gap between "banks" of less than 40 meters is needed, with a rise of no more than 4 meters per opposing bank. No specific slopes are needed and could use a creek but a dry area is just as useful. Less than an acre would be needed to support this practice training. Typical approaches to launch sites involve tactical and support vehicle ground approaches on existing roadways to the extent available. This training activity would occur about six to ten times per year for a day each; conservatively, up to 2 acres would be required to construct the dry span launch and exit sites, equipment staging areas, and potential access roads.
2. *Still Water*: Sites for both bridge entry and exit on a pond for practice training. An area of approximately 100 meters (50 meters either side of centerline) by 30 meters deep (3,000 square meters or about 1 acre) would be required for the launch and exit sites and another 1 acre would need to be improved (graveled and stabilized) for equipment staging and access.

Rafting operations would take place on the water and less than 250 meters of water would be needed for a full closure bridge. This training activity would occur about six to ten times per year for a day each. For training, typical approaches to launch sites involve tactical and support vehicle ground approaches on existing roadways to the extent available.

3. *Fast Water*: Sites for both bridge entry and exit along the river with moving water for practice and combat training. An area of approximately 100 meters (50 meters either side of centerline) wide by 30 meters deep would need to be improved (graveled and stabilized) for equipment placement and bridge construction training. An Engineer Equipment Park (EEP) (sized to accommodate the bridging and rafting transport equipment) is also required and would be approximately 2 to 4 acres in size, graveled, and located near the launch site. The 362nd MRBC would do fast-water training about six to ten times per year for a day each. In addition to bridging and rafting, bridge protection and defense practice by Soldiers would occur in the same area.
4. *Helicopter Transport*: Training also occurs with helicopters to transport equipment to the proposed Engineer and Bradley landing sites. The Heavy Dry-Support Bridge (HDSB) is transportable by a CH-47 Chinook helicopter and the existing helicopter landing zones (LZs) would be used at Lawson Army Airfield. For approximately 4 days per year (Zambrano 2005), the HDSB would be lifted by four Chinooks from Lawson Army Airfield and moved to the proposed fast water launch sites (Engineer and/or Bradley Landings) to practice off-loading equipment and Soldiers from helicopters. Landing zones for helicopter transport training would not be required at any of the landing sites.

Site Selection Criteria. Based on the four elements of training activity required, site selection parameters were used to ascertain the better areas on Fort Benning to conduct training. While little written historical information is available that describes the previous bridge engineering activities that occurred in the subject areas at Fort Benning, what is known is that Engineer and Bradley Landings were used for similar activities up until 2001 (Weekly 2005; Kendrick 2005) and helicopter lift operations of similar bridge building equipment have occurred at Lawson Army Airfield and Engineer and Bradley Landing sites up until about 2001 (Sigmon 2005). Existing shoreline conditions, especially at Bradley Landing show evidence of previous soil stabilization and revetment of river banks.

Parameters used for site selection include:

- Evidence of previous activity and shore stabilizing material;
- Existing access roadways that are still accessible and suitable (requiring only a moderate amount of stabilization);
- Low likelihood of intruding on potentially existing cultural or natural resources within the vicinity;
- Minimal increase in tactical vehicle traffic en route to the training site;

- Minimal potential impact on forage and nesting areas for the Red Cockaded Woodpecker (RCW);
- Suitable water conditions conducive to training requirements; and
- Proximity to existing aircraft LZs for helicopter transport training.

Using the four training requirements outlined above and to minimize the impacts of such training by using areas that have previously experienced similar types of training, the potential locations for the proposed 362nd MRBC at Fort Benning were identified and are provided below.

1. *Dry Span* could be accomplished at any training area within the Installation that meets the need for a gap between "banks" of less than 40 meters, with a rise of no more than 4 meters per opposing bank. An existing training area or range site would be used and scheduled in the same manner as existing range users. The 362nd MRBC would only conduct this type of training on previously disturbed locations and use only equipment and training ordnance approved within these ranges. Up until the late 1990s, similar bridge building training has occurred within these ranges and training activities are still approved and provided for in Fort Benning range regulations (Weekly 2005).
2. *Still Water* could be accomplished at any pond within the training ranges that meets an area of approximately 2 acres for access, equipment placement, and full-closure bridge construction training, with 250 meters of water area for rafting operations. Ponds that were used up until 2001, within existing training areas and ranges would be used to the greatest extent possible. As with dry span training, similar still water training has occurred within these ranges and are still approved and provided for in Fort Benning range regulations (Weekly 2005).
3. *Fast Water* could be accomplished at the following locations that meet the area and fast moving water requirements and will present the least amount of disturbance to the river banks, an EEP would also be required and is described below:
   - Engineer Landing: was used up until the late 1990s for bridge building operations by both the Army and Army National Guard (Sigmon 2005) and would require improvements to existing banks (about 3.75 acres of improvements, no dredging or fill is needed). Currently, this area is used informally for boat launching and is accessed by about 500 feet of unimproved road. The far side, exit area in Alabama, would need to be cleared 3,000 square meters (about 1 acre) along the bank, the shoreline stabilized using gravel and sedimentation controls, and the access road improved by grading and gravelling

Engineer Landing, Georgia Launch Site

(approximately 2 acres). The existing access road would need to widened and cleared to 15 meters wide for safe equipment passage (Figure 2-2). In total, approximately 8 acres would be disturbed for launch and exit site, shore stabilization, and access road improvements.

Engineer Landing, Alabama Exit Site

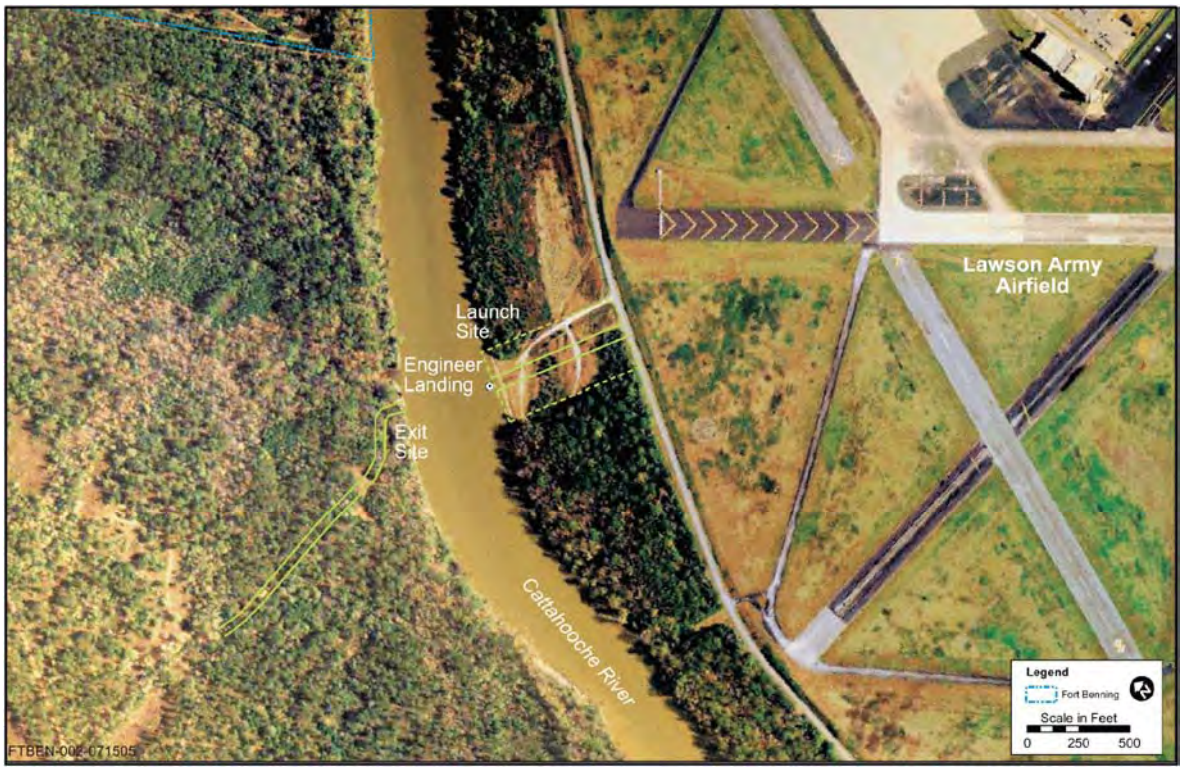

Figure 2-2 Engineer Landing

- Bradley Landing: has also been used up until 1997 for similar training. On the near side (GA) there is an existing deteriorating retaining wall or revetment structure that needs to be removed and the banks improved with gravel (no dredging needed). As with Engineer Landing, an EEP (about 2.5 to 3.5 acres in size) would be needed near the launch site and the access road cleared to 15 meters wide and improved (graded and graveled) for vehicle movement. The far side, exit area in Alabama, about 1 acre would need to be cleared along the bank, the shoreline stabilized using gravel and sedimentation controls, and the access road improved by grading and gravelling. The existing access road would need to widened and cleared to 15 meters wide for safe equipment passage (Figure 2-3).

Bradley Landing, Alabama
Exit Site Looking at Georgia Launch

Approximately 4 acres in total would be disturbed for this Landing site and access road.

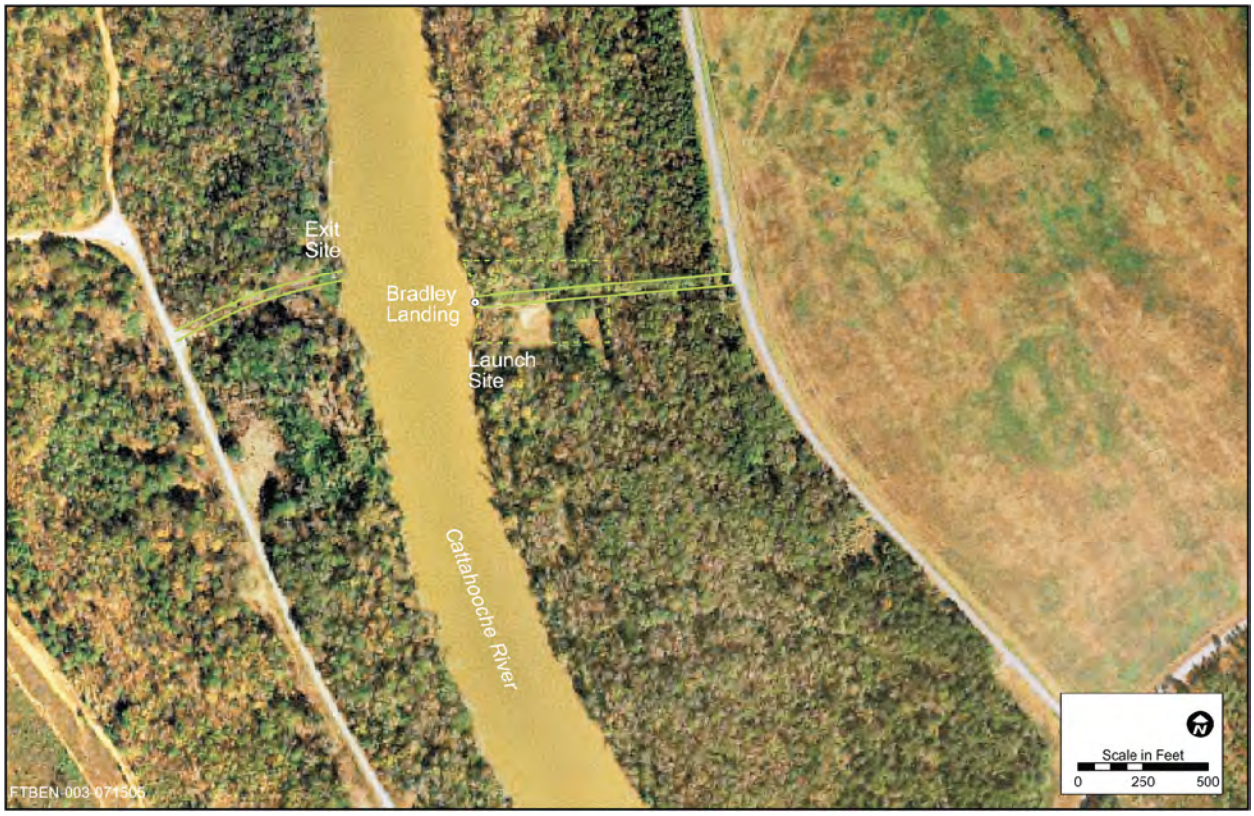

Figure 2-3 Bradley Landing

- Engineer Equipment Park: An Engineer Equipment Park (EEP) to accommodate the bridging and rafting transport equipment is required for the potential landing areas. The EEP would be located within 1 kilometer (0.6 miles) of either of the landing sites on the Georgia side and be approximately 2 to 4 acres in size each. Siting of the EEP and access road would consider previously disturbed sites, be located at least 40 feet from the shore, avoid sensitive resources and operational constraints, and use existing roads as much as possible. The EEP access road would be 15 meters wide and improved by employing grading and graveling.

4. *Helicopter Transport.* Helicopter transport would occur during fast water training between existing LZs on Lawson Army Airfield and Engineer or Bradley Landings (refer to Figure 2-1). Bridge building equipment would be moved using CH-47 aircraft and this aircraft would operate within air-traffic controlled airspace between the airfield and landings. Airspace over Engineer and Bradley Landings is within the 5-nautical mile radius (9 kilometers or 5.7 miles) of air-traffic controlled airspace, managed and controlled by Fort Benning. All helicopter transport training activities would be scheduled using existing procedures (Sigmon 2005).

2.2 ALTERNATIVES CONSIDERED

2.2.1 Alternative A (Preferred Alternative)

Under the preferred alternative, the 362nd MRBC would use existing facilities at the 36th ENG GRP and Installation barracks, share but upgrade and improve the current 36th ENG GRP wash rack and maintenance bays, construct two new maintenance bays, pave with concrete the existing gravel parking area at the rear of the 36th ENG GRP for equipment storage, as well as conduct dry span and still water training within the existing ranges and ponds that meet the size and operational needs provided above. The fast-water training (including helicopter transport) would take place at Engineer and Bradley Landings (Figure 2-4). A total of 22 acres would be disturbed under this proposal for motor pool, maintenance bays, fast water, dry span, and still water training construction.

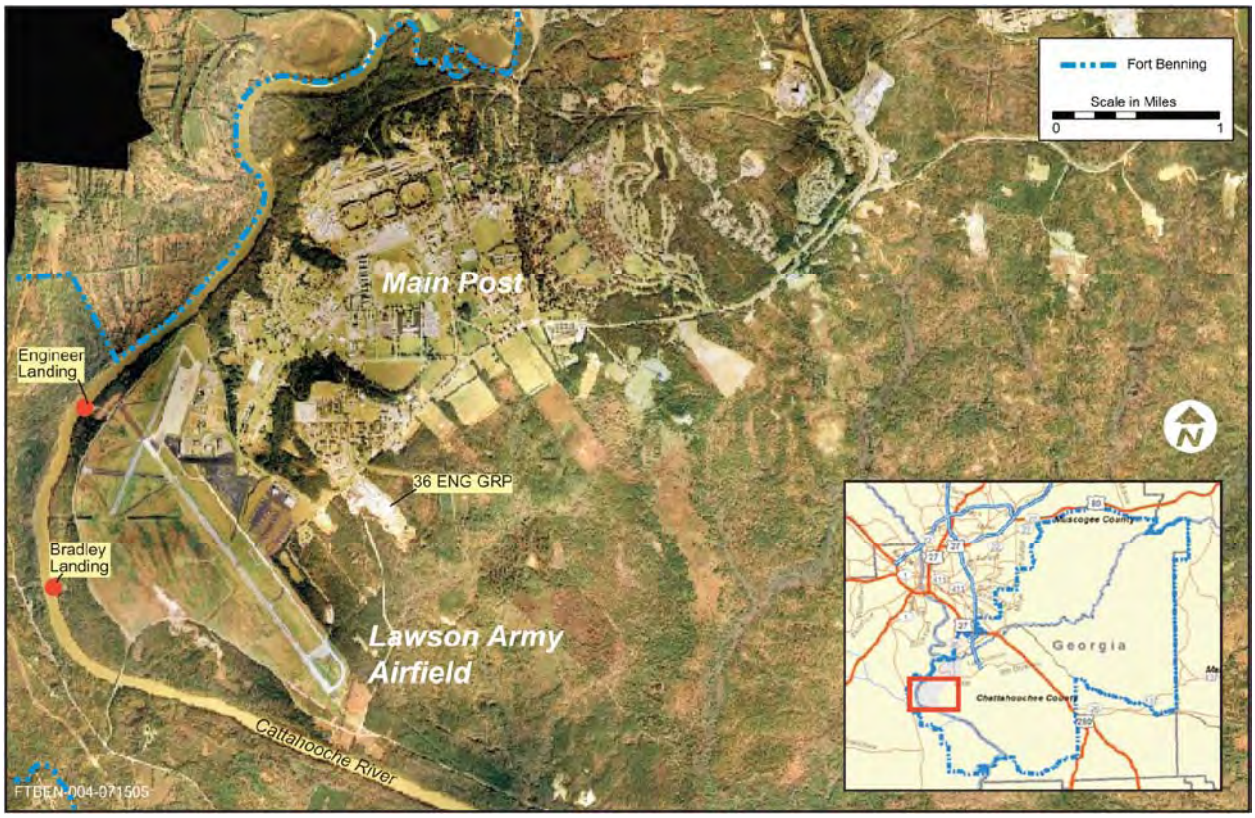

Figure 2-4 Alternative A (Preferred Alternative) Fast Water Training Areas

2.2.2 Alternative B

Under this alternative, the 362nd MRBC would conduct all administrative tasks, maintenance, equipment storage, and training (dry span and still water) as presented under Preferred Alternative A. However, no fast-water training or helicopter transport training would occur at Fort Benning. If this alternative were chosen, the fast water training site would be identified at another location in the United States and appropriate environmental documentation conducted. A total of 4 acres would be disturbed under this proposal for motor pool, maintenance bays, dry span, and still water training construction.

2.2.3 Alternative C (No Action)

For the no-action alternative, the 362nd MRBC would stand-up at Fort Benning; however, no new facilities would be constructed, nor would the motor pool be paved. Existing administrative and maintenance facilities would be shared with the 36 ENG GRP and the graveled parking area adjacent to building 2025 would be used. Dry span, still water, fast water, and helicopter transport training would not occur at Fort Benning but at other locations in the United States, that have yet to be identified. If this alternative were chosen, the training locations (for dry span, still water, fast water, and helicopter transport) will be identified and the appropriate environmental documentation conducted.

2.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

The Transformation Programmatic EIS has addressed the decision to establish the 362nd MRBC at Fort Benning (USACE 2002), therefore, this decision has been made. However, the types of training that are associated with the 362nd MRBC establishment were not specifically analyzed in this Programmatic EIS. Under this EA, four facets of training are proposed and analyzed for potential impacts: dry span, still water, fast water, and helicopter transport.

Another requirement under the 362nd MRBC mission is the combined arms training. For this type of training, bridging and rafting operations are integrated with advancing combat forces. The 362nd MRBC would assemble the bridge, troops and equipment (tanks, trucks, and artillery) at the EEP, cross the bridge, and then maneuvers would occur to simulate battlefield conditions. This training could be accomplished at Fort Benning. Given the mission requirements just presented, Cody Landing and its adjacent training areas and ranges on the AL side present an opportunity for such training. Locations within Training Areas Z2, Z4, and Molnar Range would be required for tank, troop, and vehicle maneuvering to simulate bridge or raft crossings with combined arms combat tactics. However, conducting the combined arms training at Cody Landing is not a reasonable alternative at this time given existing site conditions (biological and cultural resource sensitivities) and would require additional environmental surveys and processes that would delay 362nd MRBC establishment and conduct of the other four elements of training; therefore, this alternative was considered but not studied in detail in this EA.

Other alternatives such as creating new landing sites along the Chattahoochee River (within Fort Benning boundaries) could be done; however, this would present disturbance in areas not previously improved, would cost more money for more extensive upgrades, and would not take advantage of existing assets.

CHAPTER 3

AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This chapter provides a description of the existing conditions of the area potentially affected by the proposed action and alternatives. Potential impacts from the proposed action may result from bridge assembly, construction, and/or retrofitting and subsequent training operations of the 362nd MRBC mission. Because of the degree of potential effects, the description of the affected environment focuses on the southwest portion of Fort Benning which includes the western portion of the Main Post Cantonment Area, Lawson Army Airfield (LAAF), and adjacent areas along the Chattahoochee River to the west of LAAF. This affected environment is chosen because this area would be used for 362nd MRBC support facilities (administration, maintenance, and motor pool storage) and for fast-water training along the Chattahoochee River (refer to Figure 2-1).

Dry span and still water training would occur on existing ranges and/or within training areas currently experiencing military training activities. These include tracked vehicle and wheeled vehicle travel, artillery placement and movement, ordnance delivery impacts, flare use for obscurance training, as well as Soldier-related combat simulation digging, running, walking. In addition, all proposed 362nd MRBC training activities on these ranges have occurred in the past and are approved so would not introduce any new activities (Weekly 2005). Existing range scheduling and management would be employed and safety requirements followed. Access to ponds and training areas for fishing and hunting (respectively) would not significantly change—there may be up to ten days that the public could be limited access at one of the many ponds on the Installation. Existing public access rules and regulations would be maintained and not requirement amendment due to this proposal (Weekly 2005). The environmental conditions on the ranges and training areas would not change due to the minimal amount of bridging training that would occur at these sites: six days each for dry span and still water training per year.

The proposed 362nd MRBC maintenance facilities, motor pool storage, and training activities could directly affect areas at Fort Benning under the proposed action or the alternatives. These impacts, primarily associated with ground disturbance from construction of support facilities and site preparation for bridge assembly training activities, are focused in the Main Post, and to the southwest along the Georgia and Alabama sides of the Chattahoochee River within Fort Benning. For most resources, the affected environment focuses on these areas. For some resources, such as socioeconomics, in which housing for 142 additional Soldiers could occur outside of the Fort Benning Installation, the affected environment encompasses the counties in the immediate vicinity of Fort Benning.

Resources Analyzed

Table 3-1 presents the results of the process of identifying the resources considered in this EA. This assessment evaluates the following resources under the natural environment section: soils, water quality (including wetlands), and biological resources, including information on wildlife, vegetation, and

protected species. The human environment section addresses land use, recreational resources, socioeconomics (including environmental justice), cultural resources, hazardous materials and waste, air quality, transportation, public health and safety, noise, protection of children, and visual resources. These resources are analyzed because they have the potential to be affected by the proposed action.

Table 3-1 Resources Assessed in the Environmental Impact Analysis Process

	Potentially Affected by 362nd MRBC Proposal		***Analyzed in this EA***	
Categories/Resources	*Construction / Retrofits*	*Operations / Training*	*Yes*	*No*
Natural Environment				
Soils	Yes	Yes	✓	
Water Quality	Yes	Yes	✓	
Biological Resources	Yes	Yes	✓	
Human Environment				
Existing and Future Land Use	Yes	Yes	✓	
Recreation	Yes	Yes	✓	
Socioeconomics (including Environmental Justice)	Yes	Yes	✓	
Cultural Resources	Yes	Yes	✓	
Hazardous Materials and Waste	Yes	Yes	✓	
Air Quality	Yes	Yes	✓	
Transportation	No	Yes	✓	
Public Health and Safety	No	No	✓	
Utilities	No	No		✓
Noise	No	No		✓
Protection of Children	No	No		✓
Visual Resources	No	No		✓

Resources Eliminated from Further Analysis

The Army evaluated all the resources listed in Table 3-1 for their potential to be affected by the proposed action (Alternatives A or B) and the no-action alternative (C). In accordance with CEQ regulations, this evaluation determined seven resources did not warrant further examination in the EA. The following provides the rationale for this approach and those resources.

Transportation. An increase of 142 soldiers at Fort Benning represents only a 0.38 percent increase in total personnel. The total contribution to personally-owned vehicle traffic as a result of this increase would be negligible. Even if all of the additional personnel commuted from off-post on the same day, which would be unlikely, it would represent just a 2.0 percent increase in the number of daily commuters to Fort Benning. The handful of vehicle trips from an increase in 362nd MRBC training would go unnoticed among the substantial urban and interstate traffic in the Columbus, GA/Phenix City, AL region. Vehicular transportation, therefore, requires no further analysis in this EA. Transportation by government-owned vehicles and boating traffic will be addressed in this EA.

Utilities. While some utility modifications are anticipated for maintenance facility retrofits and construction, the modifications would be localized, utilize existing infrastructure, and be too minor to influence utility services and support infrastructure. A 0.38 percent increase in total personnel would place minimal additional demand on utility supplies, service providers, or infrastructure. Therefore, utilities were eliminated from further analysis.

Protection of Children. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* requires each Federal agency to identify and assess environmental health and safety risks that may disproportionately affect children and pose a disproportionate environmental health or safety risk to children. The proposed action would not affect children because the facilities that would be improved and/or built are found at existing industrial locations and 362nd MRBC training would occur in portions of the Installation where no schools or residential homes are located. Fishing at ponds within the training areas (fishermen could include both children and adults) is permitted by Fort Benning. Anyone receiving a permit must follow the rules and regulations regarding access to these training areas and as with existing procedures, when still water training is occurring on a pond, the pond would be closed to public access. Therefore, protection of children was not evaluated further in this EA.

Visual Resources. The proposed 362nd MRBC facilities would be located within an established cantonment area (refer to Figure 2-1), within the Installation that has historically supported such facilities and military training, and would not pose any visual conflicts with the surrounding landscape. Dry span and still water training activities would take place within the Installation at established training areas and associated ranges and ponds that have previously experienced similar types of training and; therefore, would not change the visual landscape of these military training areas. Overflights from nearby LAAF to the launch sites, are common features of the viewshed in this area, so would not change the existing visual landscape at and surrounding the airfield. However, the visual landscape would be altered along the Chattahoochee due to fast water training but would not adversely alter on any long term basis the visual landscape of these launch sites.

Both Engineer Landing and Bradley Landing are previously disturbed sites with existing launch areas and access roads on both sides of the Chattahoochee River. The limited improvements to these areas (clearing of less than 1 acre of vegetation) would not significantly change the existing visual aspects of deteriorating gravel roads and sandy beaches. In-river users such as recreational fishermen and boaters may experience temporary visual intrusion due to temporary bridge structure placement; however, these intrusions would only occur up to six to ten days per year and present no impacts to visual resources.

3.1 NATURAL ENVIRONMENT

3.1.1 Soils

The principal factor influencing stability of structures is soil properties. Soil, in general, refers to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ability for the ground to support structures and facilities. Relative to development, soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use.

Most of the southwestern third of Fort Benning is covered by the Upper Loam Hills soil province which contains soils which are heavier textured and more mesic than the drier Sand Hills soils to the northeast (U.S. Army 2001). These soils also generally have higher organic matter content and higher water holding capacity. Soils textures in the Main Post area of Fort Benning are predominantly urban (previously disturbed, covered with buildings and/or hardscapes) and loam-sand mix (U.S. Army 2001). Soils along the Chattahoochee are occasionally flooded sandy loams (USDA 1997 and 2003). The topography is generally smooth to gently rolling with low relief (USDA 1997). The southwestern portion of the Installation has the lowest terrain at about 190 feet above sea level, with low terraces parallel to the Chattahoochee. Most of Fort Benning's soils are identified as highly erodible, the degree of which is determined by factors including texture, structure, percent slope, drainage, and permeability (U.S. Army 2001).

To prevent erosion, consequent damage to endangered species habitat, or sedimentation of streams and wetland areas, the Army employs best management practices (BMPs) as defined by the Georgia Department Natural Resources (GA DNR), Georgia Soil & Water Conservation Commission, Alabama Department of Environmental Management (ADEM), and Alabama Soil & Water Conservation Committee for all required projects and activities. In Georgia, projects one acre or greater require a state-approved Erosion Sedimentation Pollution Control Plan (ESPCP) for land disturbing activities, fee submittal for disturbed acreage, and Notice of Intent (NOI) to meet the requirements of the federal National Pollutant Discharge Elimination System (NPDES) construction permit program and Georgia Erosion and Sedimentation Control Act (ESCA). Likewise, in Alabama, such projects require an approved Construction Best Management Practices Plan (CBMPP), fees, and Notice of Registration (NOR) to meet the federal NPDES and Alabama Water Pollution Control Act (WPCA) requirements. The Installation also considers and complies with soil conservation measures in their planning and execution for all construction, operation, and maintenance activities involving land disturbance. The ESPCP/CBMPP prescribes activities to limit erosion and sedimentation from the site and includes a site description, list of BMPs to be used, BMP inspection procedures to be performed by qualified personnel, procedures for timely BMP maintenance, requirements for sampling of discharges or receiving streams

for turbidity, and reporting requirements to the GA DNR Environmental Protection Division (EPD)/ADEM Field Operations Division (FOD).

Construction contractors are required to install sedimentation and erosion control measures and practices that are sufficient to retain the sediment generated by the land-disturbing activity within the boundaries of the construction site and plant or otherwise provide a permanent ground cover sufficient to restrain erosion after completion of construction. Contractors are also responsible for developing the ESPCP/CBMPP and obtaining approval, coordinating with Fort Benning Environmental Management Division for submittal of fees, and NOI to the GA DNR EPD or NOR to the ADEM FOD, depending upon project location, prior to initiating any project.

3.1.2 Water Quality

Water quality focuses on surface and ground water quality within the sites proposed for construction, retrofits, fast-water training, and training areas and ranges that would be utilized under Alternatives A and B. The Clean Water Act (CWA) of 1972 is the primary Federal law that protects the nation's waters, including lakes, rivers, aquifers, and coastal areas. The primary objective of the CWA is to restore and maintain the integrity of the nation's waters. Jurisdictional waters of the U.S. are regulated resources and are subject to Federal authority under Section 404 of the CWA. This term is broadly defined to include navigable waters (including intermittent streams), impoundments, tributary streams, and wetlands.

Surface Water Quality

The primary watercourse at Fort Benning, and boundary line between Georgia and Alabama, is the Chattahoochee River. The Chattahoochee flows in a southerly direction and contains numerous oxbows, abandoned meander channels, isolated ponds, and wetland areas. On the Georgia side, most streams drain into the Chattahoochee through the eastward flowing Upatoi Creek, which enters north of the Main Post area and serves as the main drainage basin for other streams and tributaries at Fort Benning. Upatoi Creek also serves as the source of surface water withdrawal for drinking, residential, commercial, and other uses on Fort Benning. The northwest portion of the Installation drains into Bull Creek and the most southern portion, including the Main Post and fast-water training sites, drains directly into the Chattahoochee River. Both fast-water training sites on the Alabama side of the river also drain directly to the Chattahoochee. There are two small unnamed tributaries, one upstream and one downstream, from the Alabama side of Engineer Landing; Bradley landing contains no adjacent tributaries. Upatoi Creek in Georgia and Uchee Creek in Alabama are the two main tributaries of the Chattahoochee in the vicinity of the proposed action sites. The Main Post Cantonment Area, which contains the 36th ENG GRP facilities, and the fast-water training sites are located along the Chattahoochee between where Upatoi Creek enters the river upstream, and Uchee Creek enters downstream. Dry span training would occur within any of the training areas on Fort Benning; and still water training would occur at any one of numerous ponds.

Wetlands

The National Wetlands Inventory conducted by the U. S. Fish and Wildlife Service (USFWS 1982) shows that Fort Benning contains about 16,926 acres of wetlands. The inventory described lacustrine, riverine, and palustrine systems. On Fort Benning, wetlands include impounded water, flowing water, river floodplains, stream floodplains, small stream swamps, wooded seepage bogs, herbaceous and shrub seepage bogs, and gum/oak ponds. According to this broad inventory, the Main Post construction and improvement sites at the 36th ENG GRP compound contain no wetlands. Within the nearby fast-water training sites, both Engineer and Bradley Landings support lacustrine and riverine areas contiguous with both sides of the Chattahoochee River. Still water training would occur at ponds within the training areas and depending on their location could be considered a wetland. Dry span training would be sited so as not to occur in areas supporting wetlands.

Ground Water Quality

The state of Georgia possesses some of the largest and purest ground water aquifers in the world. Fort Benning is in the Coastal Plain hydrologic province of Georgia and Alabama, whose principal ground water source is the Cretaceous aquifer system. The aquifer systems are directly related to the various geologic formations. The Georgia Geologic Survey identifies these Cretaceous aquifers in the Fort Benning area as the A-3 through A-6 aquifers. The recharge area for these aquifers is the Sand Hills area, which includes Fort Benning (GA DNR 1986). Seven drinking-water supply wells are found on Fort Benning. No existing wells occur within the Main Post construction sites and nearby fast-water training sites.

Impaired Streams and Total Maximum Daily Loads

For the Chattahoochee River Basin, the State of Georgia has identified 31 stream segments as "water quality limited" [CWA, Section 303(d)] or impaired due to sedimentation and 79 stream segments as water quality limited due to fecal coliform. Of these, six segments are within Fort Benning, with five listed for sediment (primarily tributaries of Upatoi Creek and one tributary of the Chattahoochee River entering south of the Installation) and one for fecal coliform (the Chattahoochee River from Upatoi Creek to the railroad at Omaha, Georgia). The Chattahoochee segment listed for fecal coliform traverses 16 kilometers of Fort Benning (U.S. Army 2004a), including the fast-water training sites, and collects drainage from the Main Post area. Other ranges and training areas that could be utilized by the 362nd MRBC for dry span and still water training may contain or be within drainages of the remaining 37.6 kilometers of Total Maximum Daily Load (TMDL) streams listed for sediment within Installation boundaries (U.S. Army 2004a). The State of Alabama has identified two stream segments within the

Chattahoochee River Basin on their 303d list; however, these tributaries of the Chattahoochee are not in the vicinity of Fort Benning or the proposed fast-water training sites.

Although no "allowable" level has been established for TMDL pollutants on Installation waterways, Fort Benning applies management practices, as defined in the GA DNR guidance for TMDLs (GA DNR 2002a, 2002b) and by the ADEM, throughout the Installation to limit sedimentation into any stream including:

- Implementing an ESPCP in Georgia and/or a CBMPP in Alabama for land disturbing activities to meet the requirements of the NPDES permit program,
- Using the Georgia and/or Alabama Forestry Commission Best Management Practices, depending upon project location, for timber harvests,
- Adopting Natural Resources Conservation Service (NRCS) conservation practices,
- Adhering to the Mined Land Use Plan prepared as part of the Surface Mining Permit Application,
- Adopting proper unpaved road maintenance practices, and
- Repairing and preventing stream bank erosion due to increased stream flow velocities caused by urban runoff.

While dry span and still water training sites have not been specifically identified because they could occur any place within the training ranges or any pond meeting the criteria provided in Section 2.1, all practices outlined above would be followed to limit sedimentation into any stream.

Fort Benning has two permitted point sources (wastewater treatment plants permitted to and owned by Columbus Water Works) that discharge to the Chattahoochee River, as well as a general storm water permit. Combined point and non-point source fecal coliform releases originating from sources located upstream from the Installation are also contributors for fecal coliform in the Fort Benning section of the Chattahoochee River. As long as Columbus Water Works maintains its discharges below the fecal coliform waste load allocation established by the GA DNR, via the wastewater treatment plant permits, it is not required to reduce its discharge into the Chattahoochee River and is in compliance with the TMDL program (GA DNR 2002b).

Storm Water

Fort Benning operates industrial activities subject to the requirements of the U.S. Environmental Protection Agency (EPA) and Georgia and Alabama state industrial NPDES regulations under the CWA. These regulations involve regulating stormwater discharges from industrial activities that have the greatest potential to contaminate runoff. The applicable installation industrial sectors include roads; vehicle maintenance facilities; wash racks; landfills; wastewater treatment facilities; hazardous waste storage, treatment or disposal activities; and others.

Installation sources of industrial stormwater pollution have been identified in order to prevent contamination from runoff created by rain events to protect the water quality. Thousands of vehicles are served by the motor pools and this equipment is maintained so leaks are minimized; storage of petroleum, oil, and lubricants (POLs) is managed properly; and a Storm Water Pollution Prevention Plan (SWP3) has been developed and implemented at Fort Benning. The SWP3 outlines BMPs that have been implemented to reduce the potential for stormwater pollution.

The CWA's Construction NPDES Program, Georgia ESCA, and Alabama WPCA (specifically ADEM Administrative Code Chapter 335-6-12) require that erosion and sedimentation controls be implemented during projects that require one or more acres of ground disturbance. Thus, depending upon the location of the project, the Army consistently obtains a General Permit for Storm Water Discharges via submittal of an NOI to the GA DNR, development of an ESPCP, and/or via submittal of an NOR to the ADEM and development of a CBMPP prior to implementation of actions, as described previously in the soils section.

Storm water at Fort Benning is also regulated under the Installation's general storm water NPDES permit. Storm water discharges within the Main Post drain directly into the Chattahoochee River through a storm drain system. Installation storm water within the proposed fast-water training sites drains via natural seepage and overland flow directly or indirectly into the Chattahoochee River.

3.1.3 Biological Resources

Biological resources include native or naturalized plants and animals and the habitats in which they occur. The Fort Benning Integrated Natural Resources Management Plan (INRMP) (U.S. Army 2001) provides a comprehensive overview of the status of biological resources throughout the Installation. For purposes of this EA, discussions of resources present in areas that would be affected by implementation of the proposed action at Main Post construction sites or nearby fast-water training sites are provided below for: 1) vegetation and wildlife, including migratory birds and 2) threatened, endangered, and other special status species. No unique ecological areas (described in U.S. Army 2001) are present in the vicinity of 362nd MRBC facility construction or retrofit sites or nearby the fast-water training sites.

The proposed action also includes the use of existing training areas, including associated ranges and pond sites, and other existing infrastructure on Fort Benning. Installation-wide conditions relevant to this aspect of the proposed action are also described in the INRMP (U.S. Army 2001) and in the recent Digital Multi-Purpose Range Complex (DMPRC) EIS (U.S. Army 2004a). The associated impacts are considered in Chapter 4.

Vegetation and Wildlife

Vegetation. On Fort Benning, plant and animal communities in both terrestrial and aquatic habitats have been classified into 13 ecological groups (U.S. Army 2001). Ecological groups provide a framework for managing species and habitats of concern on the Installation. Ecological groups are the top level of a hierarchy that includes, at finer scales of differentiation, vegetation alliances, and associations that are structurally and functionally similar.

Ecological groups in and around the 36th ENG GRP facilities and each of the fast-water training sites, including the access roads on both sides of the Chattahoochee River are provided in Table 3-2, the presence of each group is also included. Following are summary descriptions of each ecological group. More detailed accounts of these ecological groups and others that occur elsewhere on the Installation (e.g., training areas and ranges) are provided in the INRMP (U.S. Army 2001).

Table 3-2 Ecological Groups at the Proposed Fast-Water Training Sites

Ecological Group	***Present***	
	Engineer Landing	*Bradley Landing*
Other altered areas	Yes	Yes
Dry-mesic hardwood and dry-mesic mixed hardwood/ pine forests	Yes	Yes
River floodplains and Cypress-Tupelo swamps	Yes	Yes
Successional upland deciduous or mixed forests	Yes	Yes
Longleaf pine loamhills	Yes	Yes
Longleaf Pine plantations	No	No
Longleaf pine sandhills	No	No
Herbaceous and shrub seepage bogs	No	No
Small stream swamps and wooded seepage bogs	No	No

Source: Fort Benning GIS, 2005

Other altered areas account for the largest acreage on both fast-water training sites and include developed and highly disturbed land, as well as shrub and grassy areas that are a result of range construction and maintenance activities (U.S. Army 2001). At both sites, the most prevalent natural group, amounting to roughly a third of the affected area of each site, is longleaf pine (*Pinus palustris*) sandhills, characterized by relatively open stands of longleaf pine, frequently with an understory of scrub oak (*Quercus* spp.), on sandy soils. In addition to regionally common wildlife, this habitat supports red-cockaded woodpeckers (*Picoides borealis*), gopher tortoises (*Gopherus polyphemus*), and other species of concern (U.S. Army 2001).

Dry-mesic hardwood and dry-mesic mixed hardwood/pine forest communities occur at Engineer and Bradley Landings. Similar to these communities but occurring on disturbed sites are successional upland deciduous or mixed forests, which are found as well on Engineer and Bradley Landings. These forests

are quite variable on the Installation and occur in the ecotone between the dry ridge tops and the mesic bottoms. Common tree species found in these areas include loblolly and shortleaf pine (*Pinus echinata*), various oaks (*Quercus* spp.) and other hardwoods, along with a diverse shrub understory (U.S. Army 2001).

Longleaf pine loamhills include some of the best remaining longleaf pine stands on the Installation, which occur intermixed with loblolly and shortleaf pine on rich loamy soils; both Engineer and Bradley Landing support these forest stands. Diverse shrubs and herbaceous species occur in these communities, which support abundant wildlife including red-cockaded woodpecker.

Wildlife. Fort Benning supports at least 350 invertebrate, fish, and wildlife species (U.S. Army 2001). From the standpoint of the proposed action, common wildlife expected to occur include white-tailed deer (*Odocoileus virginianus*), foxes (*Felis* spp.), river otters (*Lutra canadensis*), beavers (*Castor canadensis*), rabbits (*Sylvilagus* spp.), squirrels (*Sciurus* spp.), and a variety of smaller mammals. In addition to a diverse assemblage of forest songbirds, wild turkey (*Meleagris gallopavo*), bobwhite quail (*Colinus virginianus*), and several other species are important game birds on the Installation (see U.S. Army 2001 for more details).

There are approximately 150 species of birds protected under the Migratory Bird Treaty Act (MBTA) that occur on the Installation, either seasonally or year round, and many of these species are expected to occur at least temporarily at of the fast-water training sites. Fort Benning is complying with the MBTA by implementing Army Policy Guidance of 17 August 2001 and Executive Order 13186 (*Responsibilities of Federal Agencies to Migratory Bird Treaty Act*, 11 January 2001). Fort Benning manages and conserves migratory bird species through its INRMP and considers effects to migratory birds in any proposed action through the NEPA process (see U.S. Army 2001 for details).

Protected Species

Protected species include those that are listed or proposed for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS); and state-protected species listed as rare, threatened, and endangered by the GA DNR or the Alabama Department of Conservation and Natural Resources (DCNR). A complete listing of threatened and endangered species that occur on Fort Benning and its training ranges is provided in the INRMP (U.S. Army 2001). A total of 96 such species occur on the Installation, which includes the training ranges where dry span and still water training would occur.

A review of the Installation database revealed that no Federal or state protected threatened or endangered species are known to occur in the southwest portion of the Installation containing the 362nd MRBC construction sites and fast-water training areas (Fort Benning 2005a). However, one Federally-protected species habitat is found in Alabama, in the area proposed for egress road expansion for fast water training (refer to Figures 2-2, 2-3, and 3-1). This protected species is discussed in more detail below.

Red-cockaded Woodpecker (Picoides borealis). Red-cockade woodpeckers (RCWs) have a social structure that involve a breeding pair and helpers that assist with cavity excavation and maintenance, egg incubation, feeding young, and defending the group's territory. Nesting generally occurs from April through June. Groups of RCWs nest in an aggregation of cavity trees called a cluster that is surrounded by contiguous foraging habitat. Discrete cluster sites are typically located where mature pine trees are more than 60 years old. Foraging habitat, however, is more variable with timber taking on increasing value as the stands age past 30 years. Both nesting and foraging habitat can be characterized as open stands of pine with a scarce to moderate midstory. As the midstory becomes dense or reaches the height of cavities, cluster abandonment and decreased foraging value results.

Fort Benning supports one of the largest RCW populations in the southeastern United States. The RCWs are well dispersed over the entire Installation, except that no active clusters are located on the Alabama portion. Intense efforts have been implemented to increase the endangered species staff at Fort Benning and to greatly enhance management activities for RCWs and their habitat on Fort Benning. On 27 September 2002, the USFWS approved Fort Benning's Endangered Species Management Plan (ESMP) for the RCW and issued a Biological Opinion that included specific management activities. This allowed the implementation of the "1996 Management Guidelines for the RCW on Army Installations." Fort Benning is also one of 13 primary core locations selected by the USFWS to manage for a RCW recovery population (451 clusters at Fort Benning). Presently, Fort Benning has a total of 295 manageable RCW clusters (249 active and 46 inactive, as of 2004). There is an additional estimate of 43 active and 1 inactive clusters in ordnance impact areas designated A20 and K15.

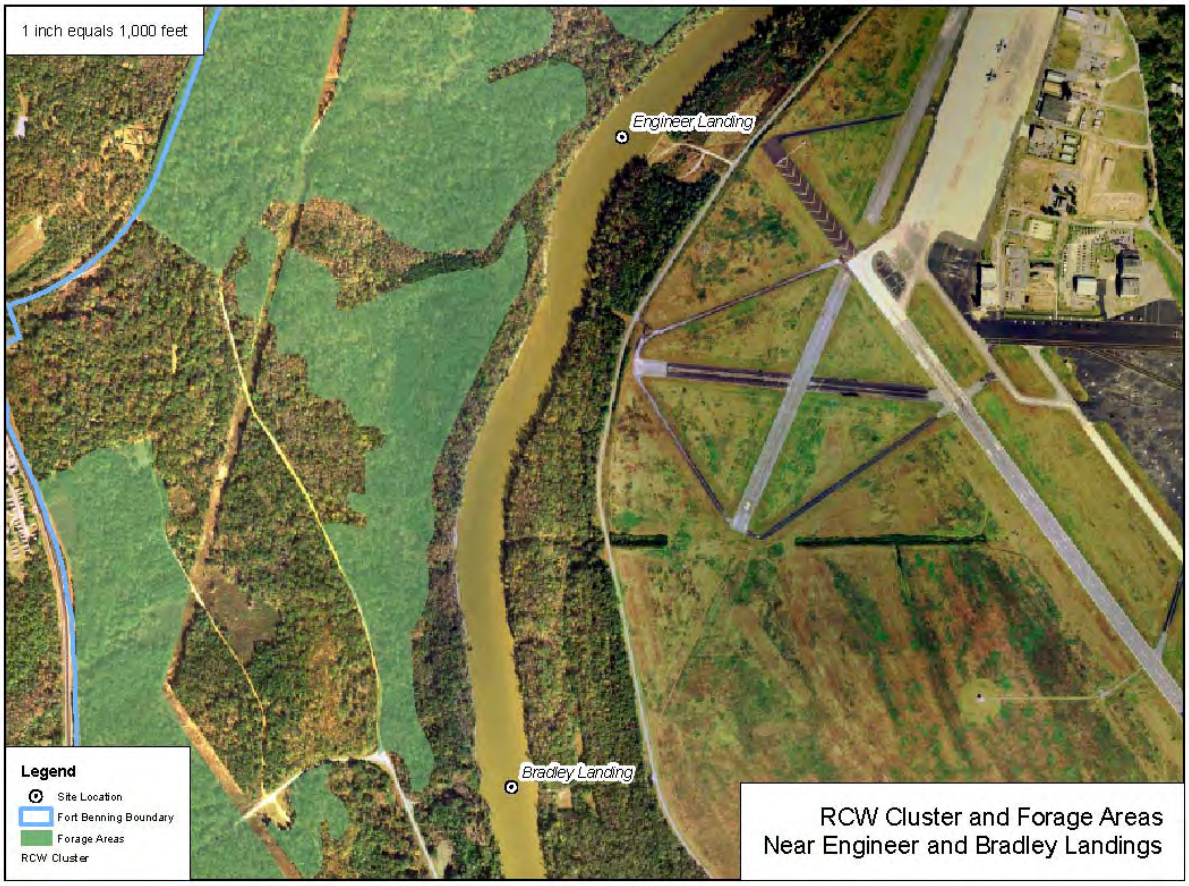

Figure 3-1 RCW Foraging Habitat in Vicinity of Proposed Fast-Water Training Sites

Management of the RCW and its habitat on Fort Benning is described in the INRMP (U.S. Army 2001). This includes the protection and maintenance of existing habitat areas, and the expansion of nesting opportunities for the species in new areas on the Installation. Several clusters occur near but not within the Main Post site boundaries. The extent of mapped RCW foraging habitat, which includes areas known to be or that could potentially be used for foraging, is shown in Figure 3-1; however, there are some areas, such as cleared sites and roads that are included within the map but would be unsuitable habitat for RCW foraging. There are no RCW clusters in Alabama or within the areas proposed for facility construction or fast water bridge training (Fort Benning 2005a). For RCW foraging habitat subject to impact, a detailed evaluation will be prepared by the Fort Benning RCW Biologist. This evaluation would analyze whether the proposed project would remove any potential RCW habitat that may be used by a cluster that could be introduced to the area in the future. These acres would then have to be assessed as to whether that removal would impact Fort Benning's ability to put a cluster into that area in the future and, if the answer is no, would that affect Fort Benning's ability to reach established recovery goals.

3.2 HUMAN ENVIRONMENT

3.2.1 Existing and Future Land Use

Land use often refers to human modification of land often for residential or economic purposes. The attributes of land use include general land use and ownership, special use land areas, and land management plans. Land uses are frequently regulated by management plans, policies, ordinances, and regulations that determine the types of uses that are allowable or to protect specially designated or environmentally sensitive uses. Special use land management areas that may be considered to be environmentally sensitive or worthy of specially designated status are generally more rigorously managed (U.S. Army 2004a).

Fort Benning, covering 184,000 acres, is the site of training, administrative, and residential activities, as well as associated land management activities. It lies primarily within Muscogee and Chattahoochee Counties in Georgia, and also extends into Russell County, Alabama. Columbus, the second largest city in Georgia is found west and north of the Installation and has a consolidated government and boundaries with Muscogee County. Chattahoochee County to the south of Fort Benning supports predominantly agricultural and undeveloped vacant land used for farming, forestry, and military training on the lands within Fort Benning. Harris County, north of Columbus and Fort Benning, is sparsely populated but is growing rapidly as a suburb of Columbus. Marion and Talbot Counties to the east of Fort Benning are predominantly agricultural and undeveloped vacant land with low density residential, commercial, and public/institutional land use in a few small communities. Similar rural, agricultural lands uses dominate in Russell County, except for Phenix City immediately across the Chattahoochee River from Columbus.

Fort Benning is divided into numerous training compartments, ranges, impact zones, drop zones, exclusion areas, cantonment areas, and recreation areas. The cantonment and family housing areas of Fort Benning occupy about 8 percent of the Installation. There is also a 1,095-acre recreation area (0.6 percent of Installation) located along Uchee Creek on the western bank of the Chattahoochee River, south of Bradley Landing. Main Post, adjacent to the south Columbus area, is the largest and most developed of the cantonment areas, containing the Post Headquarters, Infantry School, and barracks complex known as the Cuartels. Main Post also includes LAAF, Martin Army Community Hospital, the Post Exchange, the Commissary, and various family housing areas. Sand Hill, 4 miles northeast of Main Post, contains barracks, dining facilities, classrooms and other facilities for training. Kelley Hill, 3 miles east of Main Post, contains barracks and support facilities. Harmony Church, 5 miles southeast of Main Post, contains semi-permanent barracks and support structures.

The 36th ENG GRP compound proposed for retrofits and construction to accommodate the 362nd MRBC is located at the southern limits of the Main Post, southeast of Dixie Road (refer to Figure 2-1). The area is surrounded on two sides by Training Areas A3 and A4. Immediately north of the compound is the

Farnsworth Range, within Training Area A4. Both fast-water training sites lie outside Main Post on a narrow strip of land between the Chattahoochee River and 82nd Airborne Division Road skirting LAAF (refer to Figure 2-1). The Georgia side of Engineer Landing lies on the extreme edge of the Main Post, while the Alabama side is within a portion of designated Training Area V2. Bradley Landing is within the CC4 training compartment boundary on the Georgia side, and at the junction of Training Areas V4, W2, V3, and W1 in Alabama. All of these areas are managed for the types of training (e.g., wheeled vehicle maneuvering, helicopter equipment lifts and off-loading, ordnance delivery, pyrotechnical use, artillery simulation, equipment placement, troop movement, digging, helo and artillery training [Weekly and Sigmon 2005]) that would occur under the proposed action.

Comprehensive and general plans, along with management plans for natural and cultural resources, document and guide land use at Fort Benning. Planning documents include the *2001-2005 Fort Benning Integrated Natural Resources Management Plan (INRMP)* (U.S. Army 2001). The *Fort Benning Integrated Cultural Resources Management Plan (ICRMP)* is also being drafted. The INRMP ensures that natural resource conservation measures and military activities are integrated and consistent with Federal land stewardship requirements and serves as the comprehensive plan for deliberate management of natural resources. Likewise, the ICRMP will be a component of the Installation master plan and will be the Installation commander's decision document for cultural resources management actions and compliance procedures. It will integrate the entirety of the Installation cultural resources program with ongoing mission activities, identify potential conflicts between the Installation's mission and cultural resources management, and recommend compliance actions necessary to maintain the availability of mission-essential properties and acreage.

3.2.2 Recreational Resources

Recreation resources include outdoor recreational activities that take place away from participants' homes. Because the proposed action would take place at Fort Benning, recreation analysis will focus on recreational activities associated with the Installation including recreation programs; developed and undeveloped areas, parks, and waterways; as well as activities in surrounding communities. Recreationists at Fort Benning seek a variety of both urban and rural recreation opportunities with varying degrees of ease of access, undeveloped and developed areas and facilities, and an array of potential uses. For these reasons, the effects of existing use of areas at Fort Benning on a user's expectations were considered in assessing existing conditions. Typically, recreational use in an area can be described by the number of users, available activities, uniqueness of the area as a recreational resource, and the perceived value or benefit of the area for the users.

There are ample recreational opportunities for residents and visitors of Fort Benning and Columbus, GA, and the Phenix City, AL areas. Most recreation and leisure programs on Fort Benning are managed and administered by the Directorate of Morale, Welfare, and Recreation (MWR). The operation and

maintenance of those facilities and areas are the responsibility of MWR and the Directorate of Public Works (DPW). Fort Benning's undeveloped lands used for recreation, commonly called open space, may include golf courses, natural or cultural resource preservation sites, or other similar recreational areas. Other recreational opportunities, such as a pistol club range, bird-watching, fishing, hunting, and hiking, also occur on the Installation. Recreation within developed lands includes recreational and physical fitness facilities, child care programs, libraries, club activities, bowling, and other similar opportunities (U.S. Army 2004a). The fast-water training sites are found on largely undeveloped lands along the Chattahoochee River where fishing and recreational boating is permitted. Existing access roads to the proposed launch sites from both the GA and AL sides of the Installation are utilized by recreational boaters and anglers for easy access to the river. The Bradley landing site access roads are paved, and thus in more user-friendly condition than the dirt surfaces encountered along access roads to Engineer Landing. River access within the Installation can also be gained to the proposed launch locations from multiple sites along the Chattahoochee in both Georgia and Alabama.

The ponds within training ranges (where still water training is proposed) are permitted for fishing and the public may use these after acquiring a fishing license from either GA DNR or AL DCNR (depending on which area of the Installation they will fish at) and a permit from Fort Benning. Issuance of the Fort Benning permit includes the acceptance by the permittee that ponds within training areas may be closed when the training areas are active and before visiting any ponds the public must check if they are open for access.

Hunting on Fort Benning is regulated and coordinated with the schedule of field training exercise in the training compartments. As with fishing, a hunting license must be obtained from the state and a permit from Fort Benning. The public must check if access is permitted to any training range on any day before visiting. The areas open for hunting on a given day are determined by the amount of military training, range maintenance, and land management activities occurring in the training compartments (which includes those areas proposed for fast water and dry span training). Only 32 percent of Fort Benning's 140,000 acres of hunting land was available to hunters during the Spring and Fall 2004 seasons (Weekley 2004). There were approximately 2,500 registered hunters in Fall 2004.

3.2.3 Socioeconomics and Environmental Justice

Socioeconomics for this EA focus on the general features of the local economy that could be affected by the proposed action or alternatives. The affected environment for this analysis includes Fort Benning and surrounding communities in GA and AL. Socioeconomics comprise the basic attributes of population and economic activity within an affected environment and typically encompasses population, employment, income, housing, and taxes.

Population

The Columbus, Georgia - Alabama, Metropolitan Statistical Area (Columbus MSA), which consists of Muscogee, Harris, Marion, and Chattahoochee Counties, GA and Russell County, AL, encompasses approximately 4,125 square miles. The majority of the social and economic effects of Fort Benning are felt in the Columbus MSA where the majority of the population resides, specifically in Muscogee County. In 1980, the Columbus MSA had a population of 254,660. This figure increased to 260,860 by 1990 and to 274,624 by 2000, representing increases of 2.43 percent and 7.83 percent, respectively, from 1980 (U.S. Census 2001). The major urban center in the AL portion of the Columbus MSA is Phenix City (Russell County), located across the Chattahoochee River from Columbus, GA.

Housing

Housing is predominantly concentrated in the Columbus MSA, which has an inventory of 101,457 units (U.S. Census 2001). Of the occupied units (92,695), almost 40 percent are rentals. Although the Columbus MSA has a large inventory of rental housing units, generally in good condition, rents have been increasing at a fairly rapid pace, resulting in a lack of affordable rental housing for lower-ranking enlisted personnel. The majority of military personnel are housed on-post, although 3,291 military families reside off-post in privately owned housing. Of the roughly 19,320 personnel housed on-post, 18,900 are housed in enlisted barracks. Approximately 6,535 families are housed in on-post family housing (Addison 2004). No military housing units are located in or adjacent to the Landing areas proposed for fast-water training. In the Main Post, military housing units are located on the northern and eastern edges of the Installation, while the 36th ENG GRP MRBC sites proposed for construction and retrofits are in the southern portions of the Installation.

Employment and Taxes

The Columbus MSA supplies most of the employment opportunities in the region. More than 14,000 workers commute to the city of Columbus, and approximately 7,000 commute to Fort Benning daily. The Columbus MSA serves as a regional trade, service, retail, wholesale, medical, and cultural center, serving not only the city, but also the surrounding rural area. From 1970 to 1991, total employment increased 23.42 percent, rising from 169,772 employees in 1970 to 209,535 in 1991. This increase has been particularly strong since 1980. Employment increases have been especially strong in the retail trade; finance, insurance and real estate; and services industries. The major sources of employment are the Federal, state, and local governments, service industries, manufacturing, and retail trade. The unemployment rate has fluctuated from a low of 4.2 percent in 1970, to 7.9 percent in 1980, 6.7 percent in 1990, and 7.3 percent in 2000 (U.S. Census 2001).

In September 2004, Fort Benning employed approximately 7,648 civilian personnel (Addison 2004). This figure represents an 8.9 percent decrease from the 1990 work force of 8,330 personnel. A significant number of construction workers are also employed daily by construction contractors. In 2004, approximately 34.5 million dollars were pending to be spent on various construction contracts on Fort Benning (Fort Benning Command Data Summary 2004).

In addition to civilian employees, 29,415 military personnel were employed at Fort Benning as of September 2004 (Addison 2004). This figure represents a 15.4 percent increase from the 1990 military workforce of 25,490 personnel. In 2003, the impact of Fort Benning employment (to include military pay) on the Columbus MSA economy was estimated at approximately 1.9 billion dollars (Fort Benning Command Data Summary 2004). Outside the Installation, major increases in employment for the MSA are expected to occur in the services; finance, insurance and real estate; and retail trade industries according to Bureau of Economic Analysis employment projects for the region. Some growth may also be experienced in the transportation and public utilities industry as well as the construction industry. Overall, manufacturing employment is expected to decline, mainly because of changes in the textile industry, although increases in employment in the durable good sector, specifically in the primary metals industry, are expected.

The major sources of tax revenue for counties in the northern portion of the Installation are school/property and sales taxes. Other sources of revenue include the annual proceeds from the sale of forest products (i.e., timber operation) on Fort Benning, which are used for reimbursement of Installation and Corps of Engineer costs associated with the integrated management, production, and sale of forest products. Net proceeds (if any) are distributed as follows: 60 percent to the Forest Product Reserve Account and 40 percent to the state or states where the Installation is located. States then disburse funds to the counties based on percent of total acreage of the Installation (U.S. Army 2004a).

Schools

The Installation is primarily served by four school systems: Muscogee County School System, Chattahoochee County School District, Phenix City-Russell County School Systems, and Fort Benning Dependent's Schools. Approximately 7,015 military dependents attend school, 3,815 of which attend school in one of the three off-post districts (U.S. Army 2004a). The Muscogee County School System is the largest of the three off-post systems, operating 52 schools and serving more than 29,000 students. With approximately 4,500 students and 300 teachers, the Phenix City Educational System is the second largest of the three main school systems and consists of six elementary schools, a middle school, junior high, and high school.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, issued in 1994, directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

To characterize the demographics of the potentially affected area, certain U.S. Census data were used to estimate nearby populations. The Columbus MSA, and Muscogee, Harris, and Chattahoochee Counties in Georgia, along with Russell County, Alabama were evaluated for geographic race and income data. These areas extend beyond Fort Benning and the Columbus MSA, but provide a picture of the affected environment for this EA. Population, race, and income data are provided in Table 3-3, which include comparable race and income data for Georgia.

Table 3-3 Key Demographic and Economic Data

	State of Georgia	***Columbus MSA***	***Muscogee County, GA***	***Harris County, GA***	***Chattahoochee County, GA***	***Russell County, AL***
Race						
Caucasian	65.1%	54.4%	50.4%	78.4%	58.1%	56.7%
African American	28.7%	40.4%	43.7%	19.5%	29.9%	40.8%
American Indian and Alaskan Native	0.3%	0.4%	0.4%	0.4%	0.8%	0.4%
Asian	2.1%	1.3%	1.5%	0.5%	1.8%	0.4%
Native Hawaiian and Other Pacific Islander	0.1%	0.1%	0.1%	0.0%	0.5%	0.1%
Other Race	2.4%	1.7%	1.9%	0.3%	5.2%	0.6%
Two or more Races	1.4%	1.7%	1.9%	0.9%	3.8%	1.1%
Total	**8,186,453**	**274,624**	**186,291**	**23,695**	**14,882**	**49,756**
Economic Data						
Average per capita income (1999)	$21,154	$17,559	$18,262	$21,680	$14,049	$14,015
Civilian labor force unemployed	3.6%	3.6%	4.0%	2.3%	1.7%	3.5%
Individuals below poverty level	13.0%	15.6%	15.7%	8.2%	10.6%	19.9%

Source: U.S. Census Bureau, 2001.

In 2000, the population was predominately Caucasian. All but one area, Harris County, had a lesser percentage (from 7 to nearly 15 percentage points) of Caucasians than the state of Georgia. Harris County exceeded the state percentage by over 13 points. Harris County is also the only area with a lower percentage of African Americans than the state (by 9 percentage points, and over 20 less than the Columbus MSA). Muscogee County had the least percentage of Caucasians (by nearly 15 percentage points less than the state and 4 fewer than the Columbus MSA) and the greatest percentage of African Americans (exceeding the state of Georgia by 15 percentage points and the Columbus MSA by over 3

percentage points). Russell County is similar to Muscogee County in terms of the percentage African Americans. Harris County is the least diverse, followed by Russell County. Chattahoochee County is the most diverse in terms of the percentage of individuals reporting races other than Caucasian and African American.

The ethnicity and poverty status in the counties were compared to data for state populations to determine if any minority or low-income populations exist in the area that could be disproportionately affected by implementation of Alternative A, B, or C. The number of individuals below poverty level was over 2.5 percentage points greater in the Columbus MSA than the state of Georgia. Harris and Chattahoochee counties had fewer individuals below poverty level than the state. While Muscogee County had a negligible increase in percentage of individuals below the poverty level compared to the Columbus MSA, only Russell County had a greater percentage (by over 4 percentage points). With an Alabama statewide percentage of individuals below poverty at just over 16 percent (U.S. Census Bureau 2001), the level in Russell County exceeds the state level by less than 4 percentage points. Per capita income was also the least for Russell County (over $4,000 less than the Alabama state level of $18,189), although unemployment was slightly less than that in Alabama (at 3.7%), Georgia, and the Columbus MSA (U.S. Census Bureau 2001). The other area with low per capita income was Chattahoochee County, which also had the lowest unemployment rate in the area.

3.2.4 Cultural Resources

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources. Archaeological resources include any material remains of past human life or activities that are capable of providing scientific or humanistic understandings of past human behavior and cultural adaptation through the application of scientific or scholarly techniques (Archaeological Resources Protection Act of 1979, Section 3(I) 16 U.S.C. 470bb). For example, archaeological resources consist of sites, arrowheads, stone flakes, or bottles. As for traditional cultural resources, these are not found at Fort Benning nor do any architectural resources exist in the areas proposed for the 362nd MRBC establishment (Hamilton 2005).

Under the National Historic Preservation Act (NHPA) as amended, only historic properties warrant consideration of impacts from a proposed action and any associated mitigation. Historic properties are defined by the NHPA as any districts, sites, buildings, structures, or objects included on or eligible for inclusion on the National Register of Historic Places. Historic properties generally must be more than 50 years old to be considered for protection under the NHPA. However, more recent structures associated with significant national events may warrant protection if they are "exceptionally significant." To be

considered significant, archaeological or architectural resources must meet one or more criteria as defined in 36 CFR 60.4 for inclusion in the National Register.

Several other Federal laws and regulations have been established to manage cultural resources, including the Archaeological and Historic Resources Preservation Act (1974), the Archaeological Resources Protection Act (1979), and the Native American Graves and Repatriation Act (1990). In addition, coordination with Federally recognized American Indian Tribes associated with the Fort Benning area must occur in accordance with the American Indian Religious Freedom Act (1978), Executive Order 13007, *Sacred Sites;* and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments.* These American Indian Tribes are the: Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town of the Creek Nation of Oklahoma, Chickasaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Kialegee Tribal Town of the Creek Nation of Oklahoma, Muscogee (Creek) Nation of Oklahoma, Poarch Band of Creek Indians, Seminole Tribe of Florida, Seminole Nation of Oklahoma, Thlopthlocco Tribal Town, Keetoowah Band of Cherokee Indians of Oklahoma, and Mississippi Band of Choctaw.

The area of potential effect for cultural resources consists of the proposed construction locations for 362nd MRBC support facilities associated with Alternatives A and B and the proposed fast-water training areas (refer to Figures 2-1, 2-2, and 2-3), and various existing training areas that may experience increased use under the two action alternatives.

Archaeological Resources. As of August 2005, over 170,000 acres, close to 90 percent, of Fort Benning military reservation has been surveyed for archaeological resources, resulting in the identification of 3,982 archaeological sites. These sites include prehistoric archaeological sites through recent 20th century historical components. Of these sites, 2,831 have been determined not eligible to the National Register; 1,088 have been determined to be eligible or potentially eligible (including the Yuchi Town Site (1RU63) a National Register-listed property and a National Historic Landmark) and the remaining 63 have not been evaluated (Hamilton 2005). These unevaluated sites are treated as eligible for the National Register until determined otherwise. The area, in which the fast water training launch sites are proposed, has been surveyed and eligible Native American pre-historic and historic cultural sites are present.

The ranges are located within various training areas grouped into complexes, including the Malone Range Complex, the Dixie Road Range Complex, and CACTUS area. A majority of the ranges, and all but one of the firing points, have been surveyed for archaeological resources. In those areas surveyed, no resources were identified. However, one of the mortar firing points and the ranges within the M6 training area have not been surveyed. Cultural resources that are National Register-eligible are not likely within M6 as it is an impact area used for firing artillery and mortars. National Register-eligible cultural resources are a possibility at firing point Concord in training range area K22; however, if 362nd MRBC

dry span or still water training were to occur within this training area proper precautions would be taken to avoid disturbing these sites.

3.2.5 Hazardous Materials and Waste

Hazardous materials and waste are identified and regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Occupational Safety and Health Act (OSHA); the Resource Conservation and Recovery Act (RCRA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); and the Emergency Planning and Community Right-to-Know Act (EPCRA). The CWA also addresses hazardous materials and waste through Spill Prevention, Control, and Countermeasure (SPCC) and NPDES requirements. Hazardous materials have been defined to include any substance with special characteristics that could harm people, plants, or animals when released.

Hazardous waste is defined in the RCRA as any "solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that could or do pose a substantial hazard to human health or the environment." Waste may be classified as hazardous because of its toxicity, reactivity, ignitibility, or corrosivity. In addition, certain types of waste are "listed" or identified as hazardous in 40 CFR 263.

Fort Benning's Hazardous and Toxic Materials/Waste Management program has three major functions: 1) storage, handling, and disposal; 2) waste minimization; and 3) remediation. A detailed discussion of these programs is presented in the Installation Hazardous Waste Remedial Actions Program (HAZWRAP). As part of this program, and in accordance with Army Regulation (AR) 200-1 and applicable federal and state regulations, the Fort Benning Hazardous Waste Management Plan was developed. This plan assigns responsibility and provides instructions for waste handling and management to ensure conformance with applicable policies and regulations. As of 26 September 2005, Fort Benning will no longer be operating under a Hazardous Waste Facility Permit (RCRA Part B) permit (i.e., they will no longer be transporting hazardous materials). They will use their 90-day central accumulation point for waste turn-in and management. This material will then be removed, transported, and disposed by a licensed and permitted contractor (Williams 2005).

The U.S. Army policy for radon is outlined in AR 200-1 and includes requirements to measure radon in newly constructed Army facilities and utilize design criteria for radon reduction in new construction. AR 200-1 also outlines procedures for identification and mitigation of elevated radon levels. Radon information provided by Region IV, U.S. EPA, and statistics maintained by the GA DNR suggest that there are no regional concerns and that there is little potential for radon occurrence in the area of the 36th ENG GRP facilities, fast-water training sites, and in ranges and training areas; therefore, this will not be analyzed further in this document.

The electrical utilities have been privatized on Fort Benning and Flint EMC is the owner and operator. The electrical system and other facilities on Fort Benning may contain poly-chlorinated biphenyls (PCB)-containing materials; however, for all new work on those systems and facilities, use of PCB-containing materials is prohibited (Veenstra 2005). Additionally, Fort Benning will not permit the use of PCB containing materials as insulation materials for construction, maintenance or in renovation projects on the installation. Neither construction of facilities nor the operations of the 362nd MRBC, including activities in training areas and ranges, would utilize PCB-containing, materials; therefore, this will not be analyzed further in this document.

Solid Waste Management Units (SWMU). Past resource and waste management practices at DoD facilities have resulted in the presence of toxic and hazardous waste contamination at some Installations, including Fort Benning. In response, DoD has undertaken environmental restoration activities under its Installation Restoration Program (IRP) to manage these sites, known as Solid Waste Management Units (SWMU); the Fort Benning Environmental Action Plan (Fort Benning 2004b) outlines clean-up requirements for these SWMU sites.

Fort Benning's IRP activities fall under compliance with the RCRA. This Federal law, enacted in 1976, ensures the proper management of hazardous waste at active sites or facilities. The IRP also conforms to the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan. EPA guidelines are followed in conducting investigation and cleanup work in the IRP. Disturbance of a SWMU is prohibited unless prior coordination with the applicable state agency determines otherwise.

A multi-year IRP for Fort Benning is outlined in the 2004 Installation Action Plan (IAP) (Fort Benning 2004c). The IAP identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive approach to conduct investigations and necessary remedial actions. Fort Benning contains a total of 44 SWMU Army Environmental Database-Restoration sites which are eligible for Defense Environmental Restoration Account (DERA) Environmental Restoration, Army (ERA) funding. These sites include 18 Active sites, 24 Response Complete sites, and two Response Complete/Remedy in Place with Long Term Monitoring sites. The 26 non-active sites were found to require no further action, either because contamination no longer exists or because the levels of contamination pose no risk to human health or the environment. The remaining 18 ER,A SWMU sites are considered active and are subject to current or future investigation, removal action, cleanup, or long-term monitoring.

Fort Benning also identified 87 non-ERA eligible Operation and Maintenance Account (OMA) SWMU sites, including landfills, paint facilities, pesticide contamination, other industrial areas, a fire training area, a chemical agent burial site, and petroleum-oil-lubricant (POL) contaminated areas. Forty-two (42) of the OMA SWMU sites have been determined to need no further action, as well, with 45 currently managed as active and subject to further investigation (U.S. Army 2004a).

Of the 44 SWMU DERA sites, two are located in the vicinity of the proposed Alternative A and B 36th ENG GRP construction and retrofit sites. The locations of these sites are provided in the1994 RCRA Site Assessment (USACHPPM 1994). Landfill Number 5, site number FBSB-67 in the 2004 IAP, is a former solid waste trench and fill landfill operated from 1953 to 1954. It is located in a wooded area southeast of the intersection of Dixie and Sightseeing Roads, the 36th ENG GRP area is located across Sightseeing Road to the northeast. This SWMU site covers approximately 4 acres and is a Response Complete site. Contamination in the vicinity of this site was investigated in 1986 and again in 1991. Further work was completed in 2003 and it was concluded that Landfill Number 5 was not the sole source of the groundwater contamination at this site, but potentially two sites further south and west (DoD 2004). No Further Action (NFA) status is anticipated to be granted by the GA DNR EPD. Although nearby, these SWMUs are not in the construction or training footprints.

The second site, number FBSB-69, is a former trench and covered landfill used from 1958 to 1970 and located at the northwest corner of the intersection of Jecelin and Dixie Roads. This area is also directly north of the Sightseeing-Dixie Road intersection and northwest across Dixie Road from the 36th ENG GRP facilities. This Active SWMU site, also known as Landfill Number 7, occupies 29 acres and is currently used as a storage area for yard waste and composting (DoD 2004). It was investigated in 1986, after which quarterly sampling for a one-year period was recommended to track ground water quality (USACHPPM 1994). A RCRA Facility Investigation was completed in FY2002 and submitted to the GA DNR EPD. Communications between the state and Fort Benning regarding this site are ongoing and Fort Benning will recommend the site for NFA status (DoD 2004).

Asbestos Management

Routinely, all Fort Benning facilities scheduled for maintenance, remodeling, and demolition are inspected for presence of Asbestos-Containing Materials (ACM), when required by law or as a precautionary measure when ACM is removed through outside contracts by licensed specialized firms. Removed ACM is properly transported off post and disposed in licensed facilities in accordance with Army regulations and Installation policies and guidelines. Due to the age of the buildings being proposed to be retrofitted, ACM is not expected to be present. However, in the event that a survey conducted prior to any disturbance, identifies any ACM, the materials would be disposed of in accordance with the Installation HAZWRAP.

Lead Based Paint Management

The likelihood for buildings built prior to 1978 to contain lead-based paint (LBP) is high. Painted surfaces can be tested to determine if LBP is present. If testing has not been performed, surfaces painted before 1978 should be assumed to contain lead-based paint. The buildings proposed for retrofits are not

expected to contain LBP; but, if it is encountered, the materials would be disposed of in accordance with the Installation HAZWRAP.

Military Munitions Management

The Military Munitions Rule (MMR) outlines responsibilities for the management of waste military munitions. Proper management of waste munitions may prevent waste munitions from becoming hazardous waste. Military units are responsible for ensuring that all munitions are handled and used in accordance with DoD policies and regulations. Where required by the MMR, units recover munitions that qualify as Waste Military Munitions and turn them in to the Ammunition Supply Point. The Ammunition Supply Point is responsible for the management of waste munitions.

3.2.6 Air Quality

Air quality in a given location is described by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

The significance of the pollutant concentration is determined by comparing it to the Federal and state ambient air quality standards. The Clean Air Act (CAA) and its subsequent amendments (CAAA) established the National Ambient Air Quality Standards (NAAQS) for six "criteria" pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns (PM_{10}), $PM_{2.5}$, and lead (Pb). These standards (Table 3-4) represent the maximum allowable atmospheric concentrations that may occur while ensuring protection of public health and welfare, with a reasonable margin of safety. Short-term standards (1-, 8-, and 24-hour periods) are established for pollutants contributing to acute health effects, while long-term standards (quarterly and annual averages) are established for pollutants contributing to chronic health effects. The GA EPD adopted the NAAQS as the standards for the state.

Table 3-4 Georgia and National Ambient Air Quality Standards[a]			
	AVERAGING TIME	***PRIMARY[b,c]***	***SECONDARY[d]***
Ozone (O_3)	1 Hour	0.12 ppm[e]	Same as Primary
	8 Hours	0.08 ppm	
Carbon Monoxide (CO)	8 Hours	9.0 ppm	None
	1 Hour	35 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.053 ppm	Same as Primary
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	0.03 ppm	None
	24 Hours	0.14 ppm	
	3 Hours	---	0.5 ppm
Particulate Matter (PM_{10})	Annual Arithmetic Mean	50 $\mu g/m^3$[e]	Same as Primary
	24 Hours	150 $\mu g/m^3$	
Particulate Matter ($PM_{2.5}$)	Annual	15 $\mu g/m^3$	Same as Primary
	24 Hours	65 $\mu g/m^3$	---
Lead (Pb)	Quarterly Arithmetic Mean	1.5 $\mu g/m^3$	Same as Primary

Source: U.S. EPA 2004a.

Notes a: These standards, other than for ozone and those based on annual averages, must not be exceeded more than once per year. The ozone standard is attained when the expected number of days per calendar year with a maximum hourly average concentration above the standard is equal to or less than one.

b: Concentration is expressed first in units in which it was adopted and is based upon a reference temperature of 25 °C and a reference pressure of 760 mm of mercury. All measurements of air quality must be corrected to a reference temperature of 25 °C and a reference pressure of 760 mm of Hg (1,013.2 millibars); ppm in this table refers to ppm by volume, or micromoles of regulated air pollutant per mole of gas.

c: National primary standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

d: National secondary standards are the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a regulated air pollutant.

e: ppm = parts per million by volume, $\mu g/m^3$ = micrograms per cubic meter.

Based on measured ambient criteria pollutant data, the EPA designates all areas of the United States as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. The CAA requires each state to develop a State Implementation Plan (SIP) that serves as its primary mechanism for ensuring that the NAAQS are achieved and maintained within that state. According to plans outlined in the SIP, designated state and local agencies implement regulations to control sources of criteria pollutants. The CAA provides that Federal actions in nonattainment and maintenance areas do not hinder future attainment with the NAAQS and conform to the applicable SIP.

The affected environment for this EA is specifically Muscogee, Chattahoochee, and Russell Counties. In general, this part of GA enjoys relatively good air quality, with levels of most criteria pollutant emissions within required standards. Table 3-5 presents total annual emissions of criteria pollutants for the multiple-county Columbus, GA-AL MSA area potentially affected by the 362nd MRBC establishment. Fort Benning emissions represent less than 9 percent contribution of all criteria pollutants within the MSA. Under the Georgia Rules for Air Quality Control, Chapter 391-3-1, military operations do not constitute a significant source of air emissions. A letter from Harold Reheis, Director, GA DNR, to the

Southeastern Regional Environmental Office (SREO), dated 21 April 2003, states that the "use of vehicles and equipment in military training and military exercises, on ranges and unpaved road and trails, is not subject to Rule (n)." The letter further states "...Rule (n) is not applicable to most vehicle and equipment travel at a military base, since the travel is not a part of a process and there is no manufactured product."

Table 3-5 Total Pollutant Emissions Columbus, GA-AL MSA (tons/year)[a]

	CO	*VOCs*	*NO_x*	*SO_x*	*PM_{10}*	*$PM_{2.5}$*
MSA Emissions	113,451	18,321	15,490	3,368	14,878	5,056
Ft. Benning[b]	10,271	406	199	0.61	989	1,331
Percent Contribution by Ft. Benning	9	2	1	0.01	7	26

Source: [a] USEPA AirData. 2004b. Air Data Tier Emissions Report. Note: most recent data available are from 1999.
[b] Air Emissions Inventory for 2003, Fort Benning, GA (U.S. Army 2004b).

A locale's air quality status and the stringency of air pollution standards and regulations depend on whether monitored pollutant concentrations attain the levels defined in the NAAQS. Areas with ambient concentrations less than these levels are in "attainment" and areas that exceed these standards are classified in "nonattainment." The Fort Benning area is currently in attainment for all criteria pollutants.

3.2.7 Transportation

Transportation resources refer to the infrastructure and equipment required for the movement of people, manufactured goods, and raw materials in geographic space on land and on the water: ground transportation, mass transport, railroad system, as well as water and air transportation. For purposes of this EA, ground, air, and water transportation are analyzed. Mass transport and the railroad system would not be affected by implementation of this proposed action. Only 142 Soldiers (less than 1 percent additional personnel to Fort Benning) would be added to the Installation and would not cause an adverse impact to the mass transportation system in the Columbus metropolitan area; and the railroad system would not be used nor changed in any manner with the stationing of the 362nd MRBC at Fort Benning.

Ground Transportation

The Fort Benning area is served by several Federal, state, and county roads located in both Georgia and Alabama. There are nine major roads serving the Fort Benning area, some with multiple designations by Federal, state, or county systems. Because of its juxtaposition to the Columbus and Phenix City areas, primary access to Fort Benning is predominantly from the north. In terms of average daily traffic the four most utilized access roads are Benning Boulevard, Lindsay Creek Parkway (I-185), South Lumpkin Road, and Victory Drive (U.S. 280). The main gate to Fort Benning is located at the intersection of Benning Boulevard and South Lumpkin Road approximately 2.25 miles within the Installation boundary. The

interior Installation road network consists of hundreds of miles of improved and unimproved roads and trails. Principal roads near the 36 ENG GRP and fast water training sites include 82nd Airborne Division Road, Dixie Road, Sunshine Road, and Sightseeing Road in Georgia and the 101st Airborne Division Road and Sunshine Road (and bridge) in Alabama, all within Installation boundaries. The 362nd MRBC vehicles would travel on these and other Installation roads but would not adversely impact existing road or traffic conditions since only 16 wheeled vehicles and/or tractors (refer to Section 2.1) would be added to the current Fort Benning inventory.

In support of a force protection increase measure, General Eric K. Shinseki, United States Army Chief of Staff issued a Department of the Army directive dated March 1, 2001, mandating that permanent vehicle controlled access to all U.S. Army Installations worldwide be constructed. In support of this directive, temporary access control points (ACPs) were installed that restrict unauthorized access to Fort Benning. These ACPs consist of temporary sprung structures that shelter either military police or civilian law enforcement personnel who check the identification of everyone seeking entry into Fort Benning via the road network (U.S. Army 2003). There are currently seven ACPs, one each at the following locations: Benning Boulevard, Lindsay Creek Parkway (I-185), South Lumpkin Road, Custer Road, Sand Hill, First Division Road, and Eddy Bridge. These ACPs are currently being replaced with permanent structures to better facilitate Installation security. Under the proposed action, none of the ACPs would be affected by 362nd MRBC construction or training activities.

In summary, since the proposed action would not cause an adverse nor negative impact to ground transportation (i.e., traffic numbers would not increase measurably (both privately and government owned vehicles), ACPs would not be affected, and the existing road infrastructure would be able to support the stationing of this 362nd MRBC unit, then this resource is not carried forward for further analysis in this EA. Improvements by graveling existing gravel roads would occur but this would represent a beneficial impact to the road system within Fort Benning by bettering access for military training.

Air Transportation

LAAF conducts military training operations out of Fort Benning. The airfield supports missions of Fort Benning and area reserve components, with both Army and Air Force aircraft. These operations can occur 24-hours a day, every day of the week. The airspace surrounding LAAF is classified by the Federal Aviation Administration as Class D airspace. Class D airspace only surrounds airports with an operational control tower. For LAAF, it extends in a radius for 5 nm around (diameter) the airfield and from the surface to 2,500 feet AGL. Within Class D airspace pilots are required to establish and maintain two-way radio communications with the tower facility providing air traffic control services prior to entering and while within the airspace to ensure safe separation (FAR/AIM 2000).

Within the Installation boundaries, in addition to the LAAF airfield and airspace environ, airspace over the training ranges supports both helicopter (including the CH-47) and fixed-wing aircraft (e.g., C-5A) practice training areas for ordnance delivery, cargo drops, and troop transport. This training involves the use of the live impact area as well as the drop and landing zones. Outside of Installation boundaries, commercial airline service is provided to the Columbus/Phenix City area by four commercial airlines operating out of the Columbus Metropolitan Airport. This airport is located approximately 12 miles north (10.4 nm) of Fort Benning and that airspace is managed by the air traffic control tower at Columbus Metropolitan Airport.

All helicopter operations proposed under this action would emanate from LAAF and operate within the 5-nm radius Class D airspace and follow all range rules and regulations regarding equipment lift and off-loading. Existing landing zones within LAAF would be used and equipment lifted and delivered to the landing sites; no drop zones would be used or be required since the equipment will not be dropped nor are landing zones needed outside LAAF because the helicopters would not land at the launch sites (Weekly 2005). Since this airspace is under the direct control and management of Fort Benning, air traffic control tower (Hannah and Sigmon 2005), safe operation of all aircraft would be ensured at all times and no conflicts with existing airfield users would occur(Hannah 2005). Therefore, because there would be no change to airspace operations, no change in commercial air traffic in the region, and no change in the type of aircraft operating out of LAAF, this resource will not be further analyzed in this EA.

Water Transportation

The Chattahoochee River is a navigable water of the United States and thus traffic upon the river is regulated by the U.S. Coast Guard (Meyers 2005). Both civilian (small boats) and commercial (barge) craft use the river, though barges are infrequent due to the many dams (New Georgia 2005). The river channel is approximately 100 feet wide with a minimum depth of approximately 9 feet from Columbus to its terminus at Lake Seminole. Access to the Gulf of Mexico from Lake Seminole is via the Apalachicola River, which empties to the Gulf at Apalachicola, Florida. The Chattahoochee, Flint, and Apalachicola Rivers have been improved by the Corps of Engineers with construction of the Jim Woodruff Lock and Dam, Columbia Lock and Dam, Walter F. George Lock and Dam, and flood control and power facilities in the upper reaches of the Chattahoochee River. Transportation of materials to Fort Benning via water is negligible to non-existent and there is no transportation of materials on the streams located in or proximate to the northern portion of the Installation (New Georgia 2005).

The U.S. Coast Guard issues safety warnings and establishes safety zones for such operations that are proposed for the fast water training (Meyers 2005). If the 362nd MRBC action were implemented then Fort Benning would need to notify the U.S. Coast Guard approximately 2 months prior to conducting the fast water training to ensure that a safety zone is established on the Chattahoochee River and that the notice to mariners is given enough time to insert this information into the publication to notify mariners of

such safety zones (Meyers 2005). If the 362nd MRBC were to require more than a day at a time for such training, then Fort Benning would need to contact the U.S. Coast Guard at least 4 months in advance (Meyers 2005) to ensure that the safety zone is established and the notice to mariners published. No adverse impacts would accrue to water transportation due to these requirements, and therefore, not analyzed further in this EA. Recreational impacts to fishing and recreational boating is addressed in recreational resources, section

3.2.8 Public Health and Safety

Fire Protection, Police Protection, and Health Services

The Columbus City Police employees over 300 policemen (Columbus 2005a) and the Fire Department consists of full-time firemen at 14 fully equipped stations (Columbus 2005b). Phenix City has a police force of 74 sworn officers (Phenix City 2005a) and a three-station fire department (Phenix City 2005b). In Chattahoochee County, volunteer firemen supply fire protection, while sheriff /police provide law enforcement protection for the county (U.S. Army 2005a). There are numerous medical and dental facilities serving the area and they are concentrated in the Columbus area. In addition to 911 emergency assistance services, the area also has emergency medical services available at five emergency medical locations (Columbus 2005b). Fort Benning provides medical evacuation helicopter service and additional medical services to the community when needed. LAAF plays an important role in the operation and maintenance of the aircraft participating in the support of the surrounding communities. Fort Benning personnel also provide emergency response service on Post, including reports of fires, utilizing existing roadways. Under the proposed action, 142 personnel would be added to the Installation total of 37,000 Soldiers and civilians. This is a less than 1 percent increase in population and would not represent an adverse or significant impact to fire and police protection or health services of the region; therefore, this resource will not be evaluated further in this EA.

Unexploded Ordnance

Infantry training at Fort Benning has been conducted since the Installation was first established in 1918. Infantry training has required, and continues to require, the use of “blank” as well as “live” ammunition. The type of ammunition used for training purposes is diverse. It virtually encompasses every weapon system from small caliber individual weapons to air delivered 500-pound bombs. Blank ammunition and various pyrotechnic simulators (including obscurants) are used throughout the entire training area. Live-fire training is conducted in designated ranges and training areas, with projectiles directed towards designated ordnance impact areas. The Fort Benning military, civilian personnel, and the community are routinely advised and reminded not to handle any suspected unexploded ordnance (UXO), and to report suspicious ordnance to the Explosive Ordnance Detachment (EOD) and to the Director of Public Safety via 911 calls. The proposed facility construction is found in an existing administrative and maintenance

compound so the existence of UXO is highly unlikely. UXOs could exist in the proposed areas for fast water training but if any UXOs were uncovered during construction, the UXO would be reported to EOD and they would dispose of the UXO in an approved manner. Further evaluation of this resource, therefore, is not warranted in this EA. There would be no significant or adverse impact with the stationing of the 362nd MRBC at Fort Benning.

Surface Danger Zone

The surface danger zone (SDZ) is an "invisible" line that surrounds the firing range and ordnance impact area portions of a range and provides a buffer area to protect personnel from the non-dud producing rounds that may be ricocheted during operation of the range (U.S. Army 2004a). For each training scenario on a range, the SDZ is computed to take into account the firing positions and ordnance used, so the SDZ exclusion zone will vary. The proposed facility construction at 36 ENG GRP and launch sites for fast water training along the Chattahoochee River are not found within a firing range, ordnance impact area, or SDZ (Fort Benning 2005a). Dry and still water training would take place within existing training ranges with SDZs but this training has been conducted in the past (Weekly 2005) and existing safety requirements are in place and will be followed by the 362nd MRBC during their training scenarios. Because this action would not change existing SDZ nor change existing SDZ boundaries, examination of this resource is not carried forward for further analysis.

Water Safety

The U.S. Coast Guard (as part of the Department of Transportation and the Department of Homeland Security) ensures safety on navigable waters of the U.S. (33 CFR 80); the Chattahoochee is such a river. The Marine Safety Office specifically regulates boating and navigation along the river (Meyers 2005). The Georgia DNR and AL DCNR issue boating and fishing licenses and enforce boating safety on the Chattahoochee. Under the proposed action, the 362nd MRBC would obstruct river traffic up to ten times per year for a day at a time. As was mentioned under 3.2.7, the U.S. Coast Guard would require notification from Fort Benning (in letter format) of when and how long such training would occur across the Chattahoochee in order to establish a safety zone (i.e., restrict public access) during training. This notification would ensure that water safety is enforced and that public health and safety is protected. In addition to U.S. Coast Guard notification, the 362nd MRBC must inform Fort Benning Range Management (according to USAIC Regulation No. 210-4 [Range and Terrain Regulation] by submitting the Range Safety Operations form Fort Benning 210-4-1-4) of their training operations and abide by all safety rules and regulations (which include safety zone establishment, buoys, etc.) prior to conducting any training (fast water, still water, dry span, and helicopter transport). Therefore, if this notification were undertaken between the U.S. Coast Guard and Fort Benning, and existing Fort Benning range safety procedures are followed, then there would be no adverse impacts to public health and safety, and therefore, this is not analyzed further in this EA.

3.2.9 Noise

Noise is often defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying. Response to noise varies by the type and characteristics of the noise source, distance from the source, receptor sensitivity, and time of day. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by stationary or mobile sources. The primary sources of noise at Fort Benning are those associated with aircraft (fixed- and rotary-winged) at LAAF, weapons firing, mechanized equipment (tanks and trucks), military exercises, and small arms training from the various ranges.

Sound intensity results from the energy used to produce it. It can be measured or predicted based on knowledge of its source, such as the characteristics of a helicopter's engine or of a vehicle motor. The human ear's ability to hear covers an enormous range of sound. To make sound intensity measurement more meaningful and understandable, the unit of measurement known as the decibel (dB) is used. The decibel scale begins at the approximate level of the smallest amount of sound detectable by the human ear. Under laboratory conditions, differences in sound level of 1 dB can be detected by the human ear; however, in the community, the smallest change in average noise level that can be detected is 3 dB. Because of the physical characteristics associated with noise transmission and reception, a doubling in sound pressure squared normally results in about a 3 dB increase in noise levels while a 10 dB noise level increase is generally required to perceive a doubling of perceived noise.

The 362nd MRBC maintenance facility construction, existing facility improvements, and training activities would take place in areas where comparable operational and training activities currently occur (e.g., 36 ENG GRP compound, training areas, airfields, and boat launch sites). Noise levels associated with construction- and improvement-related activities for establishing adequate maintenance and operations facilities and fast-water training sites would be short term, remain consistent with existing conditions, and be contained within the Main Post environs or existing training areas. In terms of training, similar helicopter transport training (lift, hover, and equipment landing) has occurred at both Engineer and Bradley Landings up to the early 2000s (Sigmon 2005; Kendrick 2005). In the 1980s, when there was a bridge building battalion stationed at Fort Benning they used both locations for training for ribbon and pontoon bridge erections (Weekly 2005). Engineer Landing was also the site for Bradley tank swimming activities and the helicopter heavy lift company used the Chattahoochee in the Engineer Landing area for water bucket for fire suppression training (Weekly 2005). In summary, similar helicopter activities such as hovering, equipment landing, and lower altitude transport has occurred in the past and would not introduce any new activities in the areas inclusive of Engineer and Bradley Landings.

Any noise generated during bridging operations would be limited to day-time use of cranes, trucks, trailers, bridge erection power boats, artillery and grenade launch simulators at or adjacent to existing training areas and ranges consistent with existing noise conditions (Weekly 2005)—no new equipment or

noise sources would be introduced. To ensure that the 362nd MRBC employs only those practices acceptable at Fort Benning training ranges (and that includes Engineer and Bradley Landings), they will need to submit to Range Management Fort Benning forms 210-4-3-R (Record of Firing and Non-Firing Data Form) and 210-4-2-R (Artillery/Mortar Safety Record) prior to any training activities (Weekly 2005).

Use of helicopters for transport training would occur in conjunction with fast-water training, take place at existing airfields, within Fort Benning-controlled airspace, be contained within Installation boundaries, the nearest noise sensitive receptor is more than 3 miles away, and training would occur up to four days (no night operations are anticipated) per year at no more than 12 hours during the day, using four aircraft. These four aircraft would be the same type of aircraft already flown out of LAAF and represent a minimal increase to the overall 52,000 airfield operations that occur annually (Fort Benning 2004d). In other words, even if the 362nd MRBC conducted 2,000 airfield operations per year, this would represent only a 4 percent increase in operations. Any additional noise generated from this activity would be contained within existing noise contours and remain within the Installation boundaries since the helicopters would travel from a pad on LAAF to the fast-water training launch sites at either Engineer or Bradley Landings (refer to Figures 2-2, 2-3, and 2-4), a distance of less than 1 mile from either location (Stewart 2005). No changes to the Fort Benning noise environment or zones, as defined in Army Regulation 200-1, *Environmental Protection and Enhancement*, would occur as a result of 362nd MRBC training activities. Therefore, this resource has been eliminated from further analysis.

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

The approach used for this impact analysis is to compare what would occur if the proposed action alternatives (Alternatives A and B) and no-action alternative (Alternative C) were implemented at Fort Benning. The environmental impact analysis process is designed to focus analysis on those environmental resources that potentially could be affected by the new 362nd MRBC including its support facilities and training. Potential effects may result from different aspects of Alternatives A, B, and C, including construction and improvements, fast water training site preparation, operations and training, or personnel changes. With all three alternatives, an additional 142 MRBC personnel would be stationed at Fort Benning. In addition, Alternative A entails construction of two new maintenance bays in the current location of 36th ENG GRP facilities in the Main Post Cantonment Area and facility retrofits in this area to include upgrades and improvements to the current wash rack and maintenance bays and paving an existing gravel parking area for equipment storage. Dry span and still water training would be conducted within existing training areas, and ranges. In addition, this alternative would incorporate fast water training, including helicopter transport training. This aspect of Alternative A comprises site preparation at Engineer and Bradley Landings including access road improvements, establishment of Engineer Equipment Parks (EEPs) for equipment, and selective clearing of vegetation along and stabilization of Chattahoochee River banks; and subsequent training would occur at these sites (Figures 4-1 and 4-2). Alternative B is the same as Alternative A except fast water training (including helicopter transport) would not occur.

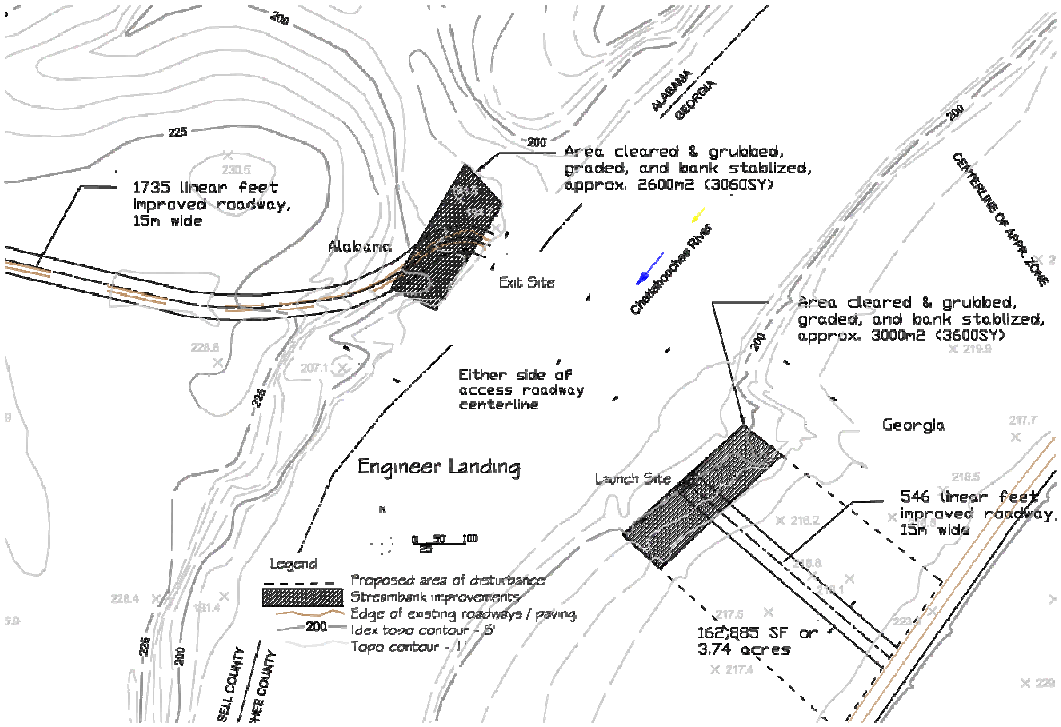

Figure 4-1 Fast Water Training Site Conceptual Design: Engineer Landing

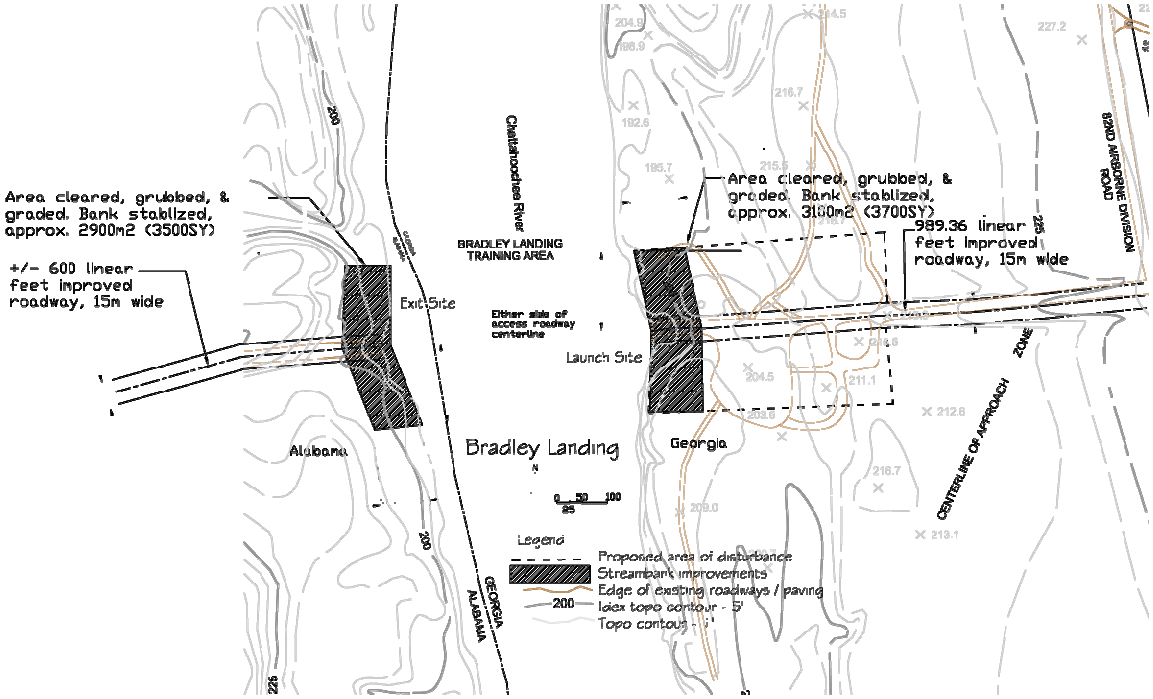

Figure 4-2 Fast Water Training Site Conceptual Design: Bradley Landing

Chapter 4 presents the potential environmental consequences of the addition of 362nd MRBC personnel, equipment, training, and operations and maintenance for each of the resources discussed in Chapter 3. A comprehensive matrix comparing the no-action alternative and the proposed action alternatives by resource and potential impacts is provided in Table 6-1. Cumulative effects of the 362nd MRBC when considering past, present, and foreseeable future actions are presented in Chapter 5.

4.1 NATURAL ENVIRONMENT

4.1.1 Soils

Impacts to soils are considered significant if any ground disturbance or other activities would violate applicable Federal or state laws and regulations, such as the Georgia Erosion and Sediment Control Act (ESCA) (administered by the Georgia EPD) or Alabama Water Pollution Control Act (WPCA) (administered by the Alabama DEM), and the potential for Notices of Violation (NOV) for the failure to receive applicable state permits, such as a National Pollutant Discharge Elimination System (NPDES) construction permits, prior to initiating a proposed action. Potential adverse effects to soils could result from ground disturbance leading to soil erosion, fugitive dust propagation, sedimentation, and pollutants such as hazardous materials and/or waste. Effects to soils are most likely to occur from fast water training site preparation activities and less so, but still likely, to occur from 36th ENG GRP construction and retrofit activities. Effects due to post-construction operations (i.e., 362nd MRBC training) including

those in the training areas and ranges are also considered.

For the alternatives, tributary stream areas would be avoided; however, if disturbance is deemed unavoidable during construction and design phases, the appropriate consultation and permits (e.g., Section 404) would be obtained. The Chattahoochee River banks would be cleared of vegetation, graded, and stabilized. Any section 404 permits that may be required will be obtained prior to any construction. Soil erosion and sedimentation controls will be put in place, per ESCA and WPCA requirements, and NPDES permits obtained in advance.

For required mitigation for potential adverse impacts to soils under Alternative A, refer to Appendix C, Mitigation and Monitoring Plan. If Alternative B were chosen, the Mitigation and Monitoring Plan will be revised accordingly.

Alternative A (Preferred Alternative)

The proposed construction of two new maintenance bays would occur in a previously disturbed and developed area paved with asphalt and concrete, and adjacent to the existing maintenance bays (refer to Figure 2-1).

Construction of the 362nd MRBC facilities at the Alternative A sites (maintenance bay expansion building 2920, paving hardstand at 36th ENG GRP motor pool area, Engineer Landing, and Bradley Landing) would result in the displacement of soil as a part of clearing and grubbing, and earthmoving cut-and-fill operations for both the construction of the facilities and the trenching for the underground utility lines to support the facility expansion. It is anticipated that the 362nd MRBC and the 36th ENG GRP, as engineer companies, would perform their own construction of the improvements to the landing sites. Any building construction/expansion would be contracted to a private contractor, through a Fort Benning procurement process.

Approximately 4 to 6 acres at each landing site would be cleared of vegetation and stump and root matter grubbed out. Once specific design is determined, then this design would be submitted to the USACE for review and permitting purposes. It is estimated that earthmoving operations would involve approximately 3,500 cubic yards (CY) of cut and fill operations at each landing site (averaging 18 inches of soil moved within the site, for each landing, both sides of the river). These volumes are based on clearing an area 50 meters (M) either side of the access roadway, for a depth of 30M back from the river bank (FM 90-13, page 7-15, Figure 7-13) Any merchantable timber to be removed within these areas during this process would be sold via a timber sale contract controlled by Fort Benning's Land Management Branch. All timber removal contracts would be conducted in accordance with Georgia or Alabama Forestry Commissions' BMPs for timber harvests. Any remaining non-commercial vegetative debris would be removed from the Installation under separate Fort Benning contracts. All slash removal contracts would

be conducted in accordance with the Erosion Sedimentation Pollution Control Plan (ESPCP) under the Construction NPDES permit, described in the next paragraph, and other standard BMPs to control potential erosion and sedimentation. Soil excavation for building foundations and trenching for utilities (if required) for expanding the maintenance bays at building 2920 would be approximately 170 CY, with most soil replaced in a compacted trench, or spoiled on or adjacent to the site and re-vegetated to prevent erosion. Temporary construction activities may result in the migration of airborne or waterborne soil particles and petroleum, oils, and lubricants (POLs) onto adjacent lands and streams, which could contribute to sedimentation of off-site areas. For POLs, Fort Benning would require use of fueling and maintenance practices as well as spill counter measures to prevent contamination of soil. During the construction process any construction exits would use existing access roadways to the landings, or the maintenance/motor pool area, which would result in less earth moving and vegetative removal.

Adherence to the ESPCP under the construction NPDES permit is required and would include measures to minimize impacts to soils. Construction of the 362nd MRBC facilities requires the preparation, certification, and submission of an ESPCP to the GA EPD and a CBMPP to the AL DEM as part of the NPDES construction permit process. Some of the components of the ESPCP include a project description, soil information, changes to existing contours, existing drainage patterns, BMP locations, detailed drawings, and a timeline or construction schedule. As part of the ESPCP, SPCC Plan measures are required during construction activities to prevent and/or minimize spill/release from hazardous materials into ground surfaces. During construction, the NPDES permit would require daily, weekly, and monthly inspections and reports. This standard set of measures would help minimize the effects of this alternative from construction activities.

All practices and BMPs for erosion and sedimentation control would be designed and implemented in accordance with the Manual for Erosion and Sediment Control in Georgia and the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas in Alabama. BMPs specified in the ESPCP could include erosion control matting, channel stabilization, silt fencing, brush barriers, storm drain outlet protection, stone check dams, rock filter dams, construction exits, temporary and permanent seeding, and the application of mulch. The application of any or all of these BMPs would depend upon precise, specific ground conditions in the areas disturbed by construction. Erosion control matting, if needed, would be used on slopes greater than 2.5:1. Silt fencing, stone check dams, and rock filter dams represent the types of measures used to trap sediment on the site. Gravel exits, or similar measures, could be used at construction exits to reduce transport—or drag-out—of mud from construction vehicles traveling from the site to existing paved roads. Unpaved roads that provide access to the MRBC facility sites may not require controlled construction access points. Potentially, the disturbed areas could be seeded with temporary and permanent grasses to stabilize them.

Other BMPs potentially applicable during the construction phase to address soil and sedimentation effects could include: buffer zones, dust control on disturbed areas, streambank stabilization, construction road stabilization, and storm drain outlet protection. The 362nd MRBC would be responsible for continuously maintaining all erosion and sediment control measures during the construction of the landing sites and the selected construction contractor for the maintenance bay expansions would be responsible for that phase of the project.

Facilities involving the use and storage of hazardous materials would be designed to meet SPCC requirements under AR 200-1, as well as state and Federal requirements as applicable. These facilities include, but are not limited to, maintenance facilities, loading/unloading operations areas, hazardous material and POL storage areas (above/underground facilities), and generators. Design requirements of these facilities would include: secondary containment and/or diversion structures; and spill supplies and equipment to mitigate spills and/or releases. These measures would prevent and/or minimize soil contamination from possible discharge of pollutants into the environment.

Post-construction activities (362nd MRBC training) also would result in the potential for minor adverse effects to soils. Maintenance on roads, trails, and vehicles would potentially result in additional minor ground disturbance. Travel to and from the new 362nd MRBC facilities to and within ranges and training areas especially as vehicles and equipment exit the training areas and ranges and access the travel routes would result in vehicles potentially disturbing soil on the side of paved or unpaved roads, and equipment disturbing soils in ranges and training areas resulting in potential erosion and fugitive dust emissions (discussed in more detail in Section 4.2.6, Air Quality). Soil disturbances are expected to be minor, and would be managed as part of the Installation's on-going range and training area environmental management program. Permanent and temporary stabilization of disturbed areas would also help control dust from exposed soil surfaces.

Training vehicles have the potential to leak or spill POLs onto the soils, resulting in potential soil contamination concerns, but the vehicles are required to have drips pans underneath when parked to minimize POL spills. Military units are also required to utilize secondary containment for the storage of hazardous materials/wastes and during refueling operations. These and other requirements of the SPCC would be followed. Also, routine maintenance of the vehicles would help to identify and repair any conditions that might cause POL leaks. A spill response protocol has been established Post-wide and personnel on the ranges and in the training areas should have adequate spill response supplies on hand. Maintenance activities within ranges and training areas would also continue, resulting in the same level of ground disturbance and the same potential for POL spills from the maintenance vehicles themselves. During range safety and maintenance inspections, personnel would continue to check for areas of erosion, spill, and other environmental concerns and take appropriate actions. Implementation of applicable Federal and state laws and regulations and already-established Installation policies and guidelines, such as

erosion control BMPs and spill control measures, would repair or minimize potential effects to soils as a result of this alternative, resulting in temporary, minor adverse potential effects only.

Overall, this alternative would result in a potential for minor adverse effects to soils. Implementation of appropriate BMPs and mitigation measures after construction for potential soil erosion would likely reduce effects of operations and 362nd MRBC activities on the ranges and training areas.

Alternative B

Under this alternative, the 362nd MRBC would conduct all administrative tasks, maintenance, equipment storage, and training (dry span and still water) as presented under Preferred Alternative A. However, no fast water training (including helicopter transport) on the Chattahoochee River would occur. Construction of the 362nd MRBC facilities (maintenance bay expansion) at the Alternative B site (36th ENG GRP maintenance and motor pool facilities) also would result in the displacement of soil as a part of earth moving cut-and-fill operation for both the construction of the facilities and the potential trenching for the underground utility lines to support the facilities. Like Alternative A, development of the Alternative B site would be designed to minimize potential soil impacts by minimizing earth moving and vegetation removal.

Adherence to an ESPCP, CBMPP, as well as the NPDES permit would be accomplished as described for Alternative A. BMPs such as those indicated for Alternative A would be implemented to minimize impacts to soils from erosion, sedimentation, and spills. Potential for effects to soils during post-construction activities (362nd MRBC training) including activities in ranges and training areas would be the same as described for Alternative A.

Overall, this alternative would result in a potential for minor adverse effects to soils. Like Alternative A, appropriate BMPs and other mitigation measures would reduce the negative effects of operations and other activities.

Alternative C: No Action

The no-action alternative would have no impact on current soil conservation measures because no new construction would occur. Activities that already occur within the proposed Alternative A and B sites—including recreational access to the river, fishing and hunting, and activities at the maintenance and motor pool area—would continue. Since no training would occur at Fort Benning, potential for negative effects to soils from activities in ranges and training areas would not occur. Therefore, this alternative would result in no effects to soils.

4.1.2 Water Quality

The threshold level of significance for water quality is the violation of applicable Federal or state laws and regulations, such as the Clean Water Act and the Georgia Water Quality Control Act, and the potential for Notice of Violation (NOV) for the failure to receive applicable Federal and state permits, such as a NPDES permit (required for all projects 1 acre or more in size), prior to initiating site development activities. This also includes not following management practices for "impaired streams," as defined under Alabama's and Georgia's 303(d) List, for TMDLs. The lower Chattahoochee River is impaired due to fecal coliform. The Upatoi Creek, Little Pine Knot Creek, and Pine Knot Creek are three stream segments known to be impaired due to sedimentation and could potentially be impacted by training activities if such activities were located in the vicinity of these creeks within the training ranges. No TMDL-designated streams in Alabama would be affected by the proposed action. The threshold for streambanks is failure to obtain the necessary permits from GADNR and from ADEM or the violation of applicable Federal and state laws and regulations.

Waterways that could be affected by this proposal include: Chattahoochee River, Heriot Creek, Ochillee Creek, Victory Pond, McMurrin Branch, Harps Creek, Mill Creek, and associated unnamed tributaries leading to them. In addition, a number of drainages within the ranges and training areas that lead to TMDL streams could be affected. This depends on exactly where the dry span and still water bridging training would occur—which has not yet been pinpointed. Ground water resources include the water supply wells and large aquifers underlying Fort Benning and the greater surrounding Sand Hills area. Although no National Wetlands Inventory wetlands occur within Alternatives A or B, there will be disturbance of the shoreline in both locations on both sides of the river. Since exact areas for dry span and still water training have not been identified, the existence of wetland areas can not be determined. Wetlands would be delineated once specific training sites are indicated and then would be avoided to the greatest extent possible in the design and construction process—if needed for the dry span and still water training sites. Appendix C provides mitigation measures and a monitoring program for potential impacts to water quality.

Permits are required authorizing structures and work in or affecting navigable waters of the U.S. (such as the Chattahoochee River), or the discharge of dredged or fill material into waters of the U.S. The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972. For disturbance of wetlands and along streambanks, the Standard Operating Procedure, Compensatory Mitigation, Wetlands, Openwater, and Streams procedure is applicable. This Standard Operating Procedure (SOP) is applicable to regulatory actions requiring compensatory mitigation for adverse impacts to 10 acres or less of wetland or other open waters, and/or 5,000 linear feet or less of intermittent and/or perennial stream (Definitions, 65 FR Vol. 47, Page 12898). This SOP may be used as a guide in determining compensatory mitigation requirements for projects with impacts greater

than the above wetland and stream limits, or for enforcement actions; however, higher than calculated credit requirements would likely be applicable to larger impacts. In instances where it is unclear whether the jurisdictional area proposed to be impacted is a wetland, a stream, or other waters, the U.S. Army Corps of Engineers (USACE) will make the final determination. This SOP does not address mitigation for categories of effects other than ecological (e.g., historic, cultural, aesthetic). Types of mitigation other than compensation (e.g., avoidance, minimization, reduction) are not addressed by this SOP. As an alternative to proposing a site specific mitigation plan (see Appendix C), purchasing the required mitigation credits from a wetland or stream mitigation bank may be considered. For impacts in areas not serviced by approved wetland or stream banks, wetland or stream in-lieu-fee banking, as appropriate, may be proposed.

Adverse effects to water resources could result from erosion, runoff, and surface contamination from pollutants such as hazardous materials and/or waste. Effects to water are most likely to occur from construction activities. Impacts to water resources could potentially occur if implementation of one of the alternatives resulted in changes to water quality or supply, threatened or damaged unique hydrologic characteristics, or violated established laws or regulations.

Fort Benning's proposal involves construction and alteration to streambanks along the Chattahoochee River and would abide by all Federal, state, and local regulations regarding erosion and sedimentation control measures. Fort Benning would continue to apply Installation-wide BMPs to limit sedimentation into streams and to limit degradation of streams with TMDLs. The construction and alteration will occur for the most part in areas that have already been disturbed and used for similar activities. The construction and alteration will include stabilization of the streambanks to reduce the potential for erosion and sedimentation. In addition to the examples listed in Chapter 3, additional BMPs include:

- Other than outlined in construction plans (to be prepared), no additional disturbance or construction-related activities will occur within a minimum of 25 feet from perennial streams, and buffer zones will be marked. Logging decks and defined skid trails for tree cover removal will be located outside the buffer zones unless a variance is granted (e.g., some stream crossings).
- In areas adjacent to waterways, tree clearing will be accomplished using low impact methods in accordance with the Georgia and Alabama Forestry BMPs for Water Quality and Timber Harvesting.
- Pollution of nearby storm drainages and waterways will be minimized by ESPCP and SPCC BMPs such as secondary containment, drip pans, and minimum material exposure.

For required mitigation for potential adverse impacts to wetlands or streambanks under Alternative A, refer to Appendix C, the Mitigation and Monitoring Plan. If Alternative B were chosen, the Mitigation and Monitoring Plan will be revised accordingly.

Alternative A (Preferred Alternative)

Construction of the 362nd MRBC facilities at the Alternative A sites could create potential temporary minor adverse effects on water quality, primarily due to potential sedimentation of adjacent streams from tree clearing and grading construction activities. All streams and tributaries listed previously in the introduction to this section have the potential to be affected by Alternative A because the site is spread over a broad area. If this alternative were chosen, Fort Benning would implement the mitigation plan, BMPs, and other measures to minimize adverse impacts to water quality. There are no known wetlands in the immediate area of or adjacent to Alternative A facilities (i.e., 36th ENG GRP compound), so none would be affected.

Since the shoreline on both sides of the Chattahoochee River, at both landing sites, will be disturbed during improvements, and during training activities, a Section 10 permit will be required (Morgan 2005). Permit submission is to the Regulatory Branch, Albany GA Field Office, USACE. Prior to any construction, both the launch and exit sites and the access roads would be evaluated for area of disturbance and delineated for potential adverse effect on wetlands or streambanks. Once dry span and still water sites have been identified, potential wetlands (if they exist) would be delineated and the appropriate permits completed and submitted by Fort Benning.

Adherence to applicable Federal and state laws and regulations as well as Installation policies and guidelines is required and would minimize impacts to surface and ground water quality. All tree clearing and construction activities greater than 1 acre in size and/or as part of a common development area, such as this Alternative A action, require a NPDES General Permit for Storm Water Discharges under the ESCA. A NOI for construction-related storm water discharge would be submitted to the GA EPD and to the AL EMD for the Alabama side of the river to meet these requirements. As a standard practice, Fort Benning (specifically the 362nd MRBC) would prepare and implement an SPCC Plan and its requirements during construction activities at the two landing sites to prevent and/or minimize spill/release from hazardous materials into waterways. Erosion control BMPs, as discussed previously, would be applied as necessary and practicable to minimize the deposition of sediments into adjacent surface waters at the site of disturbance. As part of the NPDES permit, water samples would be collected during construction to document any changes in turbidity. If turbidity increases, additional BMPs may be required. Additionally, when the maintenance facility in the 36th ENG GRP yard is expanded (time approximate in FY10), the building contractor would be required to prepare and implement an SPCC Plan for the building construction activity, and possibly—depending upon funding and timing—the paving of the hardstand at the same time.

Design and construction of facilities where hazardous materials would be used and stored would meet SPCC requirements under AR 200-1, as well as state and Federal requirements as applicable. Design requirements for these facilities would include secondary containment and/or diversionary structures.

Contingency plans along with availability of spill supplies and equipment would mitigate any spills and releases. These measures would prevent and/or minimize surface and ground water contamination from possible discharges of pollutants into the environment.

Construction would also entail the extension, replacement, or addition of storm water drainage infrastructure through digging of trenches, either from existing lines along the nearest road or other primary locations. Trenches could also run from new buildings, roads, and motor pool to discharge points in existing systems or additional locations in local drainages. Although these areas would be avoided during the design process, any work involving construction or excavation in, over, or under streams would need authorization from the USACE, under the CWA and other requirements. Sustainable design measures—retention and detention structures which support improved water quality as well as reduced water quantity—also would be implemented to minimize impacts from additional stormwater discharges. Any facilities constructed for industrial operations, such as vehicle maintenance shops, would be designed to meet SPCC requirements under AR 200-1, as well as applicable state and Federal requirements, and include oil water separators in those portions of the storm water system. Such measures for utility systems would reduce the potential for adverse impacts from the storm water system.

Any new water supply lines would have a backflow preventer and water meter installed, and would be disinfected following American Water Works Association methods as required by Georgia Drinking Water Rule 391-3-5. During construction and subsequent facility use, all waste water discharges would be connected to the sanitary sewer system per Georgia Drinking Water Rule 391-3-6. No new water supply lines would be needed in Alabama.

Post-construction 362nd MRBC training activities could result in a potential minimal adverse effect to water quality, where mechanized and maintenance vehicles disturb ground along paved and unpaved roads—if they have to pull to the side of the roadways—leading between the new facilities and within the ranges and training areas, and especially as vehicles and equipment exit the training areas and ranges and access the travel routes. Addition of the 362nd MRBC activities to existing training exercises utilizing troops and mechanized vehicles within ranges and training areas would occur under Alternative A. This would result in a slight increase in the potential for temporary minor adverse effects to water quality due to sedimentation of adjacent streams and/or POLs migrating to off-site streams in the areas utilized by the new 362nd MRBC training. Routine maintenance activities of these ranges and training areas could have similar effects, but to a lesser degree. To reduce potential for spills and leaks as a result of training activities, military units would follow requirements to utilize secondary containment for storage of hazardous materials/waste and refueling operations. Also, units are encouraged to locate all refueling operations and storage of hazardous materials/waste away from waterways. In addition, during training at ranges, units and commanders would follow wellhead protection plans (required by Georgia Drinking Water Rule 391-3-5) for range water supply wells. Potential impacts to stream habitats and surface and ground water quality caused by post-construction activities would be reduced by continued compliance

with regulatory requirements, and the implementation of existing erosion control BMPs and spill control measures. With respect to impaired streams (TMDLs), this alternative may also result in increased management practices to prevent additional stream impairment from sedimentation and fecal coliform; however, no impacts to impaired streams are predicted.

Overall, potential short-term moderate adverse effects to water quality may result from this alternative. Use of BMPs and mitigation measures during and after construction would minimize effects to water quality.

Alternative B

Construction of the 362nd MRBC facilities at the Alternative B site would be similar in nature and scope to those predicted under Alternative A—except there would be no fast water training in the Chattahoochee River. The waterway (wetlands and streambanks) areas would be avoided during design and construction and measures would be taken to ensure no disturbance to these waterway areas for dry span and still water training.

Applicable Federal and state laws and regulations and Installation policies and guidelines regarding surface and ground water quality would be adhered to as described for Alternative A. Erosion control BMPs, as discussed for Alternative A, would be applied to minimize the deposition of sediments into adjacent surface waters at the sites of disturbance. Storm water systems would be designed and sited to reduce potential for minor adverse impacts. However, this would only be required for systems associated with facility and motor pool construction in the 36th ENG GRP compound.

Post-construction 362nd MRBC training activities could result in similar impacts as described under Alternative A, but Alternative B would have a reduced potential for minor adverse effects to water quality within the Alternative B sites. The Alternative B sites would not involve streambanks and, therefore, the potential for additional acres of soil disturbance would be decreased. Through adherence to regulatory requirements, permitting procedures, and the implementation of erosion control BMPs, stream habitats and water quality should improve over time. Within ranges and training areas, potential impacts to water quality would be the same as those described for Alternative A.

Overall, potential minor adverse effects to water quality may result from this alternative. Use of BMPs during and after construction would further minimize effects to water quality.

Alternative C: No Action

Under the no-action alternative, no additional training would occur at Fort Benning and, therefore, no site construction would be required. Impacts to water quality would be limited to those resulting from the

additional Soldiers utilizing Installation water supply and treatment facilities. Overall, no adverse effects to water quality would result from this alternative.

4.1.3 Biological Resources

The threshold level of significance for Federally protected species occurs if an alternative disrupts normal behavior patterns or disturbs habitat at a level that substantially affects the Installation's ability to either avoid jeopardy or conserve and recover the species.

Implementation of the proposed action would incorporate the following management practices, thereby minimizing potential effects on biological resources:

- Facilities and supporting infrastructure to be constructed will be sited on previously disturbed ground to the maximum extent possible. Removal of longleaf and loblolly pine will be minimized. Erosion control plans (noted above) will specifically address the control of sedimentation to avoid degradation of RCW habitat. The Installation Soil Conservationist and RCW specialist will be provided draft site construction plans for review and comment, and the final site plans will incorporate their recommendations to the maximum extent possible.
- Construction will not occur within 1/8 mile (200 meters) – or other distance deemed necessary by the Installation RCW specialist – of an active RCW cluster during the nesting season (March-July).
- Construction and use of the proposed facilities will not impede RCW management activities in surrounding areas.

Implementation of either action (Alternative A or B) would use the ranges, training areas, roads, and infrastructure. For either action alternative the increase in training would be approximately the same amount relative to existing conditions. There would be a corresponding increase in potential disturbance to wildlife—although including fast water and helicopter transport training activity in Alternative A, there would be potentially more disturbance to wildlife and wildlife habitat. Increased activity within already disturbed areas, i.e., developed areas and established roads, would not significantly affect biological resources given the ongoing activity to which they are exposed. Additional training on range areas by the increase in personnel (142 additional personnel) would mean a minor incremental increase in noise around established firing points and within impact areas which is not expected to significantly affect wildlife already subjected to similar impacts within those areas. Activities will be conducted in accordance with USAIC 210-4 (Range and Terrain Regulation), guidelines and restrictions stated in the INRMP (U.S. Army 2001), and the RCW ESMP. These existing procedures ensure the compatibility of training activities with the sensitive biological resources of the Installation. As a result the increase in activity associated with the proposed action would not have a significant impact on biological resources.

Project impacts would primarily result from the construction and subsequent use of the fast water training sites of Alternative A. Although exact construction-area requirements have not been determined, each alternative site footprint is large enough to accommodate all the necessary work areas, including construction staging and materials stockpiling that would be required. Standard BMPs would control erosion and sedimentation, limiting the potential for offsite effects and degradation of surrounding habitat.

At either action alternative site, construction activities would entail ground disturbance and some vegetation removal. Noise and activity during construction would result in temporary disturbance to wildlife primarily within these construction footprints. Subsequent occupation and use of these sites would result in the continuation of disturbed/altered conditions throughout much of the area.

For required mitigation for potential adverse impacts to Federally protected species under Alternative A, refer to the Appendix C, Mitigation and Monitoring Plan. If Alternative B were chosen, the Mitigation and Monitoring Plan will be revised accordingly.

Alternative A (Preferred Alternative)

The footprint of Alternative A occupies approximately 23 acres, (2.5 acre hardstand at the 36th ENG GRP Motor Pool, 5 acres for the EEP, 8 acres at Engineer Landing, 4 acres at Bradley Landing, 4 acres combined for dry span and still water training sites), of which approximately 11.6 acres are developed or otherwise previously altered. The balance of approximately 12 acres are mixed hardwoods and successional pine and undergrowth vegetation; no wetlands are identified but riverine and lacustrine areas along the streambanks do exist. Within the proposed areas for maintenance bays and motor pool construction and/or expansion, no wetlands are identified. The loss of vegetation and wildlife habitat within the 12 acres would be minor compared to the overall acreage within the Installation and, therefore, not be significant nor adverse given the abundance of similar habitat in surrounding areas.

As discussed above, the removal of a relatively small area of potential RCW foraging habitat—approximately 1.4 acres near Engineer Landing, on the Alabama side of the river—is not expected to reduce the viability of active or potentially active clusters. Continuing implementation of policies and management plans as provided in the RCW ESMP, the INRMP (U.S. Army 2001a), and Army RCW guidelines that may pertain to 362nd MRBC training, would ensure that the proposed 362nd MRBC action is not likely to adversely affect the RCW. Direct effects or "take" of individuals are not likely to occur, and effects on RCW would not be adverse. As was described in section 3.1.3, prior to construction, an evaluation would be undertaken to analyze whether the proposed project would remove any potential RCW habitat that may be used by a cluster that could be introduced to the area in the future. These acres would then have to be assessed as to whether that removal would impact Fort Benning's ability to put a cluster into that area in the future and, if the answer is no, would that affect Fort Benning's ability to

reach established recovery goals. Coordination or consultation with the USFWS on this project has not yet occurred; however, coordination will occur concurrent with the public notice and comment period. Further coordination or consultation with USFWS will occur as appropriate once the specific construction areas are determined.

Overall, potential minor adverse effects to biological resources may occur if Alternative A were implemented. Use of BMPs for timber removal and soil erosion prevention to protect vegetation, water quality, and habitat, together with ongoing implementation of the policies, mitigation measures, and management plans developed for RCWs would help reduce any impacts.

Alternative B

Loss of vegetation and wildlife habitat under Alternative B would not be significant (approximately 6.5 acres to support motor pool expansion, and dry span and still water training sites) given that existing training and range areas would be used, no new types of training would be introduced, and there is an abundance of similar habitat in surrounding areas. Therefore, potential minor adverse effects to biological resources within training ranges may occur if Alternative B were implemented. Use of BMPs for timber harvesting or soil erosion prevention, and siting of dry span and still water training sites so as not to impact sensitive or critical habitat or protected species would further reduce impacts on biological resources.

Alternative C: No Action

If no action were taken, there would be no change to biological resources from current conditions and, therefore, no impacts to biological resources. Existing uses of the land as well as existing conservation measures to sustain biological resources on the Installation training and range areas would continue.

4.2 HUMAN ENVIRONMENT

4.2.1 Existing and Future Land Use

The threshold level of significance for land use is the potential for the proposed action and alternatives to change the land use in such a manner as to cause incompatibility with adjacent land uses. The threshold level of significance relating to ranges and training areas is encroachment sufficient to interfere with the Installation mission so that mission-essential training is degraded or prevented.

Alternative A (Preferred Alternative)

Construction and improvements/retrofits for 362nd MRBC facilities within the 36th ENG GRP compound would be consistent with existing and planned land use at this site. Although there would be some conversion of land uses at Engineer and Bradley Landings from a more natural setting to graveled training areas, proposed operations would remain consistent with existing land use in these areas—especially in designated training areas on the Alabama side of V2 and V4—and would not constitute a significant impact. Bridging and rafting training previously occurred within these areas along the Chattahoochee River as recently as the late 2001; therefore, this is a similarly consistent activity (Weekly 2005). The potential for military land use conflicts resulting from dry span and still water training activities in existing ranges and training areas would not be realized as these activities would only occur approximately 12 days a year, would not introduce any new type of training (Weekley 2005), and would be scheduled in advance to not conflict with other training. Overall, there would be no effect to land use as a result of this alternative. To avoid conflicts with public and commercial navigable use of the Chattahoochee River, public notice by U.S. Coast Guard (via notification from Fort Benning) and coordination with Post units/directorates will be given in advance of scheduled river crossings, typically downstream and upstream marker buoys will be set out in advance announcing the closure schedule date and duration by Fort Benning, and all closures will be kept to a minimum—typically no longer than 24 hours.

Alternative B

No fast water or helicopter transport training would occur. All training would be on existing training and range lands consistent with existing land uses as described under Alternative A. Facility expansion at the 36th ENG GRP compound would be consistent with existing and planned land use. There would be no impacts to land use for the Alternative B action.

Alternative C: No Action

Under the no-action alternative, existing Fort Benning activities within the 36th ENG GRP compound, Engineer and Bradley landings, and existing training areas and ranges would remain the same and land use would remain as described in baseline conditions for these areas. No impacts to land ownership, land management, or land use patterns would occur.

4.2.2 Recreational Resources

The threshold level of significance for recreation is exceeded when demand for recreation activities and facilities cannot be met or the recreation experience significantly declines because of overcrowding, loss of the recreational asset, or noise is increased. This section addresses potential effects of the alternatives

on the use and characteristics of recreational areas. Potential for changes in recreation use and access is analyzed, as well as the potential loss of recreational areas. Usually recreation issues or concerns arise when there could be direct effects on or overcrowding of recreational facilities or impacts to recreation from noise, or the prevention of access to recreational areas.

Alternative A (Preferred Alternative)

Minimal changes to use of recreational facilities are expected as a result of Alternative A. Military personnel would increase by about 0.4 percent and generally participate in recreational activities so current demand for such facilities would minimally increase. Additional personnel and their dependents would likely utilize recreational resources in patterns similar to those currently occurring on the Installation. This increased demand can be accommodated via existing recreational and physical fitness facilities and opportunities at Fort Benning. Thus, no adverse effects from increased demand for recreational facilities or opportunities would occur.

Although recreational use at the proposed fast water training sites would be interrupted in the short-term during site preparation activities and as training activities take place, training would only occur for approximately six to ten days a year and be divided between the two sites. Closure of the river with the bridge crossing, or rafting operations, would be temporary and of limited duration—usually no longer than 24 hours. With adequate advanced notice, and limited closure duration, the recreational opportunities will not be impacted. No long-term, adverse impact is expected. In addition, access to Bradley and Engineer Landings from both sides of the river would be improved with widening and stabilization of the access roads and stabilization of the river banks under this alternative. Better access may increase the recreational use for hunting and fishing and the potential for deterioration of the recreational asset when not closed for training purposes. It is anticipated that there may be a minor increase in litter or trash accumulation. However, with the activity of the 362nd MRBC training it is anticipated that the area will be better policed by the 362nd MRBC engineers. In addition, a commensurate increase in recreational user activity may actually reduce the tendency toward littering, especially if the consequences are loss of access to the recreational asset since the access is on government controlled land and the consequences can be stipulated in user permits, and regulations signage at the access points. Altogether, minor short-term adverse and long-term positive effects to recreation at these sites would occur.

Dry span and still water training will occur on the existing training and range areas, although specific sites have not been provided. During this short duration training, the specific areas will be off limits to recreational users—hunters or fishers; however, this is consistent with existing range procedures whereby ranges are closed to public access during training activities. Fishing and hunting is permitted and this permit requires that users follow range rules and determine the availability of ranges prior to visiting. Again, these requirements would not change with implementation of the proposed action. Since closures

would occur for such short periods of about six to ten times a year, for a day each, and would not change existing access conditions on the ranges, there is no long-term, adverse effect anticipated.

Alternative B

Effects from Alternative B would be similar to those described for Alternative A. However, no changes to recreation would occur on the Chattahoochee at Engineer or Bradley Landings because fast water training is not a component of Alternative B. Long-term positive effects may not be realized since there would be no increase in activity at the landing sites and oversight and policing would not necessarily increase. No adverse impacts to recreational access within the training ranges (for hunting and fishing purposes) would occur since existing range regulations guiding public access would not need to altered due to dry span and still water training. Overall, no effects to recreation would occur.

Alternative C: No Action

Under Alternative C, no impacts to recreational resources would occur because no training would take place at Fort Benning.

4.2.3 Socioeconomics

The threshold level of significance for socioeconomics consists of a combination of several factors, to include unusual population growth or reduction, unusual increase/decrease in demands on housing and public services, and the potential to substantially increase/decrease employment opportunities. Analysis indicated that the 362nd MRBC facilities and training would represent a minor beneficial effect to the local community.

Alternative A (Preferred Alternative)

Population. Implementation of Alternative A would result in an additional 142 personnel at Fort Benning. It is projected that 53 percent of these Soldiers would be accompanied by spouses and/or children, and the remainder would be single. Thus, approximately 75 families would move to the region as part of this alternative. Based on the average number of dependents per military personnel, there would be an increase of 231 dependents, for a total population increase of 373 by Fall 2005. This number would represent a 0.13 percent increase in Columbus MSA's total population. This increase in population would be barely perceptible and not place noticeable additional demands on affected communities.

Housing. Although the number of additional personnel and families that would elect to live off-Post rather than accept on-Post barracks or family housing cannot be determined, Fort Benning estimates that 66 percent would live on-Post and the remaining 34 percent would live off-Post. Thus, 94 additional

housing units on-Post and 28 off-Post would be required to meet the needs of the proposed action. Fort Benning could accommodate the entire increased demand of 142 units in on-Post housing. However, adequate affordable off-Post housing in the nearby communities also exists to support the new 362nd MRBC demand. No impacts to housing would occur.

Employment and Taxes. 362nd MRBC construction, fast water training site preparation, and retrofits of existing facilities could temporarily increase job opportunities for individuals living and/or working in the Columbus MSA, resulting in potential temporary minor positive input into the local economy. The contracts may be awarded to a company located outside of the Columbus MSA; however, there is still the potential for utilization of the local workforce for the actual work on site. It is not known at this time the number of construction workers that would be employed as a result of this project; however, utilization of the local workforce should not increase demands on housing or public services and should not result in an increased population base.

As of September 2004, over 37,000 military and civilian employees comprised the workforce at Fort Benning. As one of the largest government employers in the Columbus MSA, Fort Benning and its continuing operations represent a significant source of regional economic activity. Increasing military personnel by 0.5 percent, combined with indirect employment opportunities created by increased demand for goods and services, would have a miniscule beneficial effect on employment in the region. Tax revenues would increase proportionally, especially through sales taxes. The employment opportunities would provide a minor beneficial effect on employment and economic growth.

Schools. Under Alternative A, if every additional accompanied soldier has a spouse and the remainder of dependents are school-age children, there would be a total increase of 156 school-aged children. Two-thirds of these would live and attend schools on-Post, while the remaining one-third would attend off-Post schools. Given the current pre-school to eighth grade enrollment of 3,200 students in the Fort Benning Dependents Schools located on-Post, this would result in an enrollment increase of just 3.2 percent. However, it is unlikely that all dependents are school-age children between pre-school and eighth grades. This figure would result in no adverse effects to on-Post schools. Excluding the 18 private and parochial schools available off-Post, there are currently nearly 34,000 students enrolled in the surrounding off-post public school systems. If all off-post non-spouse military dependents associated with Alternative A attended only the public schools, this would result in just a 0.16 percent increase in current enrollment. Again, it is unlikely that all dependents would be school-aged children or attend public schools; thus, this increase is unlikely to be felt in the local off-Post schools. Overall, there would be no adverse effects on schools in as a result of Alternative A.

Environmental Justice. Environmental justice analysis was conducted to determine whether or not potential environmental impacts related to Alternative A would result in any disproportionately high and adverse human health and environmental impacts to minority and low-income populations within the

region. Only military housing exists within the boundaries of Fort Benning, and none of the proposed sites for Alternative A are adjacent to any low-income population or public housing sites. Based on the analysis provided in Chapter 4, no impacts to environmental justice would occur as a result of Alternative A actions. Thus, there would be no disproportionately adverse effects to minority or low-income populations as a result of this alternative.

Alternative B

Socioeconomic effects as a result of implementation of Alternative B on population, housing, schools, and environmental justice would be the same as those described for Alternative A. Under Alternative B actions, no site preparation activities would occur at the fast water training sites; therefore, employment and tax benefits would not be realized for this aspect of the project. However, such benefits from the construction and retrofit activities at the 36th ENG GRP compound would occur. While the overall effects are a mixture of adverse and beneficial effects, overall minor positive effects would result.

Alternative C: No Action

Since 142 personnel will be stationed at Fort Benning in the No Action, Alternative C, socioeconomic effects as a result of implementation of Alternative C on population, housing, schools, and environmental justice would be the same as those described for the action alternatives. However, the beneficial effects to the local workforce as a result of construction, site preparation, and retrofit activities would not occur. Overall, this alternative would result in minor beneficial socioeconomic impacts.

4.2.4 Cultural Resources

For cultural resources the threshold for significant impacts includes any disturbance that may affect the integrity of a historic property or a cultural resource whether or not it has been evaluated to determine its eligibility to the National Register.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may be the result of physically altering, damaging, or destroying all or part of a resource, altering characteristics of the surrounding environment by introducing visual or audible elements that are out of character for the period the resource represents, or neglecting the resource to the extent that it deteriorates or is destroyed. Indirect impacts are those that may occur as a result of the completed project, such as increased vehicular or pedestrian traffic in the vicinity of the resource.

Alternative A (Preferred Alternative)

No archaeological resources have been identified within the 36th ENG GRP compound site proposed for construction and retrofits. Therefore, no impacts to significant archaeological resources would occur in this area.

A total of four archaeological sites occur within the vicinity of the proposed fast water training sites. Three are located at Engineer Landing, including two eligible sites on the Georgia side and one potentially eligible site on the Alabama side. Site preparation and training activities in this area would avoid two sites, with only one eligible site on the Georgia side directly affected. However, consultation will occur with the SHPO and American Indian Tribes during the design phase to ensure that impacts are minimized. If these sensitive cultural sites cannot be avoided or impacts minimized, this area would be investigated to determine eligibility. Consultation with American Indian Tribes and the SHPOs would occur throughout the process.

One potentially eligible archaeological site occurs at Bradley Landing. This area would be avoided by design during site preparation and subsequent training operations; therefore, no changes to eligibility status or impacts are expected to occur as a result of Alternative A actions at Bradley Landing. Therefore, Alternative A would have no adverse impact on National Register-eligible or listed cultural resources due to fast water and helicopter training.

With Alternative A, the 362nd MRBC would also conduct dry span and still water training at Fort Benning's existing training areas and ranges. The ranges for dry span and the ponds for still water are located within various training areas grouped into complexes, a majority of which have been surveyed for archaeological resources. The additional use by 362nd MRBC activities that may occur in these areas would be consistent with existing uses, be spread throughout the areas, and occur for approximately 12 days per year; however, all existing rules and regulations would be followed to avoid and minimize potential impacts to cultural resources.. Therefore, no impacts to cultural resources would occur in these areas.

Alternative B

Impacts associated with Alternative B would be the same as those described for 36th ENG GRP facility construction, retrofits, and operation and dry span and still water training under Alternative A. No impacts to cultural resources would occur. Within areas utilized for dry span and still water training, there would be no impacts to cultural resources.

Alternative C: No Action

Under the no-action alternative, no eligible or potentially eligible cultural resources would be affected as a result of construction ground disturbance from Alternative C and no impacts to cultural resources would occur as a result of those activities.

4.2.5 Hazardous Materials and Waste

The nature and magnitude of potential impacts associated with hazardous materials and wastes depends on the toxicity, transportation, storage, and disposal of these substances. The threshold level of significance for hazardous materials and waste is surpassed if the storage, use, transportation, or disposal of these substances substantially increases the human health risk, environmental exposure, or is a violation of applicable Federal, state, and local requirements.

Alternative A (Preferred Alternative)

Support facilities where hazardous materials would be stored or used would meet Spill Prevention Control and Countermeasures (SPCC) requirements under AR 200-1, as well as Federal and state requirements, as applicable. These support facilities include, but are not limited to: maintenance facilities, fuel storage tanks, and loading/unloading operations areas. These requirements would ensure that discharges from facilities would not impact ground surfaces, thereby preventing or minimizing soil and water contamination. In addition, construction, operations, and training vehicles and equipment would be maintained routinely to help identify and repair any conditions that might cause POL leaks. Operational MRBC activities, including activities at ranges and training areas, would follow the Fort Benning SPCC, ISCP, and Hazardous Waste Management Plan. Inert ordnance would be handled and used in accordance with applicable DoD policies and regulations. Waste from inert military ordnance would be handled according to the Military Munitions Rule (MMR). Pesticide application, if needed, would be performed in a manner consistent with the pesticide product label, and application would be in compliance with the Installation Pest Management Plan and AR 200-5, *Pest Management*. SPCC and SWP3 BMPs and operational requirements would be applied to control, minimize, and reduce the potential for spill/release of hazardous materials and hazardous waste.

Solid Waste Management Unit (SWMU) sites FBSB-67 and FBSB-69 (Landfills Number 5 and 7, respectively) would not be utilized or affected during the construction/retrofit or operations phases of the project nor would status of these sites be affected.

The additional amount of solid waste generated as a result of 362nd MRBC construction and operations would result in a minor increase from current levels. During any construction, if contractors are employed, they are required to dispose of solid waste off Post. No solid waste will be disposed at the

Installation or in the Installation's inert landfill. In addition, contractors will abide by all Installation and SWP3 and recycling policies. Fort Benning would also request that if contractors are used for any type of operations associated with the proposed action, that they follow all Installation recycling programs.

In summary, there would be no impacts due to management, storage, or disposal of hazardous materials and waste under Alternative A.

Alternative B

Construction, operational, and training procedures for hazardous materials and waste under Alternative B would be similar to, but implemented to a lesser extent than, those described under Alternative A. Because site preparation and training activities at the fast water training sites would not occur under this alternative, the likelihood for an increase in spill potential from in this area would not be realized. No impacts due to management, storage, or disposal of hazardous materials and waste would occur under Alternative B.

Alternative C: No Action

Under the no-action alternative, Fort Benning would continue to use and generate the same types of materials and wastes as are currently being managed at the Installation. Increases in materials and waste due to increased number of Soldiers living on-post would be miniscule. Existing procedures for the management, procurement, handling, storage, and disposal of hazardous materials would remain unchanged. Therefore, following existing procedures, no effect to management, storage, or disposal of hazardous materials and waste would occur under the no-action alternative.

4.2.6 Air Quality

The threshold level of significance for air quality is the violation of applicable Federal or state laws and regulations, such as the CAA and amendments, and the potential for NOV for the failure to receive applicable state permits (such as those required for construction projects) prior to initiating a proposed action or the failure to follow permit requirements.

Alternative A (Preferred Alternative)

Sources of potential air emissions at the Installation include particulate matter from dust (Particulate Matter—PM_{10}) and fuel combustion ($PM_{2.5}$), Carbon Monoxide (CO) and PM from prescribed burning activities, and nitrous oxides (NO_x) from the combustion of fuels. The military operations of the 362nd MRBC should not constitute a significant source of air emissions under the Georgia Rules for Air Quality Control, Chapter 391-3-1. A letter from Harold Reheis, Director, GA DNR, to the Southeastern Regional

Environmental Office (SREO), dated 21 April 2003, states the "use of vehicles and equipment in military training and military exercises, on ranges and unpaved road and trails, is not subject to Rule (n)." The letter further states "...Rule (n) is not applicable to most vehicle and equipment travel at a military base, since the travel is not a part of a process and there is no manufactured product."

Emissions from implementation of Alternative A include both temporary construction/retrofit and long-term operational emissions. Construction emissions associated with this alternative include fugitive dust (PM_{10}) from grading and combustion (primarily CO and NO_x, and smaller amounts of Volatile Organic Compounds—VOCs, Sulfur Oxides—SO_x, and $PM_{2.5}$) from heavy-duty diesel construction equipment exhaust. Construction emissions estimates were based on conservative assumptions; Appendix D provides these assumptions. Exhaust emissions from heavy-duty diesel construction equipment were based on a mix of typical construction equipment. As will be presented below, the percent contribution from placing the MRBC equipment and training activities at Fort Benning would not exceed any existing thresholds for criteria pollutant emissions.

Table 4-1 summarizes emissions during the construction (including retrofits and fast water training site preparation) and operational phases—Appendix D provides more specific emission calculation data and assumptions. Emissions from construction are estimated to occur over a 3-month construction timeframe in Fiscal Year 2006.

Table 4-1 Projected Pollutant Emissions

Project Elements	***Pollutants (Tons/Year)***				
	CO	*VOCs*	*NO_X*	*SO_x*	*$PM_{10, 2.5}$*
Construction	0.46	0.12	1.32	0.15	6.56
Operations	0.73	0.18	2.25	0.24	0.31
Total	**1.19**	**0.3**	**3.57**	**0.39**	**6.87**

Sources: See Appendix D.

Emissions from construction and operations activities combined under Alternative A would result in an approximate increase of merely 0.007 percent in all criteria pollutants combined within the Columbus GA-AL Region.

Fugitive dust generated during construction or fast water training site preparation would be minimized through implementation by the 362nd MRBC engineers of dust control measures (e.g., dust control measures on soil and excavated materials). Similarly, when the maintenance bays are expanded on building 2920 in the 36th ENG GRP facilities and the hardstand is paved, any dust control measures would be implemented by the construction contractor, selected through Fort Benning's procurement process. The temporary and slight increases in PM for this proposal would have no effect on regional air quality. Therefore, this alternative would result in no short- and/or long-term impacts to air quality.

Alternative B

Under Alternative B, impacts described under Alternative A would be similar to, but less than, Alternative A since fast water training site preparation and operations at Engineer and Bradley Landings would not occur. Therefore, the alternative would result in no short- and/or long-term effects.

Alternative C: No Action

Under the no-action alternative, mobile source impacts described under Alternative A would not be realized because MRBC training sites construction and training activities would not occur. Emissions from 142 additional soldiers driving in the MSA would not result in measurable effects. No impacts to air quality would occur.

CHAPTER 5

CUMULATIVE EFFECTS

5.0 CUMULATIVE EFFECTS

The Council on Environmental Quality (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" (1508.7 CEQ, 1978). As such, the analysis must determine if the action proposed under the alternatives in this EA, when added to the projects in the Columbus GA-AL MSA, has the possibility to result in either adverse or positive incremental impacts. These other projects all occur within a geographical (spatial) defined region of influence (ROI) or affected environment, which is defined in the following subsection. Projects presented may occur within the next 10 years, since they have the potential of occurring within the same time period as the proposed action. Information for these projects has been obtained from the Final Environmental Impact Statement, Digital Multi-Purpose Range Complex (DMPRC), Fort Benning, Georgia (U.S. Army 2004a), planning documents of surrounding communities, and Fort Benning personnel. In addition, the DMPRC EIS considered the cumulative effects of these projects and so provides support for the following analysis.

5.1 Region of Influence

The overall ROI for the purposes of this EA is shown in Figure 5-1 and consists of Chattahoochee, and Muscogee counties, Georgia and Russell County, Alabama; this ROI includes the cities of Columbus and Buena Vista, Georgia, Phenix City, Alabama, and the Fort Benning Military Installation. Individual ROIs have also been established for some media (or resources); these ROIs may be larger or smaller in size than the overall ROI and are defined in subsequent sections.

5.2 Past and Present Actions within the ROI

The cities of Columbus, Georgia and Phenix City, Alabama are the sites of numerous residential developments, commercial/retail facilities, industrial activities, and recreational opportunities. The ongoing projects with the potential to affect the ROIs are discussed below; each project is also identified on Figure 5-1 by its associated number here in *parentheses*. Approximately three years ago, Columbus and Fort Benning completed a "Land Exchange," swapping two parcels of land, known as the North Tract and the South Tract, for which an EIS and ROD were prepared (Fort Benning 1999). Columbus is currently developing the 2,470-acre North Tract (*24*) located adjacent to the Fort Benning northwestern boundary line. This development will be primarily industrial, mixed with recreational land use. In exchange, Fort Benning received the South Tract land (*32*), a 2,536-acre parcel located at the southernmost end of the Installation, which is currently used by the Installation for training and land management (reforestation and habitat restoration) purposes; future use of the South Tract may include land-navigation training. Other recently completed or ongoing projects within the ROI include the following projects:

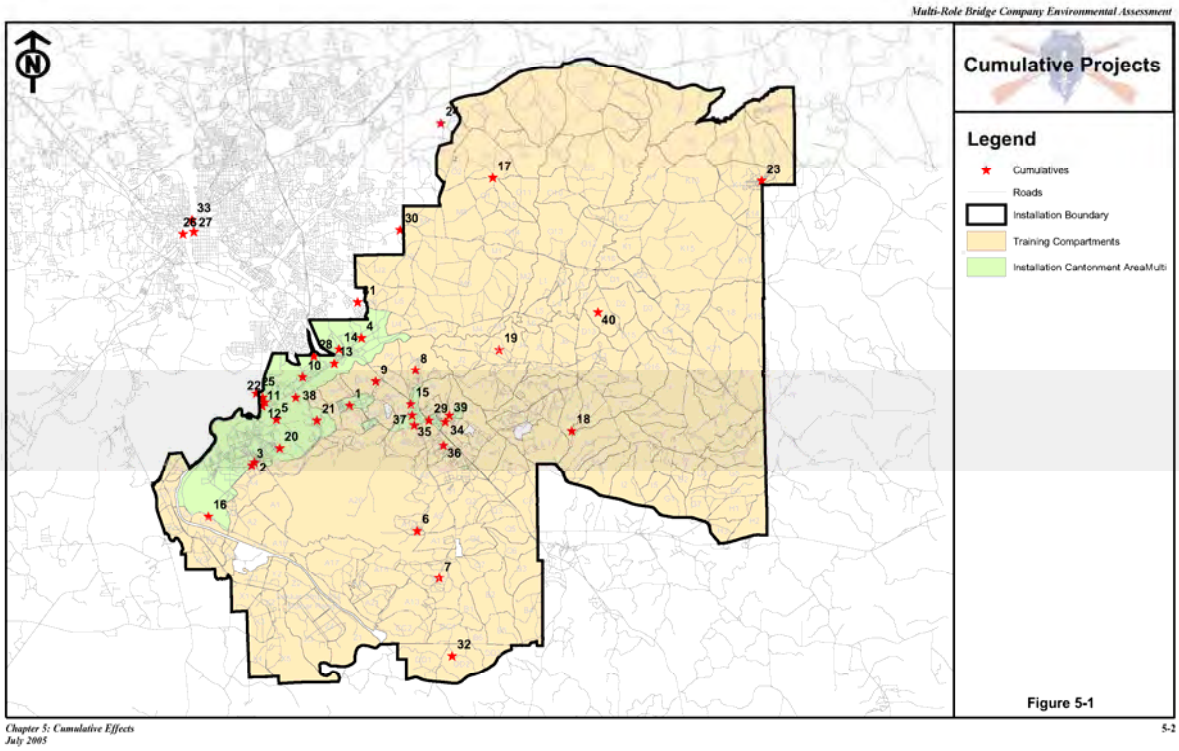

Figure 5-1 Projects Considered for Cumulative Effects

- Installation of Anti-Terrorist/Force Protection Measures (*10 through 16*) – This consists of the construction of an enhanced physical security perimeter barrier around the Installation's four cantonment areas that includes either fence, guard rail, or use of existing natural barriers (e.g., streams and steep ridges) and establishment of permanent access control points (ACPs) at the Installation's seven entry points. Drainage for perimeter roads and erosion control measures will be required, in addition to protective lighting at the seven ACPs. An EA and FNSI were prepared for this project (U.S. Army 2003). Approximate size of the overall project area is 20 to 25 acres.

- Safety improvements to the Highway Interchange at I-185/US 280 in Columbus (to the north of Fort Benning) (*28*) – Highway improvements are currently underway and consist of reconstructing the interchange 105 at I-185 and US 280. Safety improvements also include removing and replacing guardrails and possibly installing medians (*29*) along 10.5 miles of US 280. Approximate size of the overall project area is 5 to 10 acres.

- Barracks Project (*2*) – Work consists of the construction of a new barracks complex along Dixie Road, Main Post, Fort Benning, GA. The new barracks are located across from the existing Easley and McAndrews ranges. The project also includes the demolition of six existing buildings. Approximate size of the overall project area is 30 to 35 acres.

- Privatization of the Water and Wastewater Treatment System (*5*) – The wastewater treatment system at Fort Benning, which consists of three facilities and a network of underground piping, has been privatized. The contract for the system includes the day-to-day upkeep of the system and requires the contractor to abide by all Federal, state, and Installation policies and guidelines. The process includes either the "mothballing" or demolition to slab of the existing water and wastewater treatment facilities and the construction of a series of new underground utility transport lines, for the purpose of connecting the existing on-Post facilities to the new owner's off-Post facilities. During the construction of these connection lines (18 to 24 months), the new owner will utilize the on-Post facilities. Approximate size of the overall project area is 50 to 60 acres. An EA, FNSI, and Supplemental EA were prepared for this action.

- Barracks Replacement (*1*), Kelley Hill, Phase III (FY05) – Work consists of the demolition of existing buildings (9043, 9046, 9047, 9053, 9054, 9055, 9057, 9058, and 9074), the construction of new facilities, and landscaping around the new facilities in the Kelley Hill area of Fort Benning. Approximate size of the overall project area is 10 to 15 acres.

- Infantry Squad Battle Course (ISBC) (*6*) (FY04) – Work consists of the conversion of an existing Fort Benning range, Galloway Range, into an Infantry Squad Battle Course and includes the removal/replacement and upgrading of existing targetry, the construction of associated support facilities, the demolition of currently existing temporary buildings on site, and associated utility placement. Approximate size of the overall project area is 180 to 190 acres.

- The Digital Multi-Purpose Range Complex (DMPRC) (no map designator) is being constructed at the D13 area on Fort Benning. The DMPRC will provide a state-of-the-art range facility for conducting advanced gunnery exercises in a realistic training environment. Support facilities associated with the optimal standard design for the DMPRC will be located on an adjacent area. The DMPRC design includes as many as 22 water crossings (average dimensions: 350 feet long by 29 feet wide each), and up to 1500 acres of vegetation removal on the construction site is required. The DMPRC will be constructed on approximately 1,800 acres.

- National Infantry Museum (*22*) (FY04) – a new infantry museum is being constructed on the land between South Lumpkin and Fort Benning Roads on the Installation's border with the City of Columbus. Work will also consist of establishing a World War II Company Street. The existing museum building, located on Baltzell Avenue, Main Post, Fort Benning, would be reutilized in another manner, but would not be demolished. Approximate size of the overall project area is 20 to 30 acres.

- Ongoing Improvements and Training at Ranges and other Training Areas (no map designator) – Minor range construction and target maintenance projects are ongoing activities at Fort Benning. These types of improvements have been assessed for environmental effects and NEPA documentation has been prepared for these ongoing activities. Additionally, training activities are ongoing at ranges and other training areas; there have been some recent increases in training operations of the same type and nature as historical training activities.

5.3 Reasonably Foreseeable Future Actions within the ROI

There are several construction projects planned for implementation on Fort Benning proper during the same time frame as the projects analyzed in the alternatives in this EA. Some of the projects have been previously identified in the Installation's Master Plan (Fort Benning 2003) and have been preliminarily assessed for environmental impacts via the NEPA process; however, each project is still pending final approval and subsequent compliance with NEPA, except as indicated below. Other reasonably foreseeable actions on Fort Benning, such as routine road and tank trail maintenance, range and building maintenance, building renovations, unit motor pool maintenance, troop training, and routine airfield activities, would continue in the current manner on an annual basis.

The projects determined to have the potential to affect the ROIs are listed below. In addition, each project is identified on Figure 5-1 by its associated number. Fiscal Year (FY) refers to the period between 1 October and 30 September of each year and is the period the Army uses for budget phases.

- Army Transformation at Fort Benning (no map location), continuing project – The 3rd Infantry Division is currently undergoing a major reorganization as part of the Army transformation process. The Division's three Brigades were divided into smaller units (U.S. Army Forces Command 2004). The timing of this transformation is not currently known. Updates on the Army Transformation's effects on the 3rd Brigade will be provided when available and in future related documents. No plans currently exist that would affect any of the other units at Fort Benning; however, the Installation must prepare for this contingency and comply separately with environmental planning requirements.

- Residential Communities Initiative (no map location but found in the residential cantonment area) (FY05-15) – Consistent with authorities contained in the 1996 Military Housing Privatization Initiative, Fort Benning proposes to transfer responsibility for providing housing and ancillary supporting facilities to Fort Benning Family Communities LLC. Fort Benning proposes to convey 3,945 existing family housing units of which 754 will be renovated (482 non-historic and 272 historic) and 2,930 will be demolished; 3,185 new units will be constructed for an end state inventory of 4,200 housing units (which includes 261 "no-work" units, 221 historic and 40 nonhistoric). In addition, the Fort Benning Family Communities LLC would be provided with a

50-year lease of the underlying land, as well as an additional 536 acres for lease to site new housing (Fort Benning 2005b).

- Barracks and Tactical Equipment Shop Projects (*3*) (FY08) – Work would consist of the construction of additional barracks and tactical equipment shops across from existing 106 ranges (beyond Easley and McAndrews ranges) along Dixie Road. These projects are currently in the design phase only. Approximate size of the overall project area is 15 to 20 acres.

- Receptee Barracks (*4*) (FY07) – Work would consist of the construction of additional barracks, a dining facility, soldiers' community center, and physical training building with a running track at Sand Hill. The project would also include the demolition of the existing dining facility. Approximate size of the overall project area is 10 to 15 acres.

- Infantry Platoon Battle Course (IPBC) (*7*) (FY06) – Work would consist of the construction of a new IPBC in the A12 portion of Fort Benning and would include tree clearing, grading, cut-and-fill, construction of the range and target firing area, and placement of targetry, in addition to the construction/emplacement of support facilities, access roads and trails, and associated utilities. Approximate size of the overall project area is 1,000 acres. Fort Benning is currently preparing an EA for this action.

- Ammunition Supply Point (ASP) Expansion (*8*) (FY09) – Work would consist of the construction of two aboveground general storage facilities, 11 earth-mounded ammunition storage igloos with associated loading platforms, two small quantity ammunition huts, and ammunition surveillance building, and forklift storage/recharge facilities at the existing ASP on Fort Benning. Work would also include the demolition of 19 structures currently existing within the ASP compound. Approximate size of the overall project area is 10 to 15 acres.

- Direct Support/General Support (DS/GS) (*9*) Consolidated Maintenance Facility (FY09) – Work would consist of constructing an approximately 112,000 square-foot equipment maintenance complex for DPW. Facility to be located in the southwest quadrant of US280/27 and First Division Road. Approximate size of the overall project area is 10 to 15 acres.

- Rehabilitation of North/South Maneuver Corridors (*17, 18, 19*) (date undetermined; pending funding approval) – Work will consist of the rehabilitation of two existing maneuver corridors in the north and three existing maneuver corridors in the south for training utilization by the 3rd Brigade/3rd Infantry of Fort Benning. The areas are contained within the Oscar 1-15 training compartments in the north and the D2-16, L3, E3-4, and J6-7 training compartments in the south. These are existing maneuver areas that will have erosion control and soil stabilization measures

conducted, in addition to selective thinning, in order to more fully support maneuvers by the mechanized vehicles. Approximate size of the overall project area is 5,000 acres.

- Combined Club Facility (*20*) (date undetermined; pending funding approval) – Work would consist of the demolition of the existing Follow Me Golf Course Clubhouse, construction of a new clubhouse to contain the combined functions of the Golf Course Club and Officer's Club, and the redevelopment of the existing Follow Me Golf Course. Approximate size of the overall project area is 5 to 10 acres.

- New Post Exchange (AAFES) (*21*) (date undetermined – pending final decision by AAFES) – Work would consist of constructing a new AAFES on the land across the street from the existing AAFES on Custer Road, Main Post, Fort Benning. The old AAFES would be abandoned and reutilized in another format; it is not scheduled for demolition at this time. Work would additionally consist of landscaping and parking lot construction. Approximate size of the overall project area is 10-15 acres.

- Digital Multi-Purpose Training Range (*23*) (DMPTR) (FY09-12; project in planning phase only) – work would consist of upgrading the existing Hastings Range to a DMPTR; would include removal/replacement and upgrading of existing targetry, expansion of the existing tank trails, the construction of associated support facilities, the demolition of currently existing temporary buildings on site, and associated utility placement. Approximate size of the overall project area is 1,000 acres (U.S. Army 2004a).

- Support Facilities (*39*) – Fort Benning proposes to develop facilities to include barracks, unit operations facilities, Personal Owned Vehicle (POV) parking areas, and a motor park (which may include vehicle maintenance, unit storage, parking for organizational vehicles such as tanks and Humvees, and other related features) for a Forward Support Battalion for the 29th Infantry Regiment. These facilities are planned in East Harmony Church north of Eighth Division Road and west of Wood Road. They would be adjacent to the east side of the BCT temporary support facilities associated with Alternative II. The proposed facilities for the 29th Infantry Regiment area would cover approximately 54 acres.

- Communications Tower (*36*) – A communication tower has been proposed for construction in the South Harmony Church area, west of Cusseta Road and south of El Caney Road.

- National Guard Pre-Ranger Complex Expansion (*37*) – The National Guard Pre-Ranger Complex is located within the South Harmony Church area. The National Guard proposes to establish an area south of First Division Road that would be used for field training exercises.

- Child Development Center (*38*) (FY07) – Construction of a child development center designed for children ages 6 to 10 is proposed and would have capacity for 310 children for before and after school as well as summer and other no school days. This facility would replace the 70-year-old Patch School, which has a capacity of 190 children. The Patch School cannot be expanded to support 120 additional spaces and the building needs costly repairs. However, the Patch School would be retained and reassigned to another activity/agency on Fort Benning. The overall project area is anticipated to cover 3 to 5 acres.

- Operational Readiness Barracks Complex (no map location), long-range future project – A battalion-sized barracks complex to support current Reserve training missions (annual training) and supplement the CONUS Replacement Center is proposed. The proposed capacity of the open bay barracks is 1,200 Soldiers (at 72 square feet per Soldier) with a maximum capacity of 1,440 Soldiers (at 60 square feet per Soldier) The project also includes a dining facility with a 1,000 person capacity and an arms storage facility in accordance with Army standards.

- Central Issue Facility (no map location) (FY05) – Expansion of the existing Central Issue Facility on Main Post and construction of an annex in the Harmony Church cantonment area is proposed. The existing Central Issue Facility (Building 2386) has exceeded its maximum storage capability due to the Global War on Terrorism requirements. Tents are currently leased to store organizational clothing and individual equipment items, which is a security risk to the inventory stored in the tents.

Under the Base Realignment and Closure Act (BRAC), recommendations have been made that could affect Fort Benning; however, this is not reasonably foreseeable at this time because no decisions have been finalized. Once Congress and the President finalize the review and approval process, the appropriate NEPA documentation will be conducted to analyze the direct, indirect, and cumulative impacts of BRAC actions at Fort Benning if any were to occur.

Columbus-Phenix City Community

Interviews in 2004, conducted for the DMPRC FEIS (U.S. Army 2004a) with Richard Bishop, Deputy City Manager (Planning/Development) for the City of Columbus, and Greg Glass, City Planner for the City of Phenix City, were used to identify the pending construction and transportation system improvement projects proposed for Highway 108 the Columbus-Phenix City area during the same time frame as the BCT construction and training operations.

The projects listed below are those determined to have the potential for moderate adverse effects to resources within the ROI. Other projects were identified through these interviews and the review of

relevant city planning documentation; however, they were analyzed and determined to not have the potential for incremental impacts or to contribute to cumulative impacts in the ROI. The projects identified, but not included for study in this document, may be viewed in the Columbus-Phenix City Transportation Improvement Plan. Reviews of the planning documents for these cities and for the Georgia DOT are defined in detail below.

- Oxbow Meadows and Marina, Lumpkin Road (*25*), Columbus, GA (date undetermined; tentatively scheduled to begin within the next 2-3 years), – Work would consist of the further development of the Oxbow Meadows Environmental Learning Center by creating additional outdoor classrooms, a series of walking trails, a series of hiking trails, and pavilion, and the construction (to include dredge and fill) of a 350-slip capacity marina. Approximate size of the overall project area is 10 to 15 acres.

- Phenix City Riverwalk Phase II, (*26*) Phenix City, AL (date undetermined) – Work would consist of the construction of a hiking/biking trail between the 13th and 14th Street bridges in Phenix City. Approximate size of the overall project area is 5 to 10 acres.

- Alternative Transportation System, Phase II, (*27*) North Riverwalk, Columbus, GA (date undetermined; scope of work decision pending implementation of Chattahoochee River Restoration Project, below) – Work would consist of continuing to construct the hiking/biking trail (Riverwalk) northward along the Chattahoochee River from 12th Street to 14th Street. Approximate size of the overall project area is 5 to 10 acres.

- Widening/Improvements to Buena Vista Road, (*30*) Columbus, GA (FY07) – Work would consist of widening and reconstructing 1.15 miles of an existing two (2) and four (4) lane road to a four (4) through-lane system with turn lanes and medians, as required. Approximate size of the overall project area is 5 to 10 acres.

- Widening/Improvements to St. Mary's Road, (*31*) Columbus, GA (FY 05) – Work would consist of widening 0.71 miles of a two (2) lane road to a three (3) and four (4) lane system, with intersection improvements as needed. Approximate size of the overall project area is 5 to 10 acres.

- Chattahoochee River Restoration (*32*) (FY05) – Work would consist of breaching the Eagle-Phenix Dam and the City Mills Dam along the Chattahoochee River, in order to restore the historic and natural flow of water along this portion of the river, which extends from just north of the City of Columbus and down to its most southern edge. Approximate size of the project area is 2.5 miles (approximately 35 acres).

Another issue of concern with the potential to adversely affect the overall ROI is the Tri-State Water Compact, a disagreement between Georgia, Alabama, and Florida concerning withdrawals of water and public usage from the Chattahoochee-Flint-Appalachicola river systems. The Chattahoochee River originates in the Blue Ridge Mountains of the Appalachian Highlands of northeast Georgia, where it flows southwesterly for 120 miles before turning south and flowing approximately 200 miles along the Georgia and Alabama borders, and a small part of the Florida border. The Flint River includes Blackshear Dam and Lake, Flint River Dam, and Lake Worth. The river originates south of Atlanta, GA, in the Piedmont Province and flows southerly to the upper Coastal Plain, where it joins the Chattahoochee River in Lake Seminole to form the Appalachicola River. The Appalachicola River includes the Corps-operated Jim Woodruff Lock and Dam and Lake Seminole along its length. The river lies entirely within the Coastal Plan along the 180 miles of its length and flows south across northwest Florida from the Georgia to Appalachicola Bay in Florida. For additional information, refer to the following website: www.chattahoochee.org/TriState/ACFmap.shtml.

5.4 Assessment of Cumulative Effects

Analysis of the MRBC action alternatives resulted in a finding of no direct or indirect effects, either adverse/positive, on Land Use, Environmental Justice, Hazardous Materials and Wastes, Cultural Resources, Air Quality, and Transportation. In addition, there is no potential for cumulative impacts to socioeconomics, which had only minor, beneficial impacts. Therefore, these media will not be discussed further in this section. Also, the minor adverse impacts to recreation resources in Alternative A would be very localized within an ROI consisting of the Chattahoochee River, including and between Bradley Landings; no other projects are in that ROI, so no cumulative impact analysis is needed. This analysis of the MRBC action alternatives did result in a finding of potential direct or indirect effect on soils, water quality, and biological resources (potential foraging habitat for the RCW) and they will be further analyzed in this section of the EA.

For this EA, the proposed action alternatives (Alternative A and B) are very similar when considering all past, present, and reasonably foreseeable future actions for a cumulative effects analysis. Alternative C, the no-action alternative, involves either no impact or minor beneficial socioeconomic impacts and is, therefore, not analyzed in detail in this section. The preliminary analysis of each of the action alternatives resulted in a finding of no cumulative effect, either adverse/positive or direct/indirect for all resources. The following summarizes the analysis that would be applicable to both Alternatives A and B; any differences are noted. Threshold levels of significance are the same as for Chapter 4.

Soils. The ROI for soils and vegetation consists of the three-county area containing Fort Benning. This ROI is chosen because dry span and still water training could occur in any of the training ranges across Fort Benning. Past, present, and future actions in the ROI, such as construction and road/trail

maintenance, have the potential to contribute to soil disturbance and erosion and the loss of vegetative cover; however, adherence to applicable Federal, state, and local laws and regulations, such as erosion control BMPs and NPDES permits, would help minimize soil erosion. Minor soil contamination could also occur as a result of these actions, due to potential spills and accidents during construction and maintenance activities; however, legally required mitigation measures, such as secondary containments and equipment inspections, would help minimize the threat of accidents and subsequent soil contamination. In particular, the construction of the barracks on Main Post, Sand Hill, and Kelley Hill and the construction of the ISBC, IPBC, DMPRC, and DMPTR are the projects that have the potential for moderate adverse impacts due to disturbance to/removal of soils and vegetation in the Fort Benning portion of the ROI; however, the rehabilitation of the Maneuver Corridors have the potential for long-term positive effects due to the proposed erosion control and soil stabilization measures it will entail. Likewise, the construction of the Oxbow Meadows and Marina and the development of the North Tract would be the only community projects that have the potential for moderate adverse impacts due to disturbance to/removal of soils and vegetation in the ROI.

Alternatives A and B

As a result of these alternatives, approximately 22 acres (Alternative A) and 4 acres (Alternative B) of soils would be disturbed in FY06 for construction and training purposes. During that time, current projects, such as the construction of the force protection measures, barracks projects, ISBC, and DMPRC on Fort Benning and the development of the North Tract in Columbus, would be ongoing, resulting in potential minor adverse effects to soil and vegetation due to site clearing and construction activities. Construction of the FY06 and beyond projects, to include the RCI, DMPTR, and IPBC, would have the potential for moderate adverse impacts to soils and vegetation as a result of more extensive cut-and-fill and/or tree clearing activities. Still, these would also be minimized through adherence to applicable Federal, state, and local laws and regulations. When funding becomes available, the rehabilitation efforts planned for the North/South Maneuver Corridors would have the potential for minor positive impacts in the ROI, due to the erosion control measures and soil stabilization efforts this would entail throughout the aforementioned training compartments. Although the maneuver corridor action would also involve selective thinning of trees throughout these training compartments, it would be minimal and would only occur along existing maneuver trails and not intrude further into the adjacent stands of trees than necessary to facilitate the maneuver of the tracked vehicles; therefore, no adverse effects are predicted as a result of this rehabilitation effort. Overall, these alternatives would result in no incremental impacts from ongoing activities and no cumulative impacts to soils in the ROI.

Water Quality. The ROI for water quality consists of the streams and other surface water bodies within the local watershed due to the potential impacts to the Chattahoochee and ponds within the training ranges. Past, present, and foreseeable future actions in the ROI include construction and road/maintenance activities related to the privatization of the water/wastewater system, RCI, ISBC, IPBC, DMPRC, and

DMPTR. These projects have the greatest potential for minor or moderate adverse effects to water quality in the Fort Benning portion of the ROI; likewise, the construction of the Oxbow Meadows and Marina and development related to the Land Exchange would have the potential for moderate adverse effect to water quality in the ROI. The rehabilitation of the Maneuver Corridors has the potential for long-term positive effects to water quality in the ROI due to the proposed erosion control and soil stabilization measures it will entail, reducing the potential for future sedimentation of adjacent streams. Adherence to mitigation required in the Federal and state permits for these projects would further minimize potential effects.

The Tri-State Water Compact could also affect water quality in the ROI due to the possible change in water allocation and possible lowering or raising of the levels of the Chattahoochee River and its associated creeks and streams. Specifically, decreased water levels in the Upatoi Creek, the source of drinking water for Fort Benning, could occur, adversely affecting not only the quantity and flow of the creek but the creek's ability to dilute contaminants. Recreational usage of the surface water systems could also be adversely affected. These same problems could occur in many of the surface water systems in the ROI; however, the specific effects of the compact cannot be ascertained at this time.

Alternatives A and B

The construction and training operations of the proposed 362nd could result in potential short-term moderate adverse effects on water quality in the Chattahoochee River (Alternative A) and potential minor adverse effects to water quality in ponds within the training ranges (Alternatives A and B). Concurrent with this construction, military training would continue at all ranges until the proposed 362nd MRBC stationing is completed within approximately 6 months. During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems, the construction of the force protection measures and barracks projects on Fort Benning, and the development of the DMPRC, ISBC, North Tract, and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to water quality due to the potential sedimentation of streams resulting from tree clearing and other construction activities. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to water quality due to the erosion control and soil stabilization measures the project entails, reducing the potential future sedimentation of the streams within the corridor.

Construction of the FY06 and beyond projects, to include the DMPTR, RCI, and IPBC would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would also be minimized through adherence to applicable Federal, state, and local laws and regulations. Therefore, these alternatives would result in no incremental impacts from the 362nd MRBC and no cumulative effects on water quality in the ROI.

The ROI for wetlands and streambanks consists of the wetlands and streams located within the local watershed. Past, present, and foreseeable future actions in the ROI include construction and road/trail maintenance activities that have the potential to contribute to sedimentation or contamination of wetlands and damage to streambanks in the ROI. In particular, the construction of the new AAFES Main Mall, RCI, ISBC, IPBC, DMPRC, and DMPTR on Fort Benning and the development of the marina at the Oxbow Learning Center and of the Land Exchange North Tract in Columbus have the potential for moderate adverse effects to wetlands and streambanks. The rehabilitation of the Maneuver Corridors on Fort Benning would result in positive effects to wetlands and streambanks, due to the erosion control and soil stabilization measures' potential for reducing sedimentation of adjacent wetlands and streambanks. Adherence to applicable Federal, state, and local laws and regulations, such as following guidance in the wetlands permitting and mitigation process, the ESPCP and CBMPP would help minimize this potential for cumulative effects.

Alternatives A and B

As a result of these alternatives, construction and would begin in FYO6. During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems and the construction of the ISBC and DMPRC and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in minor adverse effects to wetlands and streambanks (i.e., tributaries to the Chattahoochee) due to the potential sedimentation, construction/fill, or intrusion into adjacent wetlands and/or the potential to locate roads or water/wastewater pipelines across or along the streambanks in the area. Development of the Marina, in particular, would require obtaining and complying with a Section 404 wetlands permit, including potentially moderate levels of mitigation. Construction of the new AAFES Mini Mall on Fort Benning may require a section 404 wetlands permit, but the potential adverse effects would be minimal. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to wetlands, due to the erosion control measures the project entails, preventing some future sedimentation of the associated wetlands within the corridors. Rehabilitation efforts would also include improvements or repairs to existing lowwater crossings in the corridors.

Construction of the FY06 and beyond projects, to include the RCI, DMPTR, and IPBC would have minor adverse effects to wetlands due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits and mitigation efforts. Additional effects to streambanks would include the construction of new low-water crossings under the DMPTR, which would require Stream buffer variances for each of these range projects. The potential cumulative adverse effects predicted for these alternatives would be minimized via the requirements contained in the variance, mitigation measures, and any additional permits, as discussed earlier, but may not completely mitigate all potential effects. Therefore, this alternative would result in potential minor cumulative adverse effects to wetlands and streambanks in the ROI.

Biological Resources. The ROI for Federally protected species consists of the populations within the Installation boundary and the North Tract of the Land Exchange (City of Columbus). Past, present, and foreseeable future actions in the ROI include construction and road/trail maintenance activities that have the potential to contribute to degradation or loss of RCW habitat (pine trees 30-60 years of age or older) in the ROI. In particular, the construction of the force protection measures, the routine maintenance, repair, and training on existing ranges and within existing training compartments on Fort Benning and the development of the North Tract in Columbus and the DMPRC would have the potential for minor adverse effects to RCWs in the ROI. Although the rehabilitation of the North/South Maneuver Corridors would include selective thinning of trees in areas containing Federally protected species, all thinning activities would be minimal, as described earlier, and would be in accordance with guidelines laid out in the RCW ESMP. On Fort Benning, adherence to the RCW ESMP, the 2003 Recovery Plan for the RCW, and the Fort Benning INRMP during construction projects would be required, which would minimize potential effects. Fort Benning has identified the potential for incidental take of RCW clusters and/or trees in the Biological Assessment for the proposed DMPRC but minimization measures identified in the associated biological opinion will mitigate this impact. For future projects in the ROI, Fort Benning will request USFWS coordination/consultation as appropriate.

Alternatives A and B

As a result of these alternatives, the 362nd MRBC would begin training within 6 months. During this time, the construction of the force protection measures and the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on Fort Benning. In addition, the development of the North Tract in Columbus and the DMPRC and ISBC on Fort Benning would be ongoing, resulting in potential minor adverse effects to RCWs as a result of removal of or intrusion into their habitat in the area. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to RCW habitat in the ROI, due to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the RCI, DMPTR, and IPBC would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines and through coordination/consultation with USFWS. Therefore, these alternatives would result in no incremental impacts and no cumulative effects to RCWs in the ROI.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.0 CONCLUSIONS AND RECOMMENDATIONS

The no-action alternative, as described under baseline conditions, would not meet the purpose and need for providing adequate MRBC facilities and training. The bridge assembly and/or improvement of areas to support dry span, still water, fast water, and helicopter training considered under the proposed action, Alternative A would meet this need. Alternative B, would meet limited (dry span and still water) training needs but would not supply the suite of training required for bridge assembly in support of combat troop movement (i.e., fast water and helicopter transport training).

The predicted environmental consequences of Alternatives A, B, and C on the relevant environmental resource categories are presented in Table 6-1, along with a summary of best management practices and any required mitigation measures. Neither of the action alternatives (A and B) are expected to result in significant adverse impacts in any resource category. Implementing the proposed action would have minimal affect at Engineer and Bradley Landings or in existing training areas and ranges. Potential minor adverse effects would occur under the action alternatives to soils, water quality, biological resources, and recreation (Alternative A). Relatively minor positive effects would result in increased employment (plus up of 142 Soldiers) and expenditures into the local economy. No cumulative impacts are expected except potential minor negative cumulative impacts to water quality due to possible incremental impacts to streambanks and/or wetlands.

Table 6-1 Comparison of Potential Impacts by Alternative			
Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Natural Environment			
Soils	• Removal of soils from facility improvements, bridge assembly, access road construction, and EEP placement, would present minor, but not significant adverse effects • BMPs and mitigation measures employed to minimize effects from short-term erosion and sedimentation • Prior to site disturbance an SPCC, CBMPP, and ESPCP would be developed and NPDES and other applicable permits would be obtained • BMPs implemented to control, minimize, and reduce soil contamination from pollutants such as hazardous materials and/or waste • Temporary minor, adverse impacts from training activities **Mitigation Measures**: *Facility and Bridge Assembly Construction* Minimize earth moving and vegetation removal during siting and design. Adherence to BMPs, mitigation measures, and applicable laws and regulations *Training Operations and Maintenance*—No additional proposed; adherence to BMPs and applicable laws and regulations	• Minor adverse effects from facility improvements, dry span and still water operations • BMPs and measures employed to minimize effects from short-term erosion and sedimentation • Prior to site disturbance an SPCC, CBMPP, and ESPCP would be developed and NPDES and other applicable permits would be obtained • BMPs implemented to control, minimize, and reduce soil contamination from pollutants such as hazardous materials and/or waste • Temporary minor, adverse impacts from training activities **Mitigation Measures**: *Facility and Bridge Assembly Construction* Minimize earth moving and vegetation removal during siting and design. Adherence to BMPs, mitigation measures, and applicable laws and regulations *Training Operations and Maintenance*—No additional proposed; adherence to BMPs and applicable laws and regulations	• No impacts to soils. **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*— None proposed

Table 6-1 Comparison of Potential Impacts by Alternative

Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Water Quality	• Short-term Moderate adverse effects of sedimentation from construction and training • BMPs implemented to reduce erosion and sediment transport • Minor adverse impacts to wetlands and streambanks if not avoided by design • Obtain required CWA Section 10 and NPDES permits • Prior to site disturbance an SPCC, CBMPP, and ESPCP would be developed and NPDES and other applicable permits would be obtained • BMPs implemented to control, minimize, and reduce contamination on waterways from pollutants such as hazardous materials and/or waste for training activities per SPCC **Mitigation Measures**: *Facility and Bridge Assembly Construction* Mitigation measures such as avoidance, reduction and/or compensation would be required *Operations and Maintenance*—No additional proposed; adherence to BMPs and applicable laws and regulations	• Minor adverse sedimentation effects from training • BMPs implemented to reduce erosion and sediment transport • Prior to site disturbance an SPCC, CBMPP, and ESPCP would be developed and NPDES and other applicable permits would be obtained • BMPs implemented to control, minimize, and reduce contamination on waterways from pollutants such as hazardous materials and/or waste for training activities per SPCC **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed; adherence to BMPs and existing Army regulations *Operations and Maintenance*—No additional proposed; adherence to BMPs and applicable laws and regulations	• Minor adverse impacts to water quality. **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*— None proposed

Table 6-1 Comparison of Potential Impacts by Alternative

Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Biological Resources	• Minor adverse impact to RCW due to loss of foraging habitat • No impacts to other Federal and state protected species • Minor adverse impacts to vegetation • Temporary minor adverse impacts from training activities could temporarily disturb wildlife • Management practices implemented to reduce potential adverse impacts to biological resources including protected species during training **Mitigation Measures**: *Facility and Bridge Assembly Construction* • Avoid as much as possible impact to RCW foraging habitat and monitor construction activities • adhere to protected species management plans and applicable laws and regulations • Conduct RCW habitat evaluation and coordinate with USFWS as necessary *Operations and Maintenance* No additional proposed; adherence to species management plans and applicable laws and regulations	• Minor adverse impacts to Federal and state protected species • Minor adverse impacts to vegetation at dry span and still water potential training sites • Temporary minor adverse impacts from training activities could temporarily disturb wildlife • Management practices implemented to reduce potential impacts to biological resources including protected species during training activities **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed; adherence to species management plans and applicable laws and regulations *Operations and Maintenance* No additional proposed; adherence to species management plans and applicable laws and regulations	• No changes to current biological resources, therefore, no impacts • Current conservation measures would continue **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*— None proposed

Table 6-1 Comparison of Potential Impacts by Alternative

Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Human Environment			
Land Use	• No impacts to land use due to compatibility with previous activities and existing management plans • Minor, temporary river or pond access impacts during training **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed; adherence to BMPs and existing Army regulations *Operations and Maintenance*—None; coordinate with U.S. Coast Guard and Post	• No impacts to land use due to compatibility with previous activities and existing management plans • Minor, temporary river or pond access impacts during training **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed; adherence to BMPs and existing Army regulations *Operations and Maintenance*—None proposed	• No impacts. **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*— None proposed
Recreation	• Minor, temporary adverse impact on and along Chattahoochee at Engineer and Bradley Landings for boating and fishing during bridge assembly training; minor long-term beneficial impact with access road improvements • No impacts to training range recreational opportunities **Mitigation Measures:** *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*—None proposed	• No impacts to training range recreational opportunities **Mitigation Measures:** *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*—None proposed	• No impacts **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*— None proposed

Table 6-1 Comparison of Potential Impacts by Alternative

Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Socioeconomics and Environmental Justice	• Addition of only 142 Soldiers would create a minor beneficial effect to employment and local economy from longer-term positions and related expenditures • No other impacts to affected communities including minority and low-income populations **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*—None proposed	• Addition of only 142 Soldiers would create a minor beneficial effect to employment and local economy from longer-term positions and related expenditures • No other impacts to affected communities including minority and low-income populations **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*—None proposed	• Addition of only 142 Soldiers would create a minor beneficial effect to employment and local economy from longer-term positions and related expenditures • No other impacts to affected communities including minority and low-income populations **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*—None proposed
Cultural Resources	• No impacts to cultural resources if sensitive sites are avoided during bridge assembly, access road, and EEP construction • No cultural resources recorded in the 36th ENG GRP compound **Mitigation Measures**: *Facility and Bridge Assembly Construction* Avoid cultural rsources during construction, training, and maintenance; if they cannot be avoided, then determine eligibility and consult with SHPO and Tribes per Army requirements *Operations and Maintenance*—No additional proposed; adherence to existing Army regulations	• No impacts to cultural resources within training areas and ranges • No cultural resources recorded in the 36th ENG GRP compound **Mitigation Measures**: *Facility and Bridge Assembly Construction* None additional proposed; adherence to existing Army regulations *Operations and Maintenance*—No additional proposed; adherence to existing Army regulations	• No impacts **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*— None proposed

Table 6-1 Comparison of Potential Impacts by Alternative			
Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Hazardous Materials and Waste	• No impacts to management, storage, or disposal of hazardous materials and waste • Adhere to the Installation ISCP, SPCC, Hazardous Waste Management Plan, Integrated Pest Management Plan, and Recycling Program **Mitigation Measures**: *Facility and Bridge Assembly Construction* No additional proposed *Operations and Maintenance*—No additional proposed	• No impacts to management, storage, or disposal of hazardous materials and waste • Adhere to the Installation ISCP, SPCC, Hazardous Waste Management Plan, Integrated Pest Management Plan, and Recycling Program **Mitigation Measures**: *Facility and Bridge Assembly Construction* No additional proposed *Operations and Maintenance*— No additional proposed	• No impacts • Existing facilities would continue to follow Installation ISCP, SPCC, Hazardous Waste Management Plan, Integrated Pest Management Plan, and Recycling Program **Mitigation Measures**: *Facility and Bridge Assembly Construction* No additional proposed *Operations and Maintenance*— No additional proposed

Table 6-1 Comparison of Potential Impacts by Alternative

Resource	***Proposed Action***		***No Action***
	Alternative A	*Alternative B*	*Alternative C*
Air Quality	• No impacts to air quality • Temporary emissions from equipment for bridge assembly of less than 1 ton per year would occur for all criteria pollutants with the exception of NO_x, which would be about 1 ton per year • Long-term, operational emissions increases of no more than 1 ton per year for each criteria pollutant • No change in attainment status or regional pollutant emissions **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed; adherence to construction BMPs and applicable laws and regulations *Operations and Maintenance*—None proposed; adherence to BMPs and applicable laws and regulations	• No impacts to air quality • Long-term, operational emissions increases of no more than 1 ton per year for each criteria pollutant would occur • No change in attainment status or regional pollutant emissions **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed; adherence to BMPs and applicable laws and regulations *Operations and Maintenance*— None proposed; adherence to BMPs and applicable laws and regulations	• No impacts due to emissions from the addition of 142 Soldiers and 16 wheeled vehicles; air quality conditions maintain attainment status **Mitigation Measures**: *Facility and Bridge Assembly Construction* None proposed *Operations and Maintenance*—None proposed

Both Alternatives A and B would be suitable to implement. Environmental effects would be similar with both alternatives, although Alternative B would have less potential for water quality, recreation, and air quality impacts because there would not be fast water or helicopter transport training on or near the Chattahoochee River. Because Alternative A provides for all levels of training, does not present any significant adverse impacts, and the potential negative impacts can be further mitigated; therefore, it is the recommended alternative for implementation under this proposal.

CHAPTER 7

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7.0 REFERENCES CITED

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CHAPTER 8

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8.0 PERSONS AND AGENCIES CONSULTED

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APPENDIX A

DISTRIBUTION LIST

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117 North Main Street
Wetumka, OK 74880

Honorable Osceola-Clayton M. Sylestine
Principal Chief
Alabama-Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX 77351

Honorable Bill Anoatubby
Governor
Chickasaw Nation
124 South Broadway
American Building, 3rd Floor
P.O. Box 1548
Ada, OK 74821

Honorable Lovelin Poncho
Chairman
Coushatta Tribe of Louisiana
1940 Bell Road
P.O. Box 818
Elton, LA 70532

Honorable Ben Givens
Mekko
Kialegee Tribal Town
108 N. Main Street
P.O. Box 332
Wetumka, OK 74883

Honorable George Wickliffe
Chief
United Keetoowah Band
of the Cherokee Indians of Oklahoma
P.O. Box 189
Park Hill, Oklahoma 74451

Honorable A.D. Ellis
Principal Chief
Muscogee (Creek) Nation of Oklahoma
P.O. Box 580
HWY 75 & Loop 56
Okmulgee, OK 74447

Honorable Mitchell Cypress
Chairman
Seminole Tribe of Florida
AH-THA-THI-KI Museum
HC-61, Box 21A
Clewiston, Florida 33440

Honorable Fred McGhee
Chairman
Poarch Band of Creek Indians
HCR 69A, Box 85B
Tribal Offices
5811 Jack Springs Road
Atmore, AL 36502

Honorable Bryan McGertt
Town King
Thlopthlocco Tribal Town
P.O. Box 188
Okemah, OK 74859

Honorable Kenneth Chambers
Principal Chief
Seminole Nation of Oklahoma
P.O. Box 1498
Wewoka, OK 74884

Honorable Lisa Stopp
Assistant Chief
United Keetoowah Band of the
Cherokee Indians of Oklahoma
P.O. Box 189
Park Hill, OK 74451

Honorable Phillip Martin
Chief
Mississippi Band of the Choctow Indians
P.O. Box 6010
Choctaw Branch
Philadelphia, Mississippi 39350

Sen. George Hooks
Senate District 14
P.O. Box 928
Americus, GA 31709

Sen. Ed Harbison
Senate District 15
P.O. Box 1292
Columbus, GA 31902

Sen. Seth Harp
Senate District 16
P.O. Box 363
Midland, GA 31820

Rep. Debbie Buckner
House District 109
Route 1 Box 76
Junction City, GA 31812

Rep. Vance Smith
House District 110
5331 Hopewell Church Rd.
Pine Mountain, GA 31822

Rep. Calvin Smyre
House District 111
1103 Glenwood Road
Columbus, GA 31906

Rep. Richard Smith
6127 Seaton Drive
Columbus, GA 31909

Rep. Carolyn Hugley
House District 113
4019 Steam Mill Road
Columbus, GA 31906

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

Senator Johnny Isakson
6000 Lake Forrest Drive, Suite 100
Atlanta, GA 30328

Jack Kingston
Georgia-1st District
2242 Rayburn HOB
Washington, DC 20515-1001

Sanford Bishop, Jr.
Georgia-2nd District
2429 Rayburn HOB
Washington, DC 20515-1002

Jim Marshall
Georgia-3rd District
502 Cannon, HOB
Washington, DC 20515-1003

Cynthia McKinney
Georgia-4th District
320 Cannon HOB
Washington, DC 20515

John Lewis
Georgia-5th District
343 Cannon HOB
Washington, DC 20515-1005

Tom Price
Georgia-6th District
PO Box 425
Roswell, GA 30777

John Linder
Georgia-7th District
1727 Longworth HOB
Washington, DC 20515-4272

Mr. Lynn Westmorland
Georgia-8th District
2753 East Highway 34, Suite 3
Newnan, GA 30265

Charlie Norwood
Georgia-9th District
2452 Rayburn HOB
Washington, DC 20515-1009

Nathan Deal
Georgia-10th District
2437 Rayburn HOB
Washington, DC 20515-1010

Phil Gingrey
Georgia-11th District
1118 Longworth HOB
Washington, DC 20515-1011

John Barron
Georgia-12th District
226 Cannon HOB
Washington, DC 20515

David Scott
Georgia-13th District
417 Cannon HOB
Washington, DC 20515-1013

Jeff Sessions
Alabama U.S. Senator
335 Russell Senate Office Building
Washington, DC 20510

Richard Shelby
Alabama, U.S. Senator
110 Hart Senate Office Building
Washington DC 20510

Mike Rogers
Alabama, 3rd District
514 Cannon HOB
Washington, D.C. 20515

Myron Penn
Alabama, 28th Senate District
Room 731
11 S. Union Street
Montgomery, AL 36130

George Bandy
Alabama, 83rd House District
Room 529
11 S. Union Street
Montgomery, AL 36130

Lesley Vance
Alabama, 80th House District
Room 630-E
11 S. Union Street
Montgomery, AL 36130

III. LOCAL AND REGIONAL ADMINISTRATORS, FEDERAL AGENCIES, OR COMMISSIONS WITH REGULATORY INTEREST

** U.S. Fish & Wildlife Service
Georgia Office
247 South Milledge Avenue
Athens, GA 30605

** U.S. EPA
Attn: Dr. Gerald Miller
Atlanta Federal Building
61 Forsyth Street
Atlanta, GA 30303-3104

U. S. EPA
Attn: Waste Management Division
Atlanta Federal Building
61 Forsyth Street
Atlanta, GA 30303-3104

** Commander, Savannah District COE
Attn: CESAS-PD-EC (Mr. Coleman)
Post Office Box 889
Savannah, GA 31402-0889

U.S. Department of Agriculture
Soil Conservation Service
Post Office Box 18
Buena Vista, GA 31803

** Georgia State Clearinghouse
Ms. Deborah Stephens, Administrator
Office of Planning and Budget
270 Washington Street, SW.
Atlanta, GA 30334-8500

Mr. Joe Tanner
Department of Natural Resources
205 Butler Street SE, Suite 1252
Atlanta, GA 30334-4910

Mr. Keith Parsons
Georgia DNR, Environmental Policy Division
205 Butler Street
Atlanta, GA 30334-4910

** Georgia DNR, Erosion and Sedimentation Control
205 Butler Street, SE.
Suite 1038, Floyd Towers East
Atlanta, GA 30334

Columbus Consolidated Government
Planning Division
Government Tower – West Wing
Columbus, GA 31902

Columbus/Muscogee County Soil Conservation Service
Government Center – East Wing
Columbus, GA 31993-2399

Mr. Carmen Cavezza, City Manager
Government Center – West Wing
Columbus, GA 31901

Georgia State Historic Preservation Officer
Historic Preservation Division
Department of Natural Resources
34 Peachtree Street, NW
Suite 1600
Atlanta, GA 30303-2316

Alabama State Historic Preservation Officer
Alabama Historic Commission
468 South Perry Street
Montgomery, AL 36130

Alabama Department of Conservation
and Natural Resources
64 N. Union Street
Montgomery, Alabama 36130

Lt. Andy Meyers
U.S. Coast Guard, Savannah Unit
Marine Safety Division
100 W. Oglethorpe Avenue
Savannah, GA 31401

Tom Fisher, Regulatory Branch
Albany Field District
U.S. Army Corps of Engineers
1104 North Westover Rd.
Unit 9
Albany, GA 31707

Commander, Sector Mobile
U.S. Coast Guard
Building #12, Brookley Complex
South Broad Street
Mobile, AL 36615

IV. CITIZEN ADVISORY GROUPS AND LOCAL INTEREST GROUPS OR PERSONS

Chattahoochee Nature Center
9135 Willeo Road
Roswell, GA 30075

Sierra Club, Georgia Chapter
1447 Peachtree Street N.E.
Suite 305
Atlanta, GA 30309

National Wildlife Society
1401 Peachtree Street N.E.
Suite 240
Atlanta, GA 30309

National Wildlife Society
1401 peachtree St., N.E.
Suite 240
Atlanta, GA 30309

Chattahoochee Riverkeeper, Inc.
30 W. 10th Street
P.O. Box 1492
Columbus, GA 31909

The Nature Conservancy
Post Office Box 2452, Ft. Benning Branch
Columbus, GA 31905-2452

Audobon Society of Columbus
P.O. Box 442
Hamilton, GA 31811

Georgia Wildlife Federation
11600 Hazelbrand Road
Covington, GA 30014

Georgia Forestry Association, Inc.
P.O. Box 1217
Forsyth, GA 31029-8110

Georgia Woman Flyfishers
C/O Joy Kramer
116 Kenninghall Ct.
Smyrna, GA 30082

V. LOCAL NEWS AND MEDIA

WRBL TV 3 (CBS)
Attn: Legals
1350 13th Avenue
Columbus, GA

WTVM TV 9 (ABC)
Attn: Legals
1909 Wynnton Road
Columbus, GA 31994

WXTX TV 54 (FOX)
Attn: Legals
6524 Buena Vista Road
Columbus, GA 31994

Columbus Times
2230 Buena Vista Road
Columbus, GA 31906

WKCN (99.3 FM)
Attn: Legals
1353 13th Avenue
Columbus, GA 31901

WGSY (100 FM)
Attn: Legals
1501 13th Avenue
Columbus, GA 31901

WOKS (1340 AM) and WXFE (105 FM)
Attn: Legals
P.O. Box 1998
Columbus, GA 31902

Mellow Times News
2904 Macon Road
Columbus, GA 31907

VI. FORT BENNING OFFICIALS

Walter Wojdakowski
Major General, U.S. Army
Commanding General
Infantry Hall (Bldg 4)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-OT
Fort Benning, GA 31905

Deputy CG/Assistant Commandant
Infantry Hall (Bldg 4)
Fort Benning, GA 31905

PWD, Southeast Region, IMA
Attn: SFIM-SE-PW-E (Mr. Jim Cobb)
1593 Hardee Avenue SW
Fort McPherson, GA 30330-1057

Commander, U.S. Army Infantry Center
Attn: ATZB-IM
Fort Benning, GA 31905-5122

Commander, 75th Ranger Regiment
Building 2834
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PO
Fort Benning, GA 31905

Commander, 3rd Brigade, 3rd Infantry Division
Building 9050 (Kelley Hill)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-JA
Fort Benning, GA 31905

Commander, 29th Infantry Regiment
Building 5500 (Harmony Church)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-AG
Fort Benning, GA 31905

Commander, 11th Infantry Regiment
Building 2749
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PA
Fort Benning, GA 31905-0798

Commander, 36th Engineer Group
Building 2827
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PS
Fort Benning, GA 31905

Commander, Ranger Training Brigade
Building 5024 (Harmony Church)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PSF
Fort Benning, GA 31905

Commander, Infantry Training Brigade
Building 3410 (Sand Hill)
Fort Benning, GA 31905

APPENDIX B

PUBLIC AND STAKEHOLDER INVOLVEMENT PLAN

Environmental Assessment for Multi-Role Bridge Company Establishment Fort Benning, Georgia and Alabama Public and Stakeholder Involvement Plan (PIP)

October 2005

1. PURPOSE

1.1 Need for Project. A Multi-Role Bridge Company (MRBC) is an engineer unit for the placement and erection of bridges for troop and materiel movement in battlefield situations. As part of the transformation efforts, the Army is stationing the 362nd Engineer Company at Fort Benning for the purposes of bridge-assembly training (including operating and maintaining all bridge assembly equipment) and combat readiness (i.e., ability to transport and assemble bridges in still and fast water conditions). Therefore, the purpose of the proposed action is to provide the facilities and training areas to support the MRBC at Fort Benning. The need for the proposed action is to ensure the MRBC is ready to assemble bridges in combat situations.

1.2 Need for Public and Stakeholder Involvement Plan. This Public Involvement Plan (PIP) presents a comprehensive means of satisfying legal requirements while enhancing community knowledge and participation in the planning for the proposed establishment of the Multi-Role Bridge Company at Fort Benning. Throughout this PIP, "public" is used to broadly describe individuals who are in communities near the proposed project site or that may be interested or affected by the proposed action or alternatives. "Stakeholder" is used to identify those entities that have an additional relationship to Fort Benning environmental resources or regulatory or governmental duties. Stakeholders include the federally-recognized American Indian Tribes associated with the Fort Benning area (Tribes); federal, state and local governmental agencies with regulatory authority over Fort Benning (e.g., United States Fish and Wildlife Service [USFWS] and Georgia and Alabama State Historic Preservation Offices); and interested public agencies.

1.2.1 Public involvement required by National Environmental Policy Act (NEPA). The primary law that drives public involvement is the National Environmental Policy Act (NEPA). NEPA requires federal agencies, such as the Army at Fort Benning, to prepare an environmental analysis of the proposed action and alternatives. Potential environmental impacts, both direct and indirect, are identified for the proposal and each alternative, and possible mitigation for any negative impacts is presented. Also, cumulative impacts (i.e., incremental impacts when considering other projects or actions in a region of affect) are identified as well as any resultant mitigation.

An EA is the appropriate level of NEPA documentation for the Establishment of the MRBC at Fort Benning. The Council on Environmental Quality (CEQ) has NEPA oversight for the federal government and has published regulations and guidance for preparation of an EA. The Army supplements NEPA and

the CEQ directions with Army Regulation 200-2, *Environmental Effects of Army Actions* (AR 200-2), current version effective 29 March 2002. AR 200-2 provides guidelines for the contents of an EA and the processes required for full environmental analysis with participation by public, stakeholders, and regulators. This PIP will not restate the provisions of AR 200-2, so attention to the specific requirements provided therein is required to fully comply with AR 200-2 and the Army's guidance on public and stakeholder participation and scoping. NEPA requires opportunities for public review and comment of an EA. Public interaction is based on two-way communication that reflects the needs of the community, and may utilize such methods as notices, brochures, news releases, web page information, summaries, draft documents, public meetings, comments, and/or other methods. This PIP will address the means of meeting the NEPA and AR 200-2 public involvement requirements.

1.2.2. Other Laws and Regulations. There are several other laws and regulations that require public notices and participation during the planning phases of a federal project and some *may be* relevant to the implementation of the proposed MRBC establishment and training activities. Although NEPA may address some of the topics and issues in the EA, Fort Benning needs to satisfy the requirements of these other laws and regulations.

1.2.3 Goals of Plan. Fort Benning is committed to meeting the legal requirements and also takes measures for communication and involvement of the public and stakeholders in the planning of the MRBC establishment and training proposal at Fort Benning. Limitations in resources, personnel, and time impose constraints that necessitate an efficient and realistic plan. This PIP must assist the Army planners and be realistic for implementation. Goals for this PIP include:

- Promote an understanding of public and stakeholder involvement requirements and opportunities for better resourcing and scheduling;
- Specify steps needed to meet legal responsibilities for comment opportunities of public members and stakeholders;
- List realistic time frames and responsible persons or offices for each step;
- Coordinate activities to maximize the quality of the information, ensure the information relates to planning actions in process, and incorporate any resultant feedback into future participation or planning processes;
- Incorporate opportunities to present information to better partner with the community; and
- Keep the Fort Benning Public Affairs Officer (PAO) informed.

2. PUBLIC INVOLVMENT PLAN STRUCTURE

This PIP is presented chronologically, providing the anticipated steps, time frames, and actions. Although this plan is meant to serve as a foundation for public and stakeholder involvement, it may have to be adjusted to accommodate changes. Items in this PIP should be evaluated for suitability before engaging in the recommended actions. AR 200-2 divides the scoping process into three phases for

simplification: the Preliminary Phase, the Public Interaction Phase, and the Final Phase. Although the majority of public and stakeholder involvement is conducted in the Public Interaction Phase, the other two stages encompass important steps to prepare for and respond to public and stakeholder involvement. This PIP will use the three phases to organize this Plan, although the phases often overlap.

3. PRELIMINARY PHASE

3.1. Initial Internal Scoping. This is an internal Fort Benning action that is normally very informal and may result in limited amounts of documentation. Often proponents of the action start this internal scoping as a part of management planning for the proposal, rather than as a conscious effort to conduct internal scoping. Internal scoping is a process of identifying project requirements, initial environmental concerns, and possibly explore options to address those concerns. In this case, much of the internal scoping occurred during an Environmental Management Division meeting in March 2005. Internal scoping is important because it commences the environmental analysis; however, internal scoping is only a precursor to public and stakeholder involvement. It is important for the proponent (i.e., the Army at Fort Benning) and all those working with the proponent to keep in mind that the decisions regarding the project are not final and are just proposals. Until the process of environmental analysis and documenting a decision is complete, the proponent may modify the project, especially to reduce potential environmental impacts, incorporate internal concerns, or address potential mitigation measures.

3.1.1. Identify Proponent. Initially, the proponent(s) of the proposal is identified. Usually, the proponent is the person or activity that has initiated the action, has initiated a funding request, and makes the important decisions or recommendations regarding the project. For the establishment of the MRBC proposal, the proponent has been identified as the 36th Engineer Group Commander and the Fort Benning Garrison Commander for this action.

3.1.2. Coordinate with Environmental Planners. For actions that could have, and/or the potential to have, a negative affect or a substantial positive affect on the environment, the proponent is required to coordinate with EMD. Early coordination is required for large or complex projects. Failure to coordinate early can lead to several problems, including failure to maintain a proper NEPA record, delay in project execution, extra expense from redesigns and incorporation of mitigation, plus other problems. Normally the proponent initiates coordination by submitting a completed Fort Benning Form 144-R to EMD to determine what level of NEPA analysis is required; however the NEPA documentation for some proposals obviously requires more complex NEPA analysis and the internal scoping can begin with a kick-off meeting or other ways. For purposes of this NEPA process, the MRBC proposal does not represent a high-level of complexity.

3.1.3. Document internal scoping efforts. NEPA compliance involves maintaining records of alternatives explored, issues identified, personnel involved, and other aspects of necessary for internal

scoping. Preparing meeting minutes or notes or other evidence of internal scoping is helpful not only for maintaining a project file, but also to later recall information for environmental document preparation. Alternatives or options that may have been considered informally in the internal scoping process may be a basis for alternatives evaluated formally in the EA. This internal scoping does not substitute for public scoping, but it is a necessary precursor.

3.1.4. Coordinate with Public Affairs Officers. The EMD NEPA Program Manager and Directorate of Public Works (DPW) will keep the Fort Benning PAO informed regarding environmental planning and scoping for the MRBC proposal.

3.1.5. Tentative List of Affected and Interested Parties (Mailing List). EMD maintains a NEPA mailing list consisting of individuals or entities that have shown interest in Fort Benning's environmental studies or past projects. The mailing list also includes federal, state, and local government offices, Tribes, and other interested citizens and organizations requesting to be on the mailing list. This list will be reviewed and adjusted for each NEPA action. Moving toward an electronic mailing database would be more efficient for many on the mailing list, and EMD would need to acquire email addresses for those who indicate a preference to receive email rather than traditional mail. However, email will not totally replace mailings that are required for notices associated with the EA process and for those citizens not having email accessibility. For the MRBC proposal, Fort Benning has taken the basic Mailing List and adjusted it according to the potential of those individuals to be affected by the proposed MRBC establishment and training action and alternatives and to update addresses. Part of the scoping process includes continued maintenance of the Mailing List—it will be updated routinely to correct, add, and/or remove individuals, organizations, entities, and government agencies.

4. PREPARATION OF THE EA AND FINDING OF NO SIGNIFICANT IMPACT (FNSI)

4.1. Involvement in the EA Development. The EA is the environmental analysis document that is available for public review and comment in the NEPA process for this proposed action. While several partial drafts of the NEPA document may be routed for review at the Installation (internal) level, the first NEPA document to leave the Installation for public review is the EA and draft FNSI. The Installation will make every attempt to inform the public of the proposal and address any relevant comments during the Public Interaction Phase into the EA analysis.

4.2. EA Preparation.

4.2.1. Drafting the NEPA Document. The EA will follow the general format in AR 200-2 although variations can be made as long as all required information and analysis are included. Reliable data and information are used in the development of the draft MRBC EA. It is suggested that the EA be simultaneously developed with other environmental planning requirements to be efficient and credible.

4.2.2. Gathering Information. Much information and data will be obtained from existing sources; additional surveys and/or analysis for this MRBC EA are primarily limited to analysis of potential effects on the endangered red-cockaded woodpecker; this analysis has been completed. Coordination with the proponent, Fort Benning stakeholders, and external participants will be conducted early to ensure the information and data are correctly presented in the EA.

4.2.3. Coordinating with Other Environmental Requirements. Several other environmental requirements involve data collection, potential project impact analysis, and consideration of mitigation measures (if needed). Information obtained to satisfy other requirements will be incorporated into the EA, when available. Often only a summary of the related information is presented, with either a reference to the full document, placing the full document in an appendix, or incorporating by reference. If either referencing or incorporating another document, the full text of the document will be available for public review when the EA is made publicly available. If possible, the public involvement activities will be integrated to meet the requirements of NEPA and other requirements to present a complete picture to the public of the proposal and potential environmental impacts.

4.2.4. Coordinating with Others: The EA internal Army review will include DPW (Master Planning, EMD Program Managers), the Office of the Staff Judge Advocate (OSJA Environmental Attorney), and the MRBC (or 36th Engineering Group) personnel. See AR 200-2 651.45(d)(2) for more information.

4.2.5. Cooperating Agencies. At this time, there are no cooperating agencies involved in the NEPA for the proposed establishment of the MRBC at Fort Benning.

5. PUBLIC INTERACTION PHASE

Publishing the EA for Public and Stakeholder Review and Comment: The Notice of Availability (NOA) of the EA and draft FNSI will be published in *The Bayonet*, the *Columbus Ledger-Enquirer*, and any other suitable media. The Fort Benning website will also include the NOA, as well as the full text of the EA, draft FNSI, and, when possible, the appendices to the EA.

In addition to the announcement of the NOA in the newspaper and website, the NOA will also be mailed to all persons/agencies on the project Mailing List. Fort Benning is required to make hard copies of the EA and draft FNSI available for review to anyone on this list (or in the general public) upon request. At a minimum, hard copies of the EA and draft FNSI will be provided to key Installation personnel, regulatory agencies, and local libraries (both on and off post). Additionally, the NOA will be posted at the Uchee Creek Recreation Area. The review and comment period for the draft EA and FNSI is 30 days after the first publication of the NOA in the local media.

6. THE FINAL PHASE

After the close of the time frame for public comment on the EA and draft FNSI, the Final Phase for public involvement begins. Comments are considered and any revisions must be incorporated, either by errata sheets for minor revisions or complete revision and production of a revised EA for more comprehensive changes.

6.1. Draft Finding of No Significant Impact (FNSI). No decision will be made until 30 days after the EA and draft FNSI have been made available for public review and comment. The draft FNSI includes the decision (which alternative is selected), a description of alternatives considered, explanation of all factors used in making the decision, and an account of avoidance and mitigation requirements (if applicable). See AR 200-2, Section 651.35(c) for more information.

6.2. Mitigation and Monitoring. If mitigation measures are identified, then monitoring requirements will be identified in the EA and FNSI. A monitoring plan and enforcement programs for any required mitigation will be included in the EA and FNSI and carried out by the proponent. Fort Benning will provide the status of the mitigation and monitoring results upon request. Point of contact for requesting this information is the Fort Benning Public Affairs Office.

Reference:

Army Regulation 200-2, *Environmental Effects of Army Actions*, Headquarters, Department of the Army, 2002.

Fort Benning. 2005. Environmental Assessment for Temporary Brigade Combat Team Support Facility and Brigade Combat Team Training at Fort Benning, Georgia; Appendix B, Public and Stakeholder Involvement Plan. January.

APPENDIX C

MITIGATION AND MONITORING PLAN

DRAFT MITIGATION AND MONITORING PLAN FOR 362ND MRBC ALTERNATIVE A

1. Introduction

a. Definitions of Mitigation

The President's Council on Environmental Quality (CEQ) describes mitigation as:

Avoidance: Avoid the impact by changing the plan. Do not take certain actions that would cause the environmental effect.

Minimization: Minimize impacts by changing the intensity, timing, or duration of the action and its implementation.

Rectifying: Fix, repair, or restore damage that may be caused by implementing the proposed action.

Reducing: Reduce or eliminate the impact over time.

Compensation: Compensate for the impact by replacing the damage by improving the environment elsewhere or by providing other substitute resources such as funds to pay for the environmental impact.

2. Proposed Mitigation and Monitoring Measures

This section identifies the proposed mitigation measures under Alternative A, by media (i.e., soils, water quality, and biological resources [specifically RCW foraging habitat]), for the establishment of the 362nd MRBC. It is applicable for the construction, operation, and maintenance phases of the proposed action, preferred Alternative A. If Alternative B were chosen, this mitigation and monitoring plan will be revised to reflect any mitigation measures.

Because the specific footprint for the footprint/construction associated with the fast water training cannot currently be identified, the MRBC must submit to EMD the details regarding these sites when available. If environmental resources such as wetlands, streambanks or cultural resources cannot be avoided, then additional mitigation processes and measures may be required, as indicated below.

a. Soils

Mitigation

Impacts to soils are anticipated from construction of the 362nd MRBC facilities and training area improvements (motor pool, maintenance bays, landing sites, and EEP). During design, earth-moving and vegetation removal will be minimized as much as feasible. Construction of the 362nd MRBC support facilities and training areas will require the construction contractor to prepare and to obtain a National Pollution Discharge Elimination System (NPDES) permit, which will mandate the preparation and implementation of a Georgia Erosion Sedimentation and Pollution Control Plan (ESPCP) and Alabama Construction Best Management Practices Plan (CBMPP). The specifications of the NPDES permit will be discussed in more detail under water quality, but it is relevant to minimization mitigation for soils in

that it includes submission of an ESPCP to the Georgia EPD and a CBMPP Alabama DEM, with copies furnished to Chief of EMD or designee. The ESPCP and CBMPP would include a project description, soil information, changes to existing contours, existing drainage patterns, general location of structural best management practices (BMPs), BMP specifications, quantity, and cost estimates, BMP inspection and maintenance requirements, detailed preconstruction and during-construction drawings, and a construction schedule. The BMPs likely to be included in the ESPCP and CBMPP include erosion control matting, channel stabilization, silt fencing, storm drain outlet protection, stone check dams, rock filter dams, temporary and permanent seeding and the application of mulch. Silt fencing, stone check dams, and rock filter dams will be used to trap sediment on the site. Disturbed areas will be seeded with temporary and permanent grasses to stabilize the area. The construction contractor (or Fort Benning EMD) will submit a NPDES permit as required and will make any modifications to the ESPCP/CBMPP at that time to meet all requirements at the Alternative A sites. Any ground-disturbing activities in potential wetland areas (in both Alabama and Georgia) may be required for construction of the landing sites. Georgia Forestry BMPs and Alabama Handbook BMPs for water quality, streamside management zones (SMZs), and timber harvesting (if needed) will be implemented. Other BMPs to be used during the construction phase to mitigate soil and sedimentation issues may include: buffer zones, dust control on disturbed areas, construction exit, construction road stabilization, stream diversion channel, temporary stream crossing, and storm drain outlet protection. Construction exits may be built in areas where traffic will be leaving the 36th ENG GRP to a major roadway (Dixie and/or Sightseeing Roads) to reduce or eliminate the transport of mud from the construction area.

Monitoring

Any merchantable trees to be removed would require review of the Fort Benning Land Management Branch. The construction contractor and the 362nd MRBC must adhere to the applicable ESPCP/CBMPP and NPDES permits. The design engineer is required to conduct a site visit to certify BMPs. Monitoring requirements are stated in the ESPCP/CBMPP. Per Georgia and Alabama NPDES requirements, the construction contractor (for facility construction) and the 362nd MRBC (for training area improvements) must provide qualified personnel to conduct inspections, sampling and monitoring of BMPs from the ESPCP/CBMPP. The contracting officer for the construction contract should monitor mitigation measures described in the ESPCP/CBMPP to further ensure the success of mitigation. The ESPCP/CBMPP should include detailed vegetation establishment specifications, which ensure the timely installation and establishment of vegetation. Vegetation is significant because it controls soil erosion rather than captures eroded sediment. All monitoring reports shall be submitted to EMD within 3 days of inspection. A new Georgia and Alabama NPDES permit which changes the inspection requirements of the permittee became effective August 13, 2003. The new Monitoring requirements are:

- Daily – Inspect all areas where petroleum products are stored, used, or handled for spills and leaks. Inspect all locations where vehicles exit or enter the site for evidence of off-site tracking. Measure rainfall once each twenty-four hour period at the site.

- Once every 7 calendar days and within 24 hours of a storm that is 0.5 inches or greater – Inspect disturbed areas and storage areas that are exposed to precipitation that have not undergone final stabilization. Inspect structural control measures.
- Once per month during term of permit – Inspect areas that have undergone final stabilization for evidence of or potential for, pollutants entering the drainage system and receiving waters. Based on the results of each inspection, the site description and pollution prevention and control measures identified in the ESPCP/CBMPP shall be revised no later than 7 calendar days following each inspection. The contractor or the 362nd MRBC has an additional obligation to sample all receiving waters or outfalls at two times during the construction process.

b. Water Quality (including wetlands and streambanks)

Water Quality Mitigation

Adherence to applicable Federal and state laws and regulations and Army regulations is required and would minimize impacts. Any required Section 10 and Section 404 permitting will be undertaken with the USACE for structures over navigable waters (Section 10) and wetlands or streambanks (Section 404). Any tree clearing and construction activities greater than one acre in size require a NPDES Permit (both Georgia and Alabama) for Storm Water Discharges from construction activities. The general permit establishes requirements such as:

- Notice of Intent and Notice of Termination,
- Payment of Fees,
- Development and implementation of a ESPCP/CBMPP,
- Site inspections for facilities with discharges authorized by the permit,
- Amendments to plans as necessary to keep them current, and
- Retention of records for at least three years from the date of final stabilization.

Additional minimization of impacts would be provided in the construction contract specifications or design plans which generally include stormwater management measures that reduce the average annual total suspended solids load in the development site's post-construction runoff by 80 percent. This would be accomplished through conveyance of stormwater through BMPs, as discussed under Soils Mitigation, which in turn would lessen the deposition of sediments into adjacent surface waters at the site of disturbance. The preparation and implementation of a Spill Prevention Control and Countermeasure (SPCC) Plan and/or its requirements during construction activities will prevent and/or minimize spill/release from hazardous materials into waterways. The SPCC is just one aspect of the larger ESPCP/CBMPP that will be required for construction to commence. The ESPCP/CBMPP should specifically address the implementation of discharge from control areas for equipment maintenance or repair, waste locations, wash-down locations, and sanitary facility areas.

Stream buffer zones will be at least 25 feet on each side of the stream, but may be greater than 25 feet in certain areas. However, if a stream buffer variance is granted, the associated terms and conditions will be

followed. Stream buffers, wetlands, and streambanks will be clearly marked prior to any construction work or other disturbance.

Water Quality Monitoring

The construction contract specifications or other design plans will require all water areas affected by construction activities to be monitored. The monitoring and sampling requirements under the NPDES permit and the ESPCP/CBMPP are explained above in Soils Mitigation. The construction contractor or 362nd MRBC will submit required monitoring results to the Chief of EMD or designee, in addition to the State - required submittals.

Wetlands and Streambanks Mitigation

Wetland and stream bank mitigation measures may be implemented as a part of the mitigation for the proposed 362nd MRBC and would be in accordance with a Section 404 permit for the project if such a permit is required. Prior to the initiation of any ground-disturbing activities, wetlands will be delineated and marked for avoidance to the greatest extent possible. Stream buffer zones will be established to the greatest extent possible and will be at least 25 feet on each side of the stream. If wetlands and/or streambanks cannot be avoided, then the appropriate Section 404 permitting will be undertaken and wetland and/or streambank credits may need to be established and/or purchased to offset removal of any wetlands and/or streambanks. Another possible mitigation for consideration is use of Clear Creek Restoration Area credits, when available. The construction contractor or 362nd MRBC will utilize additional erosion control measures as needed. The SPCC Plan and erosion control BMPs would also be implemented to avoid impacts to desirable habitat during construction (see Water Quality and Soils for more details). Additional mitigation may be required in the Section 404 Permit, including low-impact methods of timber and vegetation removal.

Wetlands and Streambanks Monitoring

Prior to any ground disturbing activities, Fort Benning EMD or local officials will ensure that all adjacent wetlands and/or streambanks (not directly impacted by construction activities) are marked with paint, flags, or preferably stakes to indicate the sensitivity of these areas and signal the necessity of avoiding them. Daily monitoring during construction would ensure compliance to permit requirements and avoidance of adjacent wetlands and/or streambanks.

c. Biological Resources

Tree Removal Mitigation

Any tree clearing will be kept to a minimum either by avoidance or design. Prior to any tree clearing activities, the boundaries of work will be established and marked to reduce the potential impacts to RCW habitat. If RCW foraging habitat cannot be avoided, a detailed evaluation will be prepared by the Fort Benning RCW Biologist or qualified consultant. This evaluation would analyze whether the proposed project would remove any potential RCW habitat that may be used by a cluster that could be introduced to

the area in the future. These acres would then have to be assessed as to whether that removal would impact Fort Benning's ability to put a cluster into that area in the future and, if the answer is no, would that affect Fort Benning's ability to reach established recovery goals. Further coordination or consultation with U.S. Fish and Wildlife may be required.

Monitoring

Fort Benning will monitor construction activities for the training sites on a daily basis at locations supporting RCW habitat. If any infringements are noticed they will be corrected on site.

3. Funding and Enforcement

a. Funding

The proponents will be responsible for acquiring funding for the aforementioned mitigation using established procurement, contracting, and other fiscal processes.

b. Enforcement

The proponent is ultimately responsible for implementing all mitigation requirements, but other entities carrying out the mitigation also have responsibilities. Contracting Officers are responsible for monitoring contractor compliance with all mitigation requirements for motor pool and maintenance bays construction; the 362nd MRBC and 36th ENG GRP will be responsible for monitoring mitigation requirements for all other construction and training activities. The Chief, EMD and the Environmental Law Specialist, OSJA will be notified in writing of any noncompliance with mitigation commitments. All contractual mechanisms will be used to ensure that mitigation and monitoring is conducted as required. During the training phase of the proposed action, any noncompliance with mitigation requirements or regulations would be coordinated with Chief, EMD, Environmental Law Specialist, OSJA, and 362nd MRBC. Actions to resolve noncompliance will be taken in a timely manner and may include: supplemental NEPA analysis; adjustment to range operations; notice to SERO and/or regulators; investigation; administrative or disciplinary actions if military or civil service personnel are involved; civil or criminal actions; and other actions as appropriate to the situation.

Often, three potential courses of action are available to regulators if a violation of environmental requirements is identified. Violations may include failure to avoid impacts to resources, implement BMPs, etc.

Environmental Monitoring Report. Fort Benning will maintain environmental monitoring reports and documentation in accordance with 32 CFR 651.15(l) to help determine the accuracy of impact assessment and make any necessary adjustments in the mitigation measures and/or military operations as practicable. Reports on documentation regarding environmental monitoring status will be provided upon request to the public and stakeholders, unless barred from public release (e.g. classified information or Privacy Act information, etc.).

References

Fort Benning. 2004. Appendix B, Mitigation and Monitoring Plan. Environmental Assessment for the Proposed National Infantry Museum, Fort Benning, GA.

Georgia Department of Natural Resources, Environmental Protection Division, August 2003.

APPENDIX D

AIR QUALITY

Bridge Assembly Emissions

Motor Pool

Construct reinforced concrete parking 2.5 acres 108,900 sq ft

Land clearing

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Dozer	1	6	2	299	0.58	0.68	2.7	8.38	0.93	0.402	3	12	38	4	2
Tier 0	Backhoe/loader	2	8	4	98	0.21	0.99	3.49	6.9	0.85	0.722	3	10	20	2	2
Tier 1	Skid/steer Loader	1	8	3	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	2	5	1	0
Tier 0	Dump truck (12 CY)	28	0.5	4	275	0.21	0.68	2.7	8.38	0.89	0.402	5	19	60	6	3
											Subtotal	11	44	123	14	7

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	3.00	4	25%	0.48	0.36

Site prep (grading, compacting, drainage, etc.)

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Dozer	1	6	2	299	0.58	0.68	2.7	8.38	0.93	0.402	3	12	38	4	2
Tier 0	Backhoe/loader	1	8	7	98	0.21	0.99	3.49	6.9	0.85	0.722	3	9	18	2	2
Tier 0	Grader	1	4	5	135	0.58	0.68	2.7	8.38	0.93	0.402	2	9	29	3	1
Tier I	Small generator	1	4	5	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	1	1	0	0
Tier 0	Dump truck (12 CY)	8	1	7	275	0.21	0.68	2.7	8.38	0.89	0.402	5	19	60	6	3
											Subtotal	13	51	146	16	8

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	3.00	7	25%	0.84	0.63

Reinforced concrete pad construction

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 1	Skid steer loader	2	2	30	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	2	10	23	4	2
Tier 0	Concrete truck (9 CY)	8	1	28	250	0.21	0.68	2.7	8.38	0.89	0.402	18	70	217	23	10
Tier 0	Dump truck (12 CY)	16	0.5	12	275	0.21	0.68	2.7	8.38	0.89	0.402	8	33	102	11	5
Tier 0	Delivery truck	1	1	20	180	0.21	0.68	2.7	8.38	0.89	0.402	1	5	14	1	1
Tier 0	Backhoe/loader	1	8	4	98	0.21	0.99	3.49	6.9	0.85	0.722	1	5	10	1	1
											Subtotal	31	122	366	40	19

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	1.50	20	25%	1.20	0.90

Tier 1	Small diesel engines	2	2	100	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	3	16	20	4	2

Activity Total in T/yr **0.03** **0.12** **0.33** **0.04** **1.91**

Engineer Landing 1

Construct gravel road access 49.2 ft X 546 ft 0.61 acre

Bridge Assembly Emissions

Land clearing

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Dozer	1	6	1	299	0.58	0.68	2.7	8.38	0.93	0.402	2	6	19	2	1
Tier 0	Backhoe/loader	1	8	1	98	0.21	0.99	3.49	6.9	0.85	0.722	0	1	3	0	0
Tier 1	Skid/steer Loader	1	8	1	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier 0	Dump truck (12 CY)	14	0.5	1	275	0.21	0.68	2.7	8.38	0.89	0.402	1	2	7	1	0
											Subtotal	3	11	31	3	2

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	0.75	1	25%	0.03	0.02

Site prep (grading, compacting, drainage, etc.)

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Grader	1	8	1	135	0.58	0.68	2.7	8.38	0.93	0.402	1	4	12	1	1
Tier 1	Skid steer loader	2	4	1	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier 0	Backhoe/loader	2	8	1	98	0.21	0.99	3.49	6.9	0.85	0.722	1	3	5	1	1
Tier I	Small generator	1	4	1	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	0	0	0	0
Tier 0	Dump truck (12 CY)	10	1	1	275	0.21	0.68	2.7	8.38	0.89	0.402	1	3	11	1	1
											Subtotal	3	10	29	3	2

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	0.61	1	25%	0.02	0.02

Gravel laydown and compaction

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Grader	1	4	3	135	0.58	0.68	2.7	8.38	0.93	0.402	1	6	17	2	1
Tier 1	Skid steer loader	1	4	1	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	0	1	0	0
Tier I	Small generator	1	4	1	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	0	0	0	0
Tier 0	Dump truck (12 CY)	16	0.5	3	275	0.21	0.68	2.7	8.38	0.89	0.402	2	8	26	3	1
											Subtotal	4	14	44	5	2

Construct gravel road exit 49.2 ft X 1,735 ft 1.96 acre

Land clearing

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Dozer	1	6	1.5	299	0.58	0.68	2.7	8.38	0.93	0.402	2	9	29	3	1
Tier 0	Backhoe/loader	1	8	6.5	98	0.21	0.99	3.49	6.9	0.85	0.722	2	8	16	2	2
Tier 1	Skid/steer Loader	1	8	1.5	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier 0	Dump truck (12 CY)	22	0.5	4	275	0.21	0.68	2.7	8.38	0.89	0.402	4	15	47	5	2
											Subtotal	9	34	94	11	6

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	2.50	6.5	25%	0.65	0.49

Site prep (grading, compacting, drainage, etc.) **VOCs** **CO** **NOx** **SO2** **PM10** **VOCs** **CO** **NOx** **SO2** **PM10**

Bridge Assembly Emissions

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	lb	lb	lb	lb	lb
Tier 0	Grader	1	6	3	135	0.58	0.68	2.7	8.38	0.93	0.402	2	8	26	3	1
Tier 1	Skid steer loader	2	4	3	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	2	5	1	0
Tier 0	Backhoe/loader	2	6	3	98	0.21	0.99	3.49	6.9	0.85	0.722	2	6	11	1	1
Tier I	Small generator	1	4	3	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	0	1	0	0
Tier 0	Dump truck (12 CY)	16	1	3	275	0.21	0.68	2.7	8.38	0.89	0.402	4	17	51	5	2
											Subtotal	8	33	94	11	5

Fugitive dust emissions:

PM10		days of	controls	Uncontrolled	Controlled
tons/acre/mo	acres	disturbance	reduction	Total	Total
1.2	2.50	3	25%	0.30	0.23

Gravel laydown and compaction

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Grader	1	4	9	135	0.58	0.68	2.7	8.38	0.93	0.402	4	17	52	6	2
Tier 1	Skid steer loader	2	4	9	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	6	14	2	1
Tier I	Small generator	1	4	9	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	1	2	0	0
Tier 0	Dump truck (12 CY)	16	0.5	9	275	0.21	0.68	2.7	8.38	0.89	0.402	6	25	77	8	4
											Subtotal	12	49	144	17	7

Bridge Assembly Emissions

Construct Engineer EquiPM10ent Park 3.5 acres 152,460 sq ft

Land clearing

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Dozer	1	6	3	299	0.58	0.68	2.7	8.38	0.93	0.402	5	19	58	6	3
Tier 0	Backhoe/loader	1	8	7	98	0.21	0.99	3.49	6.9	0.85	0.722	3	9	18	2	2
Tier 1	Skid/steer Loader	1	8	4	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	3	6	1	1
Tier 0	Dump truck (12 CY)	22	0.5	7	275	0.21	0.68	2.7	8.38	0.89	0.402	7	26	82	9	4
											Subtotal	14	56	163	18	9

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	4.00	6	25%	0.96	0.72

Site prep (grading, compacting, drainage, etc.)

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Grader	1	8	8	135	0.58	0.68	2.7	8.38	0.93	0.402	8	30	93	10	4
Tier 1	Skid steer loader	2	4	8	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	5	12	2	1
Tier 0	Backhoe/loader	1	8	8	98	0.21	0.99	3.49	6.9	0.85	0.722	3	10	20	2	2
Tier I	Small generator	1	4	8	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	1	2	0	0
Tier 0	Dump truck (12 CY)	10	1	8	275	0.21	0.68	2.7	8.38	0.89	0.402	7	28	85	9	4
											Subtotal	19	74	212	24	12

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	4.00	8	25%	1.28	0.96

Gravel laydown and compaction

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Grader	1	4	15	135	0.58	0.68	2.7	8.38	0.93	0.402	7	28	87	10	4
Tier 1	Skid steer loader	2	4	15	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	2	10	23	4	2
Tier I	Small generator	1	4	15	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	2	3	1	0
Tier 0	Dump truck (12 CY)	16	0.5	15	275	0.21	0.68	2.7	8.38	0.89	0.402	10	41	128	14	6
											Subtotal	20	81	241	28	12
Tier 1	Small diesel engines	2	3	40	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	2	9	12	2	1

	VOCs	**CO**	**NOx**	**SO2**	**PM10**
Activity Total in T/yr	**0.05**	**0.19**	**0.53**	**0.06**	**2.46**

Bridge Assembly Emissions

Bradley Landing

Construct gravel road access 49.2 ft X 989 ft 1.12 acre

Land clearing

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Dozer	1	6	1	299	0.58	0.68	2.7	8.38	0.93	0.402	2	6	19	2	1
Tier 0	Backhoe/loader	1	8	3	98	0.21	0.99	3.49	6.9	0.85	0.722	1	4	8	1	1
Tier 1	Skid/steer Loader	1	8	1	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier 0	Dump truck (12 CY)	17	0.5	3	275	0.21	0.68	2.7	8.38	0.89	0.402	2	9	27	3	1
											Subtotal	5	19	55	6	3

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	1.50	3	25%	0.18	0.14

Site prep (grading, compacting, drainage, etc.)

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Grader	1	6	4	135	0.58	0.68	2.7	8.38	0.93	0.402	3	11	35	4	2
Tier 1	Skid steer loader	2	4	4	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	3	6	1	1
Tier 0	Backhoe/loader	1	8	3	98	0.21	0.99	3.49	6.9	0.85	0.722	1	4	8	1	1
Tier I	Small generator	1	4	4	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	1	1	0	0
Tier 0	Dump truck (12 CY)	8	1	3	275	0.21	0.68	2.7	8.38	0.89	0.402	2	8	26	3	1
											Subtotal	7	26	75	9	4

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	1.50	4	25%	0.24	0.18

Gravel laydown and compaction

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Grader	1	4	5	135	0.58	0.68	2.7	8.38	0.93	0.402	2	9	29	3	1
Tier 1	Skid steer loader	2	4	5	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	3	8	1	1
Tier I	Small generator	1	4	5	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	1	1	0	0
Tier 0	Dump truck (12 CY)	16	0.5	5	275	0.21	0.68	2.7	8.38	0.89	0.402	3	14	43	5	2
											Subtotal	4	15	44	5	2

Bridge Assembly Emissions

Construct gravel road exit 49.2 ft X 600 ft 0.68 acre

Land clearing

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Dozer	1	6	1	299	0.58	0.68	2.7	8.38	0.93	0.402	2	6	19	2	1
Tier 0	Backhoe/loader	1	8	2	98	0.21	0.99	3.49	6.9	0.85	0.722	1	3	5	1	1
Tier 1	Skid/steer Loader	1	8	1	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier 0	Dump truck (12 CY)	15	0.5	2	275	0.21	0.68	2.7	8.38	0.89	0.402	1	5	16	2	1
											Subtotal	4	15	42	5	2

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	0.75	1	25%	0.03	0.02

Site prep (grading, compacting, drainage, etc.)

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Grader	1	8	1	135	0.58	0.68	2.7	8.38	0.93	0.402	1	4	12	1	1
Tier 1	Skid steer loader	2	4	1	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier 0	Backhoe/loader	2	8	1	98	0.21	0.99	3.49	6.9	0.85	0.722	1	3	5	1	1
Tier I	Small generator	1	4	1	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	0	0	0	0
Tier 0	Dump truck (12 CY)	15	1	1	275	0.21	0.68	2.7	8.38	0.89	0.402	1	5	16	2	1
											Subtotal	3	12	34	4	2

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	0.75	1	25%	0.03	0.02

Gravel laydown and compaction

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Grader	1	4	3	135	0.58	0.68	2.7	8.38	0.93	0.402	1	6	17	2	1
Tier 1	Skid steer loader	1	4	3	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	0	1	2	0	0
Tier I	Small generator	1	4	3	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	0	1	0	0
Tier 0	Dump truck (12 CY)	16	0.5	3	275	0.21	0.68	2.7	8.38	0.89	0.402	2	8	26	3	1
											Subtotal	4	15	46	5	2

Operation Emissions

Annual Mobile Emissions from Military Vehicles - Bridge Construction Exercise twice a month, 2-3 hours duration and including 5 mile roundtrip

Heavy Expanded Mobility Tactical Truck (HEMTT) 2 total
Oshkosh M977 Series
445 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	HEMTT	2	2	12	445	0.21	0.68	2.7	8.38	0.89	0.402	7	27	83	9	4
										Annual in tons/yr		**0.003**	**0.013**	**0.041**	**0.004**	**0.002**

M920 Medium EquiPM10ent Transporter 2 total
400 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	M920	2	2	12	445	0.21	0.68	2.7	8.38	0.89	0.402	7	27	83	9	4
										Annual in tons/yr		**0.003**	**0.013**	**0.041**	**0.004**	**0.002**

High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) 2 total
Truck, Cargo, 1 1/4 ton, 4x4
190 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	HMMWV	2	2	12	190	0.21	0.68	2.7	8.38	0.89	0.402	3	11	35	4	2
										Annual in tons/yr		**0.001**	**0.006**	**0.018**	**0.002**	**0.001**

Bulldozer (Cat D7 equivalent) 1 total
92 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Dozer	1	3	12	92	0.21	0.99	3.49	6.9	0.85	0.722	2	5	11	1	1
										Annual in tons/yr		**0.001**	**0.003**	**0.005**	**0.001**	**0.001**

Bridge Erection Boat, Twin Jet, Aluminum Hull 14 total
two 178 HP engines

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	BEB	28	3	12	178	0.21	0.68	2.7	8.38	0.89	0.402	56	224	696	74	33
										Annual in tons/yr		**0.028**	**0.112**	**0.348**	**0.037**	**0.017**

Light Medium Tactical Vehicle (LMTV) - 2.5 T capacity 6 total
275 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	LMTV A-1	6	2	12	275	0.21	0.68	2.7	8.38	0.89	0.402	12	50	154	16	7
										Annual in tons/yr		**0.006**	**0.025**	**0.077**	**0.008**	**0.004**

MTV A-1 Cargo 2 total
330 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	MTV A-1	24	2	12	330	0.21	0.68	2.7	8.38	0.89	0.402	60	238	737	78	35
										Annual in tons/yr		**0.030**	**0.119**	**0.369**	**0.039**	**0.018**

M1977 Common Bridge Transporter (CBT) 24 Total
445 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	CBT	24	2	12	445	0.21	0.68	2.7	8.38	0.89	0.402	81	320	994	106	48
										Annual in tons/yr		**0.040**	**0.160**	**0.497**	**0.053**	**0.024**

Palletized Loading System Trailer (PLST) 36 Total
500 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	PLST	36	2	12	500	0.21	0.68	2.7	8.38	0.89	0.402	136	540	1676	178	80
										Annual in tons/yr		**0.068**	**0.270**	**0.838**	**0.089**	**0.040**

Backhoe/loader 1 total
98 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 0	Backhoe/loader	1	2	12	98	0.21	0.99	3.49	6.9	0.85	0.722	1	4	8	1	1
										Annual in tons/yr		**0.001**	**0.002**	**0.004**	**0.000**	**0.000**

Skid/steer loader (Bobcat equivalent) 3 total
67 HP

	Equipment	Number	Hr/day	# days	Hp	LF	VOCs g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM10 g/hp-hr	VOCs lb	CO lb	NOx lb	SO2 lb	PM10 lb
Tier 1	Skid/steer Loader	3	3	12	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	2	9	21	3	2
										Annual in tons/yr		**0.001**	**0.004**	**0.010**	**0.002**	**0.001**

Unpaved Road PM1010 Emissions:

Vehicle	W in tons	k	a	b	s	E in lb per mi	miles per trip	Annual Emissions
HEMTT	10	1.5	0.9	0.45	3.9	0.94	5	56.26

Operation Emissions

M920	37.5	1.5	0.9	0.45	3.9	1.70	5	101.99
HMMWV	2.25	1.5	0.9	0.45	3.9	0.48	5	28.76
LMTV A-1	2.5	1.5	0.9	0.45	3.9	0.50	5	30.15
MTV A-1	5	1.5	0.9	0.45	3.9	0.69	5	41.19
CBT	10	1.5	0.9	0.45	3.9	0.94	5	56.26
PLST	33	1.5	0.9	0.45	3.9	1.60	5	96.29
						Total PM10 in tons		0.21

	VOCs	CO	NOx	SO2	PM10
Total Annual Emissions in tons/yr	**0.183**	**0.727**	**2.249**	**0.240**	**0.314**

Assumptions:

PM10 conservatively assumed as PM10 for exhaust calculations. Emission factor for Total Suspended Particulate (TSP) conservatively used for onsite construction activities and for PM10.
PM10 for unpaved roads does not account for natural mitigation, e.g. rainfall, etc. and also assumes worst case scenario of all unpaved roads for round trip.
Usage rates assume transport vehicles run (including idle) approx 1 hour for each segment of the trip (to/from)
Usage rates assume bridge building vehicles run (including idle) approx 3 hours total

References:

Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling—Compression-Ignition, EPA Report No. NR-009c, April 2004.
Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling EPA Report No. NR-005c, April 2004.
Conversion Factors for Hydrocarbon Emission Components, EPA 420-P-04-001, NR-002b, April 2004.
Nonroad Engine and Vehicle Emission Study--Report, EPA 460/3-91-02, November 1991.
Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Chapter 13, *Miscellaneous Sources,* Section 13.2.2, *Unpaved Roads,* December 2003.
Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Chapter 13, *Miscellaneous Sources,* Section 13.2.3, *Heavy Construction Operations,* January 1995

Bridge Assembly Emissions

Construct Engineer Equipment Park 3.6 acres 156,816 sq ft

Land clearing

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Dozer	1	6	3	299	0.58	0.68	2.7	8.38	0.93	0.402	5	19	58	6	3
Tier 0	Backhoe/loader	1	8	7	98	0.21	0.99	3.49	6.9	0.85	0.722	3	9	18	2	2
Tier 1	Skid/steer Loader	1	8	4	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	3	6	1	1
Tier 0	Dump truck (12 CY)	22	0.5	7	275	0.21	0.68	2.7	8.38	0.89	0.402	7	26	82	9	4
											Subtotal	14	56	163	18	9

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	4.00	7	25%	1.12	0.84

Site prep (grading, compacting, drainage, etc.)

	Equipment	*Number*	*Hr/day*	*# days*	*Hp*	*LF*	**VOCs** g/hp-hr	**CO** g/hp-hr	**NOx** g/hp-hr	**SO2** g/hp-hr	**PM10** g/hp-hr	**VOCs** lb	**CO** lb	**NOx** lb	**SO2** lb	**PM10** lb
Tier 0	Grader	1	8	8	135	0.58	0.68	2.7	8.38	0.93	0.402	8	30	93	10	4
Tier 1	Skid steer loader	2	4	8	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	1	5	12	2	1
Tier 0	Backhoe/loader	1	8	8	98	0.21	0.99	3.49	6.9	0.85	0.722	3	10	20	2	2
Tier I	Small generator	1	4	8	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	1	2	0	0
Tier 0	Dump truck (12 CY)	10	1	8	275	0.21	0.68	2.7	8.38	0.89	0.402	7	28	85	9	4
											Subtotal	19	74	212	24	12

Fugitive dust emissions:

PM10 tons/acre/mo	acres	days of disturbance	controls reduction	Uncontrolled Total	Controlled Total
1.2	4.00	8	25%	1.28	0.96

Bridge Assembly Emissions

Gravel laydown and compaction							VOCs	CO	NOx	SO2	PM10	VOCs	CO	NOx	SO2	PM10
Equipment		*Number*	*Hr/day*	*# days*	*Hp*	*LF*	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	lb	lb	lb	lb	lb
Tier 0	Grader	1	4	15	135	0.58	0.68	2.7	8.38	0.93	0.402	7	28	87	10	4
Tier 1	Skid steer loader	2	4	15	67	0.23	0.5213	2.3655	5.5988	0.93	0.473	2	10	23	4	2
Tier I	Small generator	1	4	15	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	0	2	3	1	0
Tier 0	Dump truck (12 CY)	16	0.5	15	275	0.21	0.68	2.7	8.38	0.89	0.402	10	41	128	14	6
											Subtotal	20	81	241	28	12
Tier 1	Small diesel engines	2	3	35	10	0.43	0.7628	4.1127	5.2298	0.93	0.4474	2	8	10	2	1
											Activity Total in T/yr	**0.04**	**0.16**	**0.46**	**0.05**	**2.19**
											Total Construction Emissions in T/yr	**0.12**	**0.46**	**1.32**	**0.15**	**6.56**

Assumptions:

VOCs = total hydrocarbons, assume 1:1 relationship for hydrocarbons and VOCs
PM10 conservatively assumed as PM10. Emission factor for Total Suspended Particulate (TSP) conservatively used for onsite construction activities and for PM10.
Control activities such as wetting of soils in construction areas and ingress/egress points result in 25% reduction of airborne particulate matter.

References:

Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling—Compression-Ignition , EPA Report No. NR-009c, April 2004.
Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling , EPA Report No. NR-005c, April 2004.
Conversion Factors for Hydrocarbon Emission Components, EPA 420-P-04-001, NR-002b, April 2004.
Nonroad Engine and Vehicle Emission Study--Report , EPA 460/3-91-02, November 1991.
Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Chapter 13*,*
Miscellaneous Sources, Section 13.2.3*, Heavy Construction Operations,* January 1995*.*
Gravel Roads Maintenance and Design Manual, Federal Highway Administration, USDOT, November 2000

APPENDIX E

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

ACM	Asbestos-Containing Materials
ACP	Access Control Points
ADA	American Disabilities Act
ADEM	Alabama Department of Environmental Management
AL	Alabama
ALO	At Level of Organization
APE	Area of Potential Effect
AR	Army Regulation
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAAA	Clean Air Act and Amendments
CBMPP	Construction Best Management Practices Plan
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DCA	Directorate of Community Activities
DCNR	Department of Conservation and Natural Resources
DERA	Defense Environmental Restoration Act
DMPRC	Digital Multipurpose Range Complex
DMPTR	Digital Multipurpose Training Range
DoD	Department of Defense
DPW EMD	Directorate of Public Works Environmental Management Division
DRMO	Defense Reutilization Marketing Office
DS/GS	Direct Support/General Support
EA	Environmental Assessment
EEP	Engineer Equipment Park
EIS	Environmental Impact Statement
ENG CO	Engineer Company
ENG GRP	Engineer Group
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPD	Environmental Protection Division
ESCA	Erosion and Sedimentation Control Act
ESMP	Endangered Species Management Plan
ESPCP	Erosion Sedimentation Pollution Control Plan
FM	Field Manual
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FNSI	Finding of No Significant Impact
GA	Georgia
GA DNR	Georgia Department of Natural Resources
GP	General Purpose
HAZWRAP	Hazardous Waste Remedial Actions Program
HDSB	Heavy Duty Support Bridge
HEMMT	Heavy Expanded Mobility Tactical Trucks
HUMVEES	High-Mobility Multipurpose Wheeled Vehicles
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IPBC	Infantry Platoon Battle Course
IRP	Installation Restoration Program
LBP	Lead-based Paint
LMTV	Light Medium Tactical Vehicle
MBTA	Migratory Bird Treaty Act
MCA	Military Construction Army
METRA	Metropolitan Transit
MMR	Military Munitions Rule
MRBC	Multi-Role Bridge Company
MRF	Materials Recovery Facility
MSA	Metropolitan Statistical Area
MWR	Morale Welfare and Recreation
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NFA	No Further Action
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NO_2	Nitrogen Dioxide
NOR	Notice of Registration
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O_3	Ozone
OMA	Operational Management Account
OSHA	Occupational Safety and Health Act
PAO	Public Affairs Office
Pb	Lead
PCB	Poly-Chlorinated Biphenyls
PLST	Palletized Loading System Trailers
$PM_{2.5}$	Particulate Matter less than 2.5 microns in diameter
PM_{10}	Particulate Matter less than 10 microns in diameter
PMOA	Programmatic Memorandum of Agreement

POL	Petroleum, Oil, and Lubricant
PSD	Prevention of Significant Deterioration
RCI	Residential Communities Initiative
RCRA	Resource Conservation and Recovery Act
RCW	Red-cockaded Woodpecker
RMP	Risk Management Program
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedures
SPCC	Spill Prevention Control and Countermeasure
SREO	Southeastern Regional Environmental Office
SWMU	Solid Waste Management Unit
SWP3	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSCA	Toxic Substances Control Act
UFC	Uniform Facility Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish & Wildlife Service
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WPCA	Water Pollution Control Act
WWTP	Waste Water Treatment Plant