
CHAPTER 2

**DESCRIPTION OF THE PROPOSED
ACTION AND ALTERNATIVES**

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CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section describes the Proposed Action and alternatives to the Proposed Action. Section 2.2 describes the existing USARHAW training facilities, Section 2.3 discusses the Proposed Action (Preferred Alternative), Section 2.4 discusses the Reduced Land Acquisition Alternative, and Section 2.5 discusses the No Action Alternative. Other alternatives considered but not carried forward for analysis are discussed in Section 2.5.

2.2 USARHAW TRAINING COMPLEX

This discussion of the USARHAW training complex is included here in order to help the reader better understand the nature of training in Hawai'i and to provide a baseline for comparing the existing conditions with the alternatives. The USARHAW training complex has 26 ranges, 49 training areas, 2 airfields, 5 airborne drop zones, and 13 surveyed field artillery and mortar firing points on O'ahu. It also has 21 ranges, 23 training areas, 1 airfield, and 113 field artillery and mortar firing points at PTA on the island of Hawai'i (Nakata Planning Group LLC 2002a).

The 25th ID(L) trains at Schofield Barracks Military Reservation (SBMR) (which includes Schofield Barracks Main Post and Schofield Barracks East Range [SBER]), Dillingham Military Reservation (DMR), Mākua Military Reservation (MMR), Kahuku Training Area (KTA), Kawaioloa Training Area (KLOA), and Wheeler Army Airfield (WAAF) on O'ahu. Additional training sites are at Pōhakuloa Training Area (PTA) and Bradshaw Army Airfield (BAAF) on the island of Hawai'i. The locations of these sites are shown in Figure 2-1; lands composing these installations include federal, state, and private property. State and private lands used by installations are subject to lease and easement agreements. Additional Army installations on O'ahu, such as housing, hospitals or administrative facilities, or those that do not provide substantial training resources, are not described. Table 2-1 provides additional information on the principal locations used by the Army.

Figure 2-1
Hawai'i Location Map

**Table 2-1
USARHAW Land Areas and Personnel**

Location	Acres	Military Personnel ¹	Civilian Personnel ²
SBMR	11,448 (4,633 hectares)	9,587	3,105
Cantonment area	1,605 (650 hectares)		
Training area	4,286 (1,735 hectares)		
SBER	5,154 (2,086 hectares)		
Other lands ³	4,645 (1,880 hectares)		
WAAF	1,369 (554 hectares)	1,593	530
KLOA	23,348 (9,449 hectares)	0	0
DMR ⁴	664 (269 hectares)	0	0
MMR ⁴	4,190 (1,696 hectares)	0	0
KTA	9,398 (3,808 hectares)	0	0
PTA	108,792 (44,027 hectares)	24	97

Notes:

¹Military personnel authorized for the site or installation.

²Department of Defense civilian personnel authorized for the site or installation, as well as other civilian personnel, such as unappropriated fund employees and full-time contractor personnel.

³Includes buffer zones west of the training area ordnance impact area.

⁴Military training and personnel access these areas, but no military or civilian personnel are stationed there.

SBMR serves as headquarters for the 25th ID(L), which is a tactical force that operates as a combined arms force with internal units or units attached to it or under its operational control. With supporting infantry, engineer, artillery, aviation, and air defense units, it has strategic responsiveness and flexibility.

The 25th ID(L) and I Corps units train at the locations on O‘ahu and the island of Hawai‘i shown on Figure 2-1. These training resources include an assortment of live-fire (real ammunition) and nonlive-fire (blank ammunition) maneuver training facilities, fixed-position live-fire training facilities, infantry and engineer demolition training facilities, and grenade training facilities. Blank ammunition contains powder but no solid projectile and is used to simulate gunfire. Live-fire maneuvers occur at SBMR, PTA, KTA and MMR¹, while nonlive-

¹ In 1998, after several wildland fires were started by munitions that fell outside designated impact areas, the Army suspended live-fire training at MMR. The Army is currently conducting limited live-fire training exercises and is preparing a separate EIS to evaluate a proposal to conduct routine live-fire training at MMR.

fire maneuver training occurs at the other locations. Safety barriers or buffer areas must be located in downrange or direction-of-fire areas to stop or contain the projectiles, and to prevent personnel from entering areas where projectiles could land. Many portions of the training areas are too steep for maneuver training. Company-level live-fire exercises may be conducted at two small areas of PTA, but because of the areas' restricted size, they are of limited value. The following is a brief description of the training resources that the Army is proposing to update or use for SBCT training. The proposed project features are described in Section 2.3.

Schofield Barracks Military Reservation is in central O'ahu and is divided into two main land areas, referred to as the Main Post (Figure 2-2) and SBER (Figure 2-3). Principal training areas at the Main Post include the West and South ranges, the ordnance impact area, and the cantonment area. SBMR is the primary range complex in Hawai'i for individual weapons qualification with limited light maneuver training areas. Training and ordnance impact areas are west of the cantonment area. The wooded eastern slope of the Wai'anae Mountains in the western portion of the installation is used primarily for tactical infantry maneuver training, including land navigation training. SBMR has approximately 11,448 acres (4,633 hectares), of which approximately 1,235 acres (500 hectares) are suitable for maneuver training.

SBER is composed of 5,154 acres (2,086 hectares) and has no live-fire training facilities or ordnance impact areas. SBER provides training lands for tactical field exercises by the 25th ID(L) or other Army and Marine Corps units. The western maneuver area on SBER is composed of about 2,223 acres (900 hectares). This area is valuable for rappelling, jungle survival, and patrolling operations. Several open areas are used for air assault and airborne operations. Unit uses include limited battalion and company-level Army Training and Evaluation Program (ARTEP) missions. Climate, terrain, and vegetation provide training conditions similar to areas of potential conflict in the Pacific and Pacific Rim. The eastern portion of SBER has extremely rugged terrain and is densely forested. No live-fire exercises are conducted on SBER; all exercises are limited to pyrotechnics and blank ammunition. The Army has established a 1,000-foot (305-meter) noise buffer zone between the boundaries of the range and the adjacent Wahiawā residential areas. The use of small arms blank ammunition is not authorized in SBER training areas 1A, 1B, 2, 3A, and 3B between the restricted hours of 6 PM and 6 AM. The use of pyrotechnics and explosion simulators is also prohibited in those training areas.

Wheeler Army Airfield (WAAF) is in central O'ahu and is bordered on the northwest by the Schofield Barracks Main Post, and by SBER and the Kamehameha Highway on the northeast. WAAF consists of 1,369 acres (554 hectares) and provides administration, housing, maintenance, training, and flight facilities for peacetime mission requirements, including security and law enforcement support. Additionally, the Directorate of Logistics Munitions Branch operates an ammunition supply point at WAAF. The 25th Infantry Division's Aviation Brigade at WAAF consists of two aviation battalions, one reconnaissance squadron, one medical evacuation company, and one aviation intermediate maintenance

Figure 2-2
Schofield Barracks Main Post

Figure 2-3
Schofield Barracks East Range

company. The Aviation Brigade is equipped with 108 helicopters, 280 land vehicles, and 1,000 Soldiers who work at WAAF and are housed there and at SBMR (USACE 1994, 1-1-16, 2-1-7).

Because it is immediately adjacent to SBMR and operates as an adjunct to it, WAAF is treated as a part of SBMR in this document.

Kawailoa Training Area (KLOA) is bordered on the south by SBER and on the north by KTA (Figure 2-1). Access to KLOA is very limited due to unimproved roads, steep terrain, and dense vegetation. A single unimproved road traverses most of the western boundary, but there is no primary access road; people, equipment, and supplies for training and land management are transported by helicopter. KLOA was established under a nonexclusive maneuver agreement with the private landowner on January 25, 1955, as a troop maneuver and training area. It is composed of 23,348 acres (9,449 hectares).

KLOA is currently used primarily for helicopter aviation training. The installation is an excellent location for mountain and jungle warfare training because of its ravines and dense vegetation. Approximately 5,310 acres (2,149 hectares) of the installation are suitable for maneuver training (e.g., on the Kawai'iki Trail). The remaining area is considered unsuitable for maneuver training due to excessively steep slopes. In areas with slopes greater than 20 percent, troops are deployed typically in single-file small units along ridgelines and are transported via helicopter. Live fire, tracers, incendiaries, explosives, and other pyrotechnics are prohibited per lease agreements; very rugged terrain is off-limits, and military vehicle access is restricted to Pūpūkea Pa'ala'a Road through Helemanō Gate. Military units may train in KLOA training area K1B during weekends and federal holidays with prior public notification. Hunters and hikers are allowed access when the area is not scheduled for training. Blank ammunition is authorized on KLOA training areas. No low elevation contour-tracking (nap of the earth) helicopter flights are permitted outside KLOA boundaries due to the presence of cattle ranches on adjacent lands.

Dillingham Military Reservation (DMR) (Figure 2-4) is bounded on the north by the Pacific Ocean and on the south by the northeastern slopes of the Wai'anae Mountains. DMR is composed of 664 acres (269 hectares) and has an active joint-use military/civilian airfield. Portions of the reservation, including the runway and parking area, have been leased to the Hawai'i Department of Transportation (DOT) for civilian light aircraft operations and support. The lease, which expires in 2008, limits civilian operations to between sunrise and sunset. Night operation is reserved for military operations. The Army can close the airfield for daytime military operations with prior notification to the Hawai'i DOT.

Approximately 354 acres (143 hectares) are suitable for maneuver and field training, 107 acres (43.3 hectares) are developed within the cantonment area, and the remaining 203 acres (82.1 hectares) are on steep slopes of the Wai'anae Mountains. The airfield has extensive hardened areas that can support vehicles and headquarters activities. DMR is used for small unit (platoon and squad) maneuvers and combat support operations and supports field

Figure 2-4
Dillingham Military Reservation

training for headquarters and service support units. Specific training includes command post exercise operations, emergency deployment readiness exercise support operations, limited maneuver training, airborne operations, including equipment and personnel parachute operations, support operations, and night vision goggle training for helicopter pilots. Platoon-level ARTEP missions are supported at DMR.

DMR provides the space for infantry and associated support units to maneuver. This maneuver is conducted in a dry- or blank-fire scenario; that is, bullets are not fired. Blanks are used in rifles and machine guns, along with multiple integrated laser engagement system (MILES) equipment, which is provided to each unit and allows units to conduct force-on-force maneuver against the enemy, engage the enemy, and receive incoming fire. MILES fires an eye-safe laser beam; a harness worn by each Soldier senses the laser and indicates the hits and near misses. In force-on-force exercises, MILES provides feedback on the enemy threat, unit capabilities, and training status (Garo 2002).

Ammunition is restricted to blanks and use of ammunition is prohibited on the runway. Ground produced smoke is allowed in designated areas but is prohibited on the runway. The airfield portion is leased to the State Department of Transportation for light civil aircraft and airfield support operations. Maneuver training is not permitted on the portion of DMR that is leased to the state of Hawai'i without prior state approval. There are no live-fire activities, designated ordnance impact areas, or associated surface danger zones on DMR.

Kabuku Training Area (KTA) is bounded on the north by private agricultural lands, by KLOA on the south and by private lands on the remaining perimeter (Figure 2-5). KTA is composed of 9,398 acres (3,803 hectares). It is the largest contiguous ground maneuver training area on O'ahu, containing 4,569 acres (1,849 hectares) categorized as suitable for maneuver. The northern portion of the installation supports all tactical maneuver training scheduled on KTA, including mountain and jungle warfare, pyrotechnics, and air support training. KTA can accommodate a number of training scenarios involving infantry battalion ARTEP missions. A number of landing and drop zones for military aircraft and parachutists are on KTA. Aviation assets are incorporated into appropriate training events, but there are no developed airfield facilities for training use. All aviation support assets found on KTA are temporary and associated with specific training events. The southern portion of the installation is more elevated, with rugged terrain and dense vegetation. The ruggedness of this terrain makes it poorly suited for large-scale field exercises.

Portions of KTA training area are off-limits to military training during weekends and federal holidays without prior approval from Range Division-Hawai'i. Under a permit from the state, the public (i.e., Hawai'i Motorsports Association) has obtained a lease giving the public exclusive rights to Training Area A-1 during weekends and federal holidays. Lease provisions allow the Army to close these areas for brigade or larger field exercises only if it first notifies the public. Units must submit requests during the Range Scheduling Conference for an early public notification.

Figure 2-5
Kahuku Training Area

Military units may train in Training Areas A-1 and A-3 during weekend and federal holidays, with prior public notification. Hunters and hikers are allowed access when the areas are not scheduled for training (typically weekends and holidays). Pyrotechnics (e.g., smoke and incendiary devices) are permitted, subject to Range Control approval. All pyrotechnics are prohibited in specific training areas and within a 3,280-foot (1000-meter) buffer zone on the inside of the KTA boundary.

Pohakuloa Training Area (PTA) is the largest military training area in Hawai'i and consists of 108,792 acres (44,027 hectares) (Figure 2-6). The ordnance impact area consists of approximately 51,000 acres (20,639 hectares) and extends from central PTA to the southern boundary. This area allows for firing all types of tactical weapons currently in the USARHAW inventory. Approximately 56,661 acres (22,930 hectares) are suitable for maneuvers.

PTA supports all types of live-fire training and can support large-scale (battalion or larger) maneuver training under uniquely realistic conditions, although the terrain limits training in certain areas (Nakata Planning Group, LLC 2002b, 3). Ranges at PTA are as follows (Sato 1996): Infantry Squad Battle Course/Squad Defense Range; Combat Pistol Qualification Course; Rifle Grenade Range; Rifle Range; Hand Grenade Range; Hand Grenade Qualification Course; Rifle Zero Range; Multi-purpose Machine Gun/Sniper Range; Demolition Range; Infantry Platoon Battle Course; Multi-purpose Anti Armor Range; Grenade Machine Gun Range; Direct Fire Range; Helicopter Gunnery; Bombing Range; Forward Area Arming and Refueling Point; Forward Area Refueling Point; Drop Zone; Confidence Course; Mortar Firing Positions; and Artillery Firing Positions. See Section 2.2.3 for a more complete discussion of current training. Units are scheduled to conduct training at PTA annually, using an automated system known as Range Facility Management Support System (RFMSS). PTA provides the space for infantry and associated support units to conduct force-on-force maneuvers. Under this maneuver, live bullets are not fired, and blanks are used in rifles and small caliber automatic weapons, along with MILES equipment.

Many types of weapon systems are generally used at PTA (Sato 1996) including small arms, antitank weapons, mortars, field artillery, air defense artillery, explosives, and rockets.

PTA supports training for a variety of services, including the US Army, Army National Guard, US Navy, US Marine Corps, US Air Force, Special Operations Forces, and allied armed forces from the Pacific region. Transportation of military personnel and cargo to PTA involves use of several alternative land, sea, and air routes that employ commercial and military transportation systems (Sato 1996, 2-1).

PTA includes BAAF, which is directly west of the cantonment area and includes a 90-foot by 4,750-foot (27.4-meter to 1,448-meter) paved runway.

Figure 2-6
Pōhakuloa Training Area

2.2.1 Other Training Facilities

Hickam Air Force Base (HAFB) is on the south side of O‘ahu, approximately nine miles west of downtown Honolulu. Currently the Army uses Building 1138 at HAFB to conduct troop rigging as part of joint deployment training.

2.2.2 Current Force Vehicle and Weapon Systems

Vehicles used during current force training include transport and supply trucks, High Mobility Multipurpose Wheeled Vehicles (HMMWV), and four-wheel drive vehicles of various types. The weapons systems that the current force uses are the standard 9-millimeter (mm) pistol, M-4 carbine (a lightweight rifle with a short barrel), M-16 assault rifle, M-203 40mm grenade launcher, M-240 7.62mm machine gun, M-249 5.56mm squad automatic weapon (machine gun), M-24 sniper rifle, MK-19 grenade machine gun, M-2 .50 caliber machine gun, 105mm and 155mm howitzer (towed), 60mm and 81mm mortars, AT-4 and Javelin anti-tank missile, tube-launched, optically tracked, wire-guided (TOW) missile, mine-clearing line charge, shoulder-fired Stinger missiles, and HMMWV-mounted Stinger missiles.

2.2.3 Description of Current Training

Primary users of USARHAW subinstallations are combat arms units, which include light infantry, combat engineers, field artillery, air defense artillery, attack aviation, ground cavalry, US Marine Corps combat forces, the US Navy, Hawai‘i Army National Guard, US Coast Guard, and US Army Reserves. Major training activities associated with these users on USARHAW subinstallations are light maneuver training, weapons live-fire, support areas, and aviation training. As a rapid strike force of nearly 12,000 Soldiers, the 25th ID(L) focuses primarily on training for low intensity conflict throughout the Pacific. Principal training activities are described below. Additionally, Army units integrate Air Force, Marine, and Navy systems into live-fire training exercises.

The principal existing, ongoing current force training activities that would continue under the No Action Alternative are described in the following sections. These include maneuver, reconnaissance, live-fire, bivouac, deployment, and aviation training, along with training support operations.

Maneuver Training

There are areas considered unsuitable for maneuver training on each subinstallation because of topographic and maneuverability constraints. Limited use and restricted areas, ordnance impact areas, habitat and species protection areas, identified cultural resource sites, cantonment areas, and recreation areas within each subinstallation reduce and compartmentalize the available maneuver and training space. The total training area that would be available to the Army on O‘ahu is approximately 55,571 acres (22,498 hectares), but the acreage considered suitable for maneuver training is approximately 15,119 acres (US Army 1997c). The total training area available to the Army on the island of Hawai‘i is approximately 108,792 acres (44,027 hectares), of which 56,661 acres (22,930 hectares) is suitable for unit maneuver (US Army 1997c).

The subinstallations described below and addressed by this EIS are small and noncontiguous and have limited ability to support tactical exercises above company level, which range in size

from 62 to 190 Soldiers. SBMR can support up to company-sized live-fire maneuver training. KTA is used as the primary mounted (vehicle) and dismounted (foot) maneuver training area for units up to brigade size and larger on O‘ahu. KLOA and DMR are used primarily for helicopter training activities and small unit training. SBER is used mainly for small unit exercises and dismounted training. PTA on the island of Hawai‘i allows training for up to brigade-size maneuvers and limited mounted maneuvers.

Maneuver training exercises are conducted at all levels, from squad to brigade, to ensure a combat ready fighting force and are sometimes supported by fire support assets. The typical size and composition of each Army combat element is presented in Table 2-2. Combat effects, such as smoke and obscurants, noise, and simulated artillery, nuclear, biological, and chemical conditions, are integrated into training to condition units for operations in a realistic and stressful battlefield environment. Obscurants are manmade or naturally occurring particles suspended in the air that block or weaken transmission of particular parts of the electromagnetic spectrum, such as visible and infrared radiation or microwaves.

Movement refers to the shifting of units on the battlefield (training areas). Unit leaders use a combination of formations and movement techniques to successfully move units. Formations are arrangements of units and of Soldiers in relation to each other. Units from squad to battalion use formations for control, security, and flexibility. Troop movements can be tactical or administrative. Both classifications apply to most movements but one is normally dominant. Unit movements (even tactical dismounted), maneuvers (both offensive and defensive), and extended maneuver training usually involve the use of a small number of light wheeled vehicles for command and control or support. However, range restrictions, tactical scenarios, and maneuverability constraints may keep these light wheeled vehicles to established roadways. Airborne units may parachute into designated drop zones.

Table 2-2
General Structures of Army Forces

Element	Number of Soldiers	Commander
Team	3-5	Noncommissioned officer
Squad/section	8-10	Noncommissioned officer
Platoon	16-44	Lieutenant
Company/battery/troop	62-190	Captain
Battalion/squadron	300-1,000	Lieutenant Colonel
Brigade	3,000-5,000	Colonel
Division	15,000	Major General

Source: USACE 2001a

Tactical movements are conducted when contact with enemy forces is likely either en route or after arrival at a destination. They emphasize tactical considerations such as security and

the use of combat ready formations. They de-emphasize efficiency and ease of movement, and they anticipate ground contact with the enemy. Administrative movements are conducted when contact with enemy forces is unlikely, both en route and soon after arrival at a destination. They emphasize the best method of movement and de-emphasize tactical considerations.

All units in the 25th ID(L) conduct tactical marches. There are two types of tactical marches: foot march and motor march. A foot march is the movement of troops and equipment mainly by foot, with limited support from vehicles. A motor march is similar to a foot march, but with troops moving in military vehicles. Both foot marches and motor marches are routinely executed on roads and trails.

Maneuver also entails setting up temporary defensive positions to repel an enemy attack. Defensive positions may consist of Soldiers lying in concealed positions and designating fire zones. More complex maneuver defense entails digging individual fighting positions or trenches using hand tools and digging in larger crew-served weapons using excavators.

During extended maneuver training, Soldiers may sleep in the field. To avoid detection and allow for quick displacement, tents are not set up during light infantry maneuvers. Soldiers normally eat packaged meals in the field. Other prepared meals are brought in from support areas. Training units carry out all trash to avoid detection. Units may use blank ammunition and MILES equipment during nonlive-fire. MILES fires an eye-safe laser beam, and each Soldier wears a harness that senses the laser and indicates hits or misses. Field artillery and mortar fires are simulated by pyrotechnics that provide both audio and visual effects.

Reconnaissance Training

Typical reconnaissance training operations involve small groups, from squad to platoon strength (8 to 44 Soldiers) and may occur at any USARHAW training area. No live fire is involved. The training is conducted between 20 and 40 times per year, during daytime and at night.

Live-Fire Training

Live-fire training at PTA, SBMR, and MMR follows the Army standard training methodology in Field Manual (FM) 7-10. The individual Soldier qualifies with an assigned weapon and then progresses through squad, platoon, and company level live-fire exercises. Live-fire entails an individual Soldier, a crew of a weapon system, or a collective unit firing at targets on a range facility. Live-fire exercises may incorporate free maneuver within the established safety zones of a range.

The requirement for live-fire training varies depending on individual and unit mission, weapons assigned, and ammunition available. Each Soldier must demonstrate proficiency on the assigned weapon system annually or semiannually (US Army 1997a). Unit commanders must ensure that live-fire training meets readiness standards. Weapons proficiency, or qualification, is scored and recorded for each individual or crew and is reported collectively by unit.

Training may include the use of short-range training ammunition (SRTA, also known as blue-tip ammunition), which uses a plastic ball projectile. Although SRTA is classified as live-fire training in accordance with AR 385-63, the maximum range of this ammunition is only 300 to 700 yards (274 to 640 meters), depending on the caliber used. SRTA may be used at SBMR, MMR, and PTA in conjunction with other live-fire ammunition. At KTA, only SRTA or blank ammunition would be used.

Live-fire training at SBMR and PTA includes basic weapons marksmanship ranges, grenade training, urban/village assault and entrenched enemy training, small unit live-fire and maneuvers, artillery and mortar firing, and infantry demolition, using mines and bangalore torpedoes. At KTA the only live-fire training permitted is urban/village assault using SRTA.

Combat Service Support Operations and Training

Combat service support operations and training occur at the installations. Support areas are those where camps are set up for rest, resupply, refit, maintenance, and support. Sites vary, depending on unit size and mission. Tactical operations may be staged from a bivouac site. Depending on unit size, support areas can contain areas for vehicle and weapons maintenance and parking, general supply, munitions supply, medical care, helicopter landing zones, and vehicle off-loading. A support site consists of a series of tents and temporary structures, which house the unit, covered with camouflage nets. Tents provide sleeping/living areas, maintenance shops, supply storage, medical facilities, operations/communication areas, and mobile field kitchens. Sites are chosen to accommodate the unit support element, to provide communication links and concealment from the enemy, and to support maneuver operations. Campfires are not allowed in support areas, which have security and observation posts and may have individual fighting positions. Vehicle access routes are guarded, and roving patrols are established for security. Areas an enemy would be likely to approach are monitored and designated for defensive planning and for repulsing an attack. Munitions used in support areas typically consist of grenade and artillery simulators and blank ammunition.

Deployment Training

Deployment training teaches Soldiers how to prepare and move military units and supplies as part of a military action. Operational and training deployment activities occur at SBMR, WAAF, HAFB, Kawaihae Harbor, and BAAF, nearly all within the confines of the military installations. Training exercises may range from testing the load plan of any given vehicle in a unit to an Emergency Deployment Readiness Exercise (EDRE), which is designed to simulate the movement plans of a unit to deploy to an overseas location. All deployable units normally participate in an EDRE annually. Executed realistically, EDREs provide a process for commanders to evaluate their units' strengths and weaknesses in a deployment.

Vehicle convoys move personnel and equipment between installations. A convoy is normally defined as six or more military vehicles moving simultaneously from one point to another under a single commander, ten or more vehicles per hour going to the same destination over the same route, or any one vehicle requiring a special haul permit. Per command guidance, USARHAW convoys normally maintain a gap of at least 30 minutes between serials (a group of military vehicles moving together), and 330 feet (100 meters) between vehicles on

highways and 7.5 to 15 feet (25 to 50 meters) while in town traffic. Per state regulation, military convoys are not authorized to operate on state highways during “rush hour” - between the hours of 6:00 AM and 8:30 AM or between 3:00 PM and 6:00 PM, Monday through Friday. Movements on Saturday, Sunday, and holidays are by special request only. Convoys traveling from Kawaihae Harbor to PTA must get clearance, and vehicles operating on Saddle Road within the boundaries of PTA must not exceed 25 mph.

Units must seek permission from the 25th ID(L) for convoys of 25 vehicles or more. Permission must also be granted from the State of Hawai'i DOT for convoys of six or more vehicles or to move oversized or outsized cargo over state highways. As long as all federal, state, and Department of Defense (DOD) regulations are followed no additional permits are required to move munitions. To ensure maximum safety, all convoys must comply with local policies, as specified in standard operating procedures (SOPs), which direct such matters as vehicle safety inspections and convoy safety briefings, and vehicle operators must be properly trained and licensed to operate assigned military vehicles.

Units are also deployed to PTA from Honolulu to Kawaihae Harbor. Deployment requires both barges and logistic support vessels (LSVs). Current annual vessel traffic for deployment to PTA averages about 4 barge and 60 LSV round-trips, which have a 12-foot (4-meter) draft and a top speed of 13 knots. New theater support vessels (TSVs), modern high-speed vessels with a 15-foot (5-meter) draft and a top speed of 40 knots, may be fielded in the future and appropriate NEPA documentation will be prepared at that time. Soldiers are typically transported to PTA by one to two C-130 aircraft twice a year.

Aviation Training

Aviation training occurs at SBMR, SBER, MMR, WAAF, DMR, KTA, KLOA, and PTA and, depending on location, consists of aircrew training, maneuver training, and live-fire training. Aircrew training pertains to normal aviation flight skills, including takeoffs and landings; normal, nap of the earth, contour and low level flights; confined and high altitude area takeoffs and landings; and navigation for helicopters. Maneuver training requirements for aviation units are the same as for ground units, with the added capability of using the third dimension for speed and maneuver. During some training exercises, aircraft may fly at treetop level or lower. This type of training is critical for the tactical safety of the flight crews because it provides protection from enemy radar coverage and air defense weapon systems.

High mobility and combat flexibility of aircraft are important assets on the battlefield. This type of training requires up to 20 helicopters flying in smaller tactical formations of four to six aircraft while carrying ground troops and equipment to battle areas. Aircraft pick up Soldiers in pickup zones and carry them to landing zones. Aviation live-fire training follows the standard Army training methods and progresses in a similar manner as the ground units. Aviation live-fire training takes place on designated ranges, with ground targets and scoring systems to determine weapons accuracy and weapons effects. Once crews have qualified with their aircraft, they progress through section, platoon, and company live-fire exercises.

The aircraft that are used in support of current forces in Hawai'i are the armed reconnaissance OH58D Kiowa Warriors, utility lift UH60 Blackhawks, and the medium lift CH47 Chinook.

Combined Live-Fire/Maneuver Training

Company combined arms live-fire exercises (CALFEXs) are conducted at USARHAW live-fire ranges and integrate different firing platforms in order to amass their effects against the enemy. A typical company-level CALFEX will include a dismounted maneuver ground force with small arms weapons (M4s, M16s, M249 SAW, M240B machine guns, M203), supported by the company mortar section equipped with two 60mm mortars, and a battalion mortar section or platoon of two to four 81mm mortars. Engineer, artillery, and aviation fire support assets will also support the company. The level of support can vary but in general can be expected to be a platoon of 105mm artillery (three howitzers) and two to four aviation gunships (OH-58D Kiowa Warrior helicopters). Maneuver training is a tactical exercise that can include but is not limited to movement by foot, vehicle, and helicopter, offensive operations, and defensive operations. CALFEXs follow a variety of tactical operations and involve more than one operation, such as attacking a trench line. The exercises may be offensive or defensive, but they generally use the same types of weapons and munitions.

The most common CALFEX is attacking a strong point, which can be anything from forces defending a built up area to forces defending from a trench line. Currently, CALFEXs at MMR are limited to daytime.

Force-on-Force Training

In a force-on-force scenario at SBMR, KTA, or PTA, a battalion or brigade engages an opposing force in nonlive-fire maneuver over a relatively large area, typically for an extended period (ten or more days). In a brigade-sized operation, as an exercise progresses, the battle zone develops into a linear configuration divided into three areas of operations: the forward area or security zone, the main battle area, and the brigade rear. Different types of operations occur in each of these areas. The security zone is where the opposing force is located, forward of friendly troops. The main battle area is where most intense combat training occurs. The brigade rear area, located behind friendly combat units, is where selected headquarters elements, administrative, logistical, medical, and aviation field operating sites are positioned.

Specific military activities in a force-on-force exercise normally include cross-country vehicle maneuvers, blackout driving, using pyrotechnics and artillery simulation devices, building hasty/limited defensive positions, placing obstacles, and establishing forward/rear support areas or field hospitals. Vehicles are moved on hardened and improved all-weather roads, with limited use of unimproved roads and trails. Cross-country travel usually involves HMMWVs or other wheeled vehicles. During their nonlive-fire force-on-force training, units may designate another unit within the US or friendly foreign military to portray the enemy. During live-fire training, units may designate the targets that they will fire at to depict an enemy. Also, to prepare for force-on-force or live-fire training, units may simply train

tactically, as if there were a real enemy opposing them. All of this is done to prepare Soldiers and units for combat.

2.2.4 Current Institutional Programs

Institutional matters can be described as good stewardship plans and programs that could affect, protect, and manage the biological, physical, and socioeconomic environment at USARHAW. Several management programs have been developed to address the sustainability of specific resources. The following programs are currently established and operating at USARHAW: range management, integrated training area management (ITAM), environmental management, and sustainable repair and maintenance.

Range Management

The Range and Training Land Program (RTLP) is the program under which the Army conducts range operations and maintenance on lands where Soldiers train in the field. A range is an area that is normally equipped for practice in weapons delivery and/or shooting at targets. The RTLP provides a military-centered framework for land management since USARHAW lands are primarily classified for military use. Range Division (which includes Range Control) implements the RTLP, operates firing ranges, and regulates use of training and ordnance impact areas. In addition, Range Division regulates access to training areas and ranges and protects and conserves sensitive natural resources from military and recreational use.

The key RTLP planning device is an installation range development plan, which defines the range and training land requirements. This plan is incorporated into the USARHAW Real Property Master Plan, the Integrated Natural Resources Management Plan (INRMP), and the Integrated Cultural Resources Management Plan (ICRMP). These efforts, together with the ITAM work plan described below, produce a sound approach for consistent and proactive management of training land while balancing mission, infrastructure, and environmental stewardship. Specific range management actions that are conducted annually at SBMR, KTA, and PTA are as follows:

- Range scheduling;
- Range inspection;
- Range target repair and replacement; and
- Range maintenance.

Range target repair and replacement and general range maintenance do not occur at DMR, SBER, or KLOA because there are no targets or ordnance impact areas at these sites.

Integrated Training Area Management

The ITAM program is the Army's formal strategy for implementing the sustainable use of training and testing lands. The intent of the ITAM program is to systematically provide uniform training land management capability across USARHAW and to ensure that the carrying capacity of the training lands is maintained over time. The Army manages its lands to minimize loss of training capabilities in order to support current and future training and

mission requirements. The integration of stewardship principles into training land and conservation management practices ensures that the Army's lands remain viable to support future training and mission requirements. ITAM integrates elements of operational, environmental, master planning, and other programs that identify and assess land use alternatives. The ITAM program also supports sound natural and cultural resources management practices and stewardship of its land assets, while sustaining land attributes conducive to supporting training, testing, and other installation missions. These management requirements are as follows:

- Integrate training requirements with training land management;
- Conduct annual monitoring and analysis of resources and ranges;
- Conduct repair and maintenance of training land;
- Enhance mobility, maneuverability, access, and availability in training areas; and
- Train Soldiers in Sustainable Range Awareness to minimize training land damage.

These requirements are applicable at all training areas.

Environmental Management

The Army environmental strategy consists of four pillars, which represent the major areas of activity: pollution prevention, compliance, restoration, and conservation. Projects under each major activity area are implemented and managed at USARHAW.

The primary objective of pollution prevention is source reduction. Pollution prevention eliminates or reduces the sources of pollutant discharges or emissions. This includes substituting materials and changing processes to avoid the use of hazardous substances. The program reduces operating costs and liability from environmental compliance and cleanup.

The goal of the compliance program is to meet applicable federal, state, local, and Army environmental laws, regulations, and other requirements. The compliance program at USARHAW consists of eight major program areas: air quality, asbestos, water quality, hazardous waste and hazardous materials, lead hazard, solid waste, storage tanks, and wastewater.

Under the restoration program, the Army identifies, investigates, and cleans up contamination from hazardous substances, pollutants, and contaminants. The primary priority of the restoration program is to identify and clean up the sites that present the highest risk to public health and the environment. It is the Army's priority to remediate contaminants, such as chlorinated solvents, which are regulated by the Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA). In addition, USARHAW investigates and remediates all types of contaminants, such as PCBs and petroleum, which are not regulated under CERCLA, but are regulated under various other federal, state, and Army regulations.

The conservation program consists of natural and cultural resources management, as well as compliance with NEPA, the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA). The conservation program focuses on responsibly managing Army lands to ensure long-term natural resource productivity and cultural resources protection and preservation, so the Army can achieve its mission.

Sustainment, Restoration, and Modernization Program

Real property management is the Army's planning process for identifying facility requirements, for designing and constructing new facilities, for maintaining existing facilities, and for reusing or disposing of obsolete facilities. This program includes activities such as writing long- and short-range plans, updating the program for tabulating facilities required and available, developing capital investment strategies, mapping installations and surrounding areas, and maintaining Installation Design Guides written to unify the overall appearance of installation facilities. Real property management also includes a variety of supporting elements, including traffic planning and inventories of historical properties.

Land is real property. It is a priceless nonrenewable asset that must be responsibly managed to support the national defense mission. Family housing, barracks, offices, roads, recreational areas, live-fire ranges, and maneuver areas are all real property assets occupying Army lands. Master planning uses land use planning, or zoning, as the primary method to balance compatible and incompatible land usage to meet industrial, residential, and recreational requirements.

Real Property Master Plan

To manage its land, facilities, and infrastructure, USARHAW has prepared a real property management plan based on assigned mission and guidance contained in a variety of plans and other documents. These references establish trends, strategies, goals, and objectives on which Army planners can base long-range and near-term plans for economical, environmentally responsible, and effective support of Army goals, objectives, missions, and populations.

USARHAW adheres to five basic concepts in its planning goals and objectives: maximizing facilities utilization, maintaining existing facilities, meeting regulatory and environmental concerns, renewing facilities in an orderly and cost-effective manner, and providing new facilities when all other alternatives are exhausted.

Army Regulation 210-10, Real Property Master Planning, guides USARHAW's real property planning process. Each real property management plan consists of four components: long-range, capital investment strategy, short-range, and mobilization.

The real property management plan addresses the planning process associated with over 300 types and categories of installation real property, including barracks, family housing, utility systems, industrial facilities, roads, classrooms, ranges, and maneuver land. Planning quantifies the requirements for facilities to support installation missions, evaluates the adequacy of existing facilities, proposes modifications, removals and additions, and provides a planning roadmap to address shortfalls and excesses.

Cultural Resource Management Efforts

The cultural resources management program at USARHAW has a staff that includes a Cultural Resources Manager, six Cultural Resources Specialists (archaeology), and an Architectural Historian. The program covers the followings tasks:

- Complying with federal preservation law;
- Reviewing installation projects to ensure compliance;
- Maintaining a cultural resources database in Access and GIS;
- Conducting field surveys and site evaluations;
- Monitoring cultural resources during training activities;
- Preserving sites;
- Engaging in Native Hawaiian consultation and providing cultural access; and
- Coordinating with other regulatory agencies.

The cultural resources team also coordinates and facilitates public outreach actions that include site tours and public education and forming cultural advisory groups on Hawai'i and O'ahu.

Integrated Wildland Fire Management Plan

Since the publication of the Draft EIS, the USARHAW finalized the Integrated Wildland Fire Management Plan (IWFMP) (October 2003). As such, discussion of this program was moved from the section describing proposed institutional programs to the section describing existing institutional programs in the Final EIS. The IWFMP lays out specific guidance, procedures, and protocols in the prevention and suppression of wildfires on all USARHAW training lands with wildland fuels. The goal of the plan is to convey the methods and protocols necessary to minimize fire frequency, severity, and size while allowing military units to maintain a high level of combat readiness. The plan defines the responsibilities of all offices, departments, and agencies involved and describes strategic and tactical actions to be taken for pre-suppression and suppression of fires. The plan will be reviewed and updated every other year to ensure the latest information is consistently incorporated into Army wildfire prevention and suppression procedures.

2.3 PROPOSED ACTION (PREFERRED ALTERNATIVE)

Under the Proposed Action, the 2nd Brigade would be converted to an SBCT and, as such, would operate as part of the Army's Interim Force. Table 2-3 provides a snapshot comparison of a current force light brigade, such as the 2nd Brigade, and the proposed SBCT. Implementing the Proposed Action would require taking several distinct and coordinated actions and activities directly associated with transforming the 2nd Brigade. This would include fielding Stryker systems and SBCT-specific weapons, building new facilities, acquiring new land and additional easements, and conducting SBCT-specific training. Table 2-4 provides an overview of the proposed individual project actions by location (Figure 2-7 through Figure 2-11); Table 2-5 shows the proposed projects for each alternative. This EIS

Table 2-3
Current Force and SBCT Light Brigade Comparison

Aspect	SBCT (Proposed Action)	<u>Current Light Brigade</u> (No Action)
Personnel strength	3,818 officers and enlisted <u>Soldiers</u>	3,008 ¹ officers and enlisted <u>Soldiers</u>
Vehicles	1,005 emission producing vehicles (including 291 Strykers) ³	659 emission producing vehicles ²
Weapons	<u>Current force</u> inventory plus use of <u>twenty-seven</u> 105mm Stryker mounted cannon and <u>thirty-six</u> 120mm mortars and a change from <u>eighteen 105mm howitzers to eighteen 155mm howitzers</u>	Current inventory
Aircraft	<u>Current force</u> inventory	108 helicopters, including the OH58D Kiowa Warrior, UH60 Blackhawk, <u>and</u> CH47 Chinook
Vessels	<u>Current force</u> vessels.	Current inventory of LSVs and barges (For future additions, see Chapter 9, Cumulative Impacts)
Information systems	Computers in every vehicle	Computers in command centers
Communications	Internet	Voice over radio or telephone
Land acquisition	SRAA, WPAA, Dillingham Trail, Helemanō Road, <u>and Kawaihae to PTA Trail</u>	As needed on an individual case-by-case basis
New construction	Seven new ranges, two airfield upgrades, thirteen support facilities, and twenty communication antennas	As needed on a case-by-case basis (see Chapter 9, Cumulative Impacts)
Road improvements	Helemanō Road, Dillingham Trail, and Kawaihae to PTA Trail	As needed on a case-by case-basis (see Chapter 9, Cumulative Impacts)

Source: US Army 2002b

¹The 3,008 is based on FY04 estimates.

²The heaviest vehicles currently used are 5-ton 6-by-6 wheeled cargo trucks.

³The 20-ton Stryker is heavier than the light wheeled vehicles currently used because it has armor on it, but it is lighter than other armored vehicles, such as Bradley armored personnel carriers, and also is much lighter than the M1A1 Abrams tank, which weighs 70 tons.

Table 2-4
SBCT Projects Overview

Graphics Code ¹	1391 Project #	SBCT Project Title	Location	Construction Commences (Fiscal Year ²)	Category
S1	58143	Urban Assault Course and Training Facilities	Schofield	200 <u>6</u>	Construction
S2	57404	Virtual Fighting Training Facility	Schofield	200 <u>9+</u>	Construction
S3	56923	Range Control Facility	Schofield	200 <u>9+</u>	Construction
S4	58144	Battle Area Complex	Schofield	200 <u>5+</u>	Construction
S5	57421/ 58925	Motor Pool Maintenance Shops	Schofield	2005	Construction
S6	57416	Tactical Vehicle Wash Facility	East Range	2005	Construction
S7	N/A	Fixed Tactical Internet	Schofield	2005	Construction
S8	55270	South Range Land Acquisition	Schofield	2004	Additional Land
S9	57461	Qualification Training Range, QTR1	Schofield (M. Flats)	200 <u>4+</u>	Construction
S10	57462	Qualification Training Range, QTR2	Schofield (S. Range)	2005	Construction
S11	57422	Multiple Deployment Facility	Schofield (Wheeler)	2005	Construction, Renovation
S12	57405	Upgrade Airfield for C-130 Aircraft	Schofield (Wheeler)	200 <u>9+</u>	Upgrade
D1	58161	Land Easement/Construct Road, SB/DMR	Dillingham	200 <u>9±</u>	Construction
K1	57415	Tactical Vehicle Wash Facility	Kahuku	2007	Construction
K2	57305	Combined Arms Collective Training Facility	Kahuku	2005	Construction, Renovation
K3	57406	Road Construction, Schofield to Helemanō	Helemanō	2005	Construction
K4	57802	Land Easement, Schofield to Helemanō	Helemanō	2004	Additional Land
P1	57197	Battle Area Complex	Pōhakuloa	200 <u>7</u>	Construction
P2	57183	Anti-armor Live-fire and Tracking Range	Pōhakuloa	200 <u>9±</u>	Construction
P3	58273	Construct Military Vehicle Trail, PTA-Kawaihae	Pōhakuloa	200 <u>9±</u>	Construction
P4	58273	Land Easement for Military Vehicle Trail, PTA-Kawaihae	Pōhakuloa	200 <u>9±</u>	Additional Land
P5	57417	Ammunition Storage	Pōhakuloa	200 <u>9±</u>	Construction
P6	57414	Tactical Vehicle Wash Facility	Pōhakuloa	200 <u>6</u>	Construction
P7	57411	West PTA Maneuver Training Area Land Acquisition	Pōhakuloa	2005	Additional Land
P8	56994	Range Maintenance Facility	Pōhakuloa	200 <u>9+</u>	Construction
P9	57408	Runway Upgrade/Extension, Bradshaw AAF	Pōhakuloa	200 <u>9+</u>	Renovation
P10	N/A	Fixed Tactical Internet	Pōhakuloa	2005	Construction
P11	N/A	Installation Information Infrastructure Architecture	Pōhakuloa	2005	Construction

Source: US Army 2002a

¹Graphics code refers to the project locations shown on figures in Chapter 2 and in Appendix D.

²Fiscal Year is based on current program guidance subject to change as a result of future funding availability.

[Figure 2-7](#)
Northern O‘ahu Project Overview [Map](#)

Figure 2-8

Proposed Action at Schofield Barracks [Military Reservation](#) and Wheeler Army Airfield

Figure 2-9
Project Locations at Kahuku Training Area

[Figure 2-10](#)
Pōhakuloa Project Overview

Figure 2-11
Cantonment Area Projects at Pōhakuloa Training Area

**Table 2-5
Proposed Action (Preferred Alternative), Reduced Land Acquisition Alternative, and No Action Alternative Overview**

	Proposed Action (Preferred Alternative)				Reduced Land Acquisition Alternative	No Action Alternative
	SBMR and Wheeler Army Airfield	DMR	KTA/KLOA	PTA		
Training						
Live-fire exercises	Live-fire exercises would continue.	None.	Live-fire SRTA ¹ training introduced at the MOUT sites at KTA	Live-fire exercises would continue on existing lands, no live-fire on WPAA	Same as Proposed Action.	Live-fire exercises at SBMR and PTA as part of <u>current</u> training would continue at current levels.
Vehicles used	Increase of 346 emission-producing vehicles to 1,005 vehicles (including 291 Strykers), which would be based at SBMR. ² Maneuvers at SRAA and SBER may involve from one to 96 vehicles (includes one to 96 Strykers).	<u>One to 74 vehicles (includes one to 27 Strykers).</u>	<u>One to 200 vehicles (includes one to 96 Strykers).</u>	<u>27 to 400 vehicles (includes 32 to 192 Strykers).</u>	Same as Proposed Action.	659 emission-producing vehicles.
Off-road maneuver training (Stryker maneuvers)	<u>On existing 1,917-acre off-road maneuver area on SBER and 1,300 new acres on SRAA.</u>	<u>On 364 acres currently used for off-road maneuvers.</u>	<u>On 3,384 new acres at KTA. None on KLOA.</u>	<u>On 1,800 acres currently used for off-road maneuvers at PTA and 23,000 new acres at WPAA.</u>	Same as Proposed Action, <u>except no off-road maneuvers on SRAA.</u>	No Strykers would be used. Continued use of wheeled vehicles at SBMR, DMR, KTA, and PTA.
Weapons used	<u>Current force weapons plus 105mm cannon on Stryker mobile gun system and the 120mm mortar, a change from eighteen 105mm howitzers to eighteen 155mm howitzers.</u>	No change in weapons fired.	No change in weapons fired.	<u>Current force weapons plus 105mm cannon on Stryker mobile gun system and the 120mm mortar, and a change from 18 105 howitzers to 18 155mm howitzers.</u>	Same as Proposed Action.	Existing weapons would continue to be used.
Aircraft and UAVs	Normal current force operations of the aviation brigade would continue, plus USAF C-130 and C-17 operations in support of SBCT deployment. UAV flights.	No new aircraft activity. UAV flights.	No new aircraft activity. UAV flights	No new aircraft activity except UAV flights UAV flights and USAF C-17s to move units to PTA. <u>However, aircraft activity use will be redistributed. There will be an increase in helicopter use over WPAA and a corresponding decrease over PTA.</u>	Same as Proposed Action.	Continued flight support for current force training.
Troop transport	Trucks are used to move troops from SBMR cantonment to ranges; Strykers in a group of approximately 30 vehicles move troops on Battle Area Complex up to company level.	Troops transported from SBMR to DMR by Strykers or trucks, generally up to company level, plus support trucks.	Troops transported from SBMR to KTA/KLOA by Strykers or trucks; battalion to limited brigade level plus support trucks.	Troops would continue to be transported via aircraft or marine vessel from SBMR to PTA. Existing LSV trips would increase to 66 from 60. Troops would be transported from Kawaihae Harbor to PTA by Strykers or trucks, up to brigade level, in groups of 30 vehicles.	Same as Proposed Action.	No change in troop transport except for marine transport. Current transport includes an average of 60 individual LSV and four barge round trips per year.
Weapons/Ordnance Transport	No change from <u>current force.</u>	None.	None.	No change from <u>current force.</u>	Same as Proposed Action.	No change from <u>current force.</u>
Construction/Demolition						
Range complexes	Four new ranges built: QTR1, QTR2, Urban Assault Course, and Battle Area Complex.	No new ranges.	One mock city built, called the Combined Arms Collective Training Facility (two buildings demolished, S150, S151).	Two new ranges built: battle area complex (12 targets and 1 tower demolished) and the anti-armor range (1 tower demolished).	QTR2 would be built at PTA, not at South Range Acquisition Area.	Existing ranges may be upgraded or new ranges added as future conditions warrant. ³
Airfield upgrade	Upgrade parking apron at Wheeler Army Airfield for C-130 operations.	None.	None.	Upgrade, extend, and reorient runway 5 degrees to support C-17 aircraft.	Same as Proposed Action.	No airfield upgrades.
Tactical vehicle wash	One tactical vehicle wash would be constructed.	None.	One tactical vehicle wash would be constructed.	One tactical vehicle wash would be constructed.	Same as Proposed Action.	None.
Installation information infrastructure architecture (I3A)	None.	None.	None.	I3A would be constructed.	Same as Proposed Action.	Projects may be constructed on a case-by-case basis. ³
Training classrooms	Virtual Fighting Training Facility.	None.	None.	None.	Same as Proposed Action.	Projects may be constructed on a case-by-case basis. ³
Range control facilities	Range Control Facility built (eight buildings would be demolished: 1124, 1125, 1150, 1181, 2108, 2056, 2276, 1192).	No new facilities.	No new facilities.	Range maintenance facility built (three buildings demolished: T17, T19, T20).	Same as Proposed Action.	Projects may be constructed on a case-by-case basis. ³
Support facilities	Motor pool maintenance shops and multiple deployment facility built.	None.	None.	Expand ammunition storage facility with three new ammunition storage facilities.	Same as Proposed Action.	Projects may be constructed on a case-by-case basis. ³
Antennas (fixed tactical internet)	Nine antennas built: seven at SBMR and two at SBER.	Three antennas built: two within DMR and one on Dillingham Ridge.	Two antennas built within KTA.	Ten antennas built within and surrounding PTA and one antenna at Kawaihae Harbor.	Same as Proposed Action.	No new antennas to be constructed.
Road improvements	Construct a 15-foot- (5 meter-) wide one-lane gravel road with 3-foot (1-meter) shoulders from SBMR to Helemanō (6 miles [9.6 kilometers]).	Construct a 15-foot (5-meter)-wide (one-lane) gravel road with 3-foot (1-meter) shoulders from SBMR to DMR (12.4 miles [20 kilometers]). Telecommunication lines to be installed alongside the upgraded road.	None	Construct a 24-foot- (7-meter-) wide two-lane gravel road with a total of a 40-foot (12-meter) right of way from Kawaihae Harbor to PTA (27 miles [43 kilometers]).	Same as Proposed Action.	None.
Land acquisition	1,402 acres (567 hectares) (South Range Land Acquisition).	None.	None.	Approximately 23,000 acres (9,308 hectares) (WPAA).	Approximately 100 acres (40.5 hectares) at SBMR and approximately 23,000 acres (9,308 hectares) at WPAA.	Land acquisitions may be conducted on a case-by-case basis. ³
Easements	<u>Acquire a perpetual easement of 13 acres (5.3 hectares) for new road to HMR.</u>	Acquire a perpetual easement of 36 acres (14.6 hectares) (11 acres [4.5 hectares] for new road).	<u>None</u>	Acquire a perpetual easement of 132 acres (53.4 hectares) for new road from Kawaihae Harbor to PTA.	Same as Proposed Action.	See comment above. Land acquisitions may be conducted on a case-by-case basis. ³
Personnel	Increase of 810 <u>Soldiers</u> , with 502 spouses and 1,053 children. ²	No increase.	No increase.	No increase.	Same as Proposed Action.	3,438 <u>Soldiers</u> (existing) and 3,008 predicted for future.

¹Short Range Training Ammunition²Soldiers and vehicles would be assigned to SBMR and would use training areas as noted.³Appropriate separate NEPA documents will be prepared, as necessary.

Source: US Army 2002a

analyzes only the conversion of the 2nd Brigade to an SBCT and not its ultimate conversion to the future force; a separate NEPA analysis would be done for that next phase as appropriate. Major elements of the SBCT include the following:

- Three Motorized Infantry Battalions, each composed of three Combined Arms Rifle Companies and a Headquarters Company;
- Reconnaissance, Surveillance, and Target Acquisition Squadron (RSTA);
- Antitank Company;
- Field Artillery Battalion;
- Aviation Task Force;
- Engineer Company;
- Brigade Support Battalion;
- Brigade Headquarters and Headquarters Company;
- Signal Company; and
- Military Intelligence Company.

Each major element of the SBCT is composed of a number of smaller units. Individual training activities often consist of section-, team-, squad-, and platoon-sized units operating in a dispersed but coordinated manner. Despite some changes in equipment, capability, and training doctrine, training activities are anticipated to be very similar to those currently conducted by light infantry brigades stationed on and training on O‘ahu and the island of Hawai‘i. However, the number of Soldiers is expected to increase by 810 and the total number of rounds to be fired by all Soldiers trained at USARHAW by 25 percent. This would increase overall training throughput, which would necessitate the construction and update of ranges and facilities to meet the SBCT training requirements. The addition of the Stryker and the need for increased mounted maneuver training would require the acquisition of additional lands.

After the publication of the EIS, the Army announced plans for an enhancement package for SBCTs. The enhancements include an aviation task force, an increase from twelve to eighteen 155mm howitzers in the direct support artillery battalion, and improvements to command, control, communications, computer, and intelligence (C4I) assets. The announcements indicated that the aviation task force would include Comanche helicopters when the aircraft were ready for fielding. In February 2004, the Army determined that no further testing or fielding of Comanches would occur and canceled the Comanche program. The SBCT aviation task force will come from existing 25th ID(L) aviation brigade assets and will result in minor changes to training, primarily some increased aviation training over WPAA in support of units training in that area. The FEIS has analyzed the impacts of the increased aviation training over WPAA and those impacts are minimal. The EIS analyzed the impacts of twelve 155mm howitzers, a change from the 18 105mm howitzers currently in the direct support artillery battalion for 2nd brigade. The addition of another six 155mm howitzers was analyzed in the FEIS and resulted in minimal changes to noise impacts and no

change in the overall determination of effect. The C4I improvements are not expected to have any impacts on the environment.

Overall, the Army has determined that the enhancements are within the original scope of the Proposed Action as described in the EIS, are minor, and do not require a supplemental EIS.

An evaluation of training facilities shows that they do not provide the necessary opportunities for training an SBCT (Nakata Planning Group 2002a). Under this alternative, training capabilities would be enhanced as part of transforming the 2nd Brigade to an SBCT. The Army's proposed changes to training would rectify training resource shortfalls for SBCT units and would reorient resources to meet evolving mission-related requirements. In order to meet present and future missions, USARHAW units must have modernized maneuver areas, training facilities, and other support facilities, such as infrastructure and telecommunications.

In selecting specific construction projects to meet the training shortfall for SBCT and to minimize costs and impacts on the environment and communities, planners attempted to first use existing USARHAW lands and ranges, where possible, to upgrade existing ranges and facilities, to build new ranges on existing training areas, and, if necessary, to acquire new training lands. Once project alternatives were developed, they were further evaluated and selected based on the following factors: the extent to which they provided mission support; the extent to which they minimized environmental impacts and contributed to environmental stewardship; their economic feasibility; and the extent to which they increased training productivity. Each final site location was further adjusted as necessary to avoid or minimize impacts on natural and cultural resources.

An SBCT deploys very rapidly, executes early entry, and conducts effective combat operations immediately on arrival to prevent, contain, stabilize, or resolve a conflict. An SBCT participates in major war as a subordinate component within a division or corps, in a variety of possible roles. To deploy rapidly, the brigade's design uses a highly mobile, medium-weight armored combat/combat support platform, with a minimum of personnel and logistical support. Preconfigured in ready-to-fight combined arms packages, the entire SBCT can be deployed anywhere in the world and can begin operations within 96 hours of deployment. Once in the field, the SBCT can self-deploy up to 500 miles in a 12-hour period and can sustain operations for up to 72 hours without resupply. SBCT description, operations, and capabilities are largely derived from the SBCT organizational and operational concept (HQDA 2000). The SBCT is organized primarily as a combined arms, mounted infantry organization. The Stryker Infantry Carrier Vehicle (ICV) serves as the platform for infantry carriers, mobile gun systems, mortars, reconnaissance, surveillance, and target acquisition elements, anti-tank carriers, engineer mobility support vehicles, nuclear/biological/chemical reconnaissance, as well as many of the command and control carriers within the brigade. As a supporting brigade to a light division, the SBCT extends the tactical mobility available to the division commander and increases the firepower available to support dismounted infantry assaults. The typical size and composition of each element of a brigade is presented in Table 2-2.

2.3.1 SBCT Systems Fielding

This element of the Proposed Action involves fielding new and modernized vehicles, weapons systems, and equipment for Interim Forces and, ultimately, the future force, although there will be some upgrades, changes and additions.

Foremost among the new systems is the Stryker, an eight-wheeled, 23-foot (7-meter) long, 9-foot (3-meter) wide, 20-ton (18-metric ton) combat vehicle that can be transported on the C-130 aircraft. The Stryker vehicle has a 350-horsepower Caterpillar Model 3126 diesel engine and can travel at a maximum speed of 60 miles per hour for 330 miles on one full tank of fuel. It represents a substantial improvement in strategic mobility for brigade-sized units and can be designed to accomplish several different tasks. The primary design of the Stryker has two variants: the ICV and the mobile gun system (MGS). The ICV (Photo 2-1) can carry nine Soldiers and their equipment and requires a driver and a vehicle commander. The MGS (Photo 2-2) would be mounted on the Stryker and modified to incorporate a 105mm turreted cannon and autoloader system with a crew of three. Twenty-seven of the 291 Strykers would be MGSs. The actual vehicle used by SBCT may vary from the current Stryker vehicles as the system is developed, but overall will have the same characteristics as the current Stryker. (There are eight other configurations of the Stryker that could be used as part of the SBCT; information on the ICV, MGS, and the eight other Stryker variants is provided in Appendix C.)



Photo 2-1. Stryker infantry carrier vehicle.



Photo 2-2. Stryker with MGS mounted on top.

If the design of the Stryker or other vehicles used in SBCT are changed in such a manner as to result in a significant environmental impact not analyzed in this document, the Army would conduct appropriate NEPA analysis and would comply with all appropriate laws and regulations prior to implementation. In this study, the Army would analyze the potential for significant impacts on those resource areas that could be affected by the design change.

The SBCT would be equipped with a tactical unmanned aerial vehicle (UAV) similar to the RQ-7A “Shadow 200” (Photo 2-3) to provide day or night reconnaissance, surveillance, and target acquisition capability. The UAV can be likened to a large radio controlled model airplane. The UAV would allow tactical commanders a view into heavily protected battle space that could not be penetrated by other intelligence assets or that presents a high risk to piloted aircraft. Each UAV system includes three unpiloted aircraft equipped with imagery sensors, a ground vehicle to carry the aircraft, two ground control stations mounted on vehicles, and launch, recovery, and support equipment pulled on trailers behind the vehicles. The aircraft weighs approximately 325 pounds, has a wingspan of 13 feet (4 meters), and measures 11 feet (3.4 meters) from nose to tail.



Photo 2-3. Shadow unmanned aerial vehicle launch.

Barges and logistic support vessels (LSV) are currently used for transporting equipment and troops from Pearl Harbor to Kawaihae Harbor for training at PTA. LSV trips would increase by 6 per year, a 10 percent increase under SBCT. New high-speed theater support vessels (TSV) may replace the LSV in the future. Before the TSVs are fielded appropriate NEPA documentation will be prepared including ESA and NHPA consultation if required. The potential impacts of the TSV are discussed in Chapter 9 under cumulative impacts. .

The weapons systems in the SBCT would be the same as currently used by, or proposed for, existing units in the 25th ID (L) or the Hawai'i Army National Guard, with the exception of the introduction of the 105mm MGS on the Stryker and the 120mm mortar and an increase of from 12 to 18 155mm howitzers.

2.3.2 Construction

Proposed construction includes building, modernizing, and remodeling buildings, training facilities (e.g., live-fire training facilities), and infrastructure and demolishing buildings and facilities. It also involves ground softening at the PTA Battle Area Complex (BAX) and anti-armor live-fire and tracking range (AALFTR) by using a D-10 bulldozer that will drive back and forth over areas on the ranges to crush lava, large rocks, and hard soil to provide a softer substrate for Soldiers to train. Both of these ranges are constructed over existing ranges, so ground-softening activities would occur as needed on already heavily disturbed areas. The precise location and extent of ground softening would depend on final orientation of firing points and targets but is expected to cover a fraction of the 2,825-acre (1,143-hectare) area of the two ranges .

Proposed construction also includes Dillingham Trail, Helemanō Trail, and PTA Trail on land to be acquired as described in Section 2.3.3. Of the 25 locations evaluated for construction of the Fixed Tactical Internet antennas on O'ahu and Hawai'i, a maximum of eight will be selected on each island from the locations represented in the EIS. Locations will be chosen based on the most suitable locations for communication logistics and avoidance of environmental concerns, such as cultural and biological resources. See Table 2-4, Figures 2-7 to 2-11, and Appendix D for details on the construction projects.

2.3.3 Land Acquisition/Easements

This part of the Proposed Action involves real property acquisition, which means negotiating temporary or permanent control of property for Army use, mainly through purchase, lease, or permit. Under the Proposed Action, two areas would be acquired and three easements would be obtained. The two areas identified for acquisition are the South Range Acquisition Area (SRAA) (approximately 1,402 acres [567 hectares]) at SBMR and the West PTA Acquisition Area (WPAA) (approximately 23,000 acres [9,308 hectares]). These parcels were selected because of their proximity to existing installations. The parcels' acreages would provide enough land for new facilities and, when combined with existing installations, adequate acreages for mounted maneuver training.

After it has acquired WPAA, the Army plans to construct about 28 miles of gravel training roads, the location of which are as yet undetermined. The Army would comply with all applicable environmental statutes, including but not limited to NEPA, the ESA, and the

NHPA, in determining the location and potential impacts of these roads before construction. The Army would also consult with adjacent property owners and other interested parties on the location of the proposed training roads in order to address and resolve potential air quality and dust concerns.

Although the SRAA would become part of SBMR it is different from the existing South Range, which includes several existing qualification ranges and is just north of the proposed SRAA. The three easements for military vehicle trails would include the trails between SBMR and DMR (known as the Dillingham Trail, 36 acres (14.6 hectares)), between SBMR and HMR (known as the Helemanō Trail, 13 acres (5.3 hectares)), and between Kawaihae Harbor and PTA (known as the PTA Trail, 132 acres (53.4 hectares)). While the Army would not own the underlying land, the easement is a property right to the land. Until trail construction is complete, the Army would use public roads for travel from SBMR to DMR and KTA, and from Kawaihae to PTA. See Figure 2-8 and Appendix D for maps and more details on the land acquisition projects.

2.3.4 SBCT Training

The following subsections describe the SBCT training that would occur under the Proposed Action, with emphasis on the differences between SBCT training and the current force training. Most of the nonlive-fire and other training that does not involve maneuvers by SBCT forces would be similar to that currently being conducted by the 25th ID (L). As with current force training, exercises would continue to be at the squad through company level, with some opportunities for battalion and above training. Urban operations training is more highly emphasized in SBCT requirements. The SBCT would use new urban warfare facilities extensively and would use existing helicopter landing and pickup zones. Nonlive-fire training also is conducted in classrooms, on rappel towers, and obstacle courses, and in a variety of specialized facilities. Table 2-6 compares training under the Proposed Action and No Action Alternatives, and Table 2-7 compares military vehicular traffic between training areas. Table 2-9, under Requirements for SBCT, lists the minimum number of days of training that would take place for specific training.

Doctrine that has thus far been developed for the SBCT may be refined, based on experience following initial operating capability of the unit.

Mounted Maneuver Training

Doctrine provides that the area of operations for which the SBCT could be responsible in combat is normally 31 miles by 31 miles (50 kilometers by 50 kilometers) (Nakata 2002b). On the premise that the Army must train as it intends to fight, the training lands must be sufficient and widely spread to approximate operating in an area that size by simulating the density of units and activities that might occur during combat.

**Table 2-6
Summary of Training Activities by Installation**

Training Area	Proposed Action											No Action													
	Maneuver Acreage		Training on Land (Includes night training)					Aviation Training				Maneuver Acreage		Training on Land (Includes night training)					Aviation Training						
			Live-Fire	Maneuver		Maneuver-impact Miles	Live-Fire							Maneuver	Maneuver-impact Miles										
Mounted	Dismounted	Highest Level Training	Weapons Qualification	Live-fire	Mounted	Dismounted	Maneuver-impact Miles	Airborne (Parachute Drops)	Helicopters	UAV Operations (Daylight)	C17/C130 Aircraft Operation	Mounted	Dismounted	Highest level Training	Weapons Qualification	Live-fire	Mounted	Dismounted	Maneuver-impact Miles	Airborne (Parachute Drops)	Helicopters	UAV Operations (Daylight)	C17/C130 Aircraft Operation		
SBMR																									
Main Post	0	1,235	Bde	☒	☒		☒	0		☒	☒		0	1,235	Bde	☒	☒	☒	☒	0		☒	☒		
SBER	2,223	2,223	Co			☒	☒	19,125	☒	☒	☒		2,223	2,223	Co			☒	☒	16,740	☒	☒	☒		
WAAF	0	494 ³	n/a					0		☒	☒	☒	0	494 ³	n/a				0			☒	☒	☒	
SRAA	1,300	1,300	Plt	☒		☒	☒	25,855					0	0	Plt										
DMR	354	354	Co			☒	☒	4,335		☒	☒		354	354	Co			☒	☒	1,710		☒	☒		
KTA	4,569	4,569	Bde			☒	☒	13,772	☒	☒	☒		4,569	4,569	Bde		☒ ¹	☒	☒	7,211	☒	☒	☒		
KLOA ²	0	5,310	Co				☒	0	☒	☒	☒		0	5,310	Co			☒	☒	0		☒	☒		
PTA																									
PTA Main	18,000	56,661	Bde	☒	☒	☒	☒	25,855	☒	☒	☒	☒	18,000	71,880	Bde	☒	☒	☒	☒	13,659	☒	☒	☒		
WPAA	23,000	23,000	Bde			☒ ⁴	☒ ⁴	61,894	☒	☒	☒		0 ⁴	0			☒ ⁴	☒ ⁴			☒ ⁴				

Notes:

¹SRTA only

²Mounted maneuver training would take place along Drum Road in transit to KTA.

³Although dismounted maneuver acreage is available, this training is not currently conducted at WAAF

⁴ Current mounted and dismounted maneuver training at WPAA is done on a training event basis by individual lease agreement.

Co = Company

Plt = Platoon

Bn = Battalion

Bde = Brigade

n/a = Not applicable/activity does not occur

☒ = Activity occurs or will occur

Note: RLA Alternative has the same training activities as the Proposed Action, with the exception of no live-fire weapons qualification and no off-road maneuvers at SRAA.

Table 2-7
Estimated Military Vehicle Traffic Between Schofield and
Dillingham and Kahuku, and Between Kawaihae and PTA

SBMR-DMR					SBMR-KTA				Kawaihae- PTA				DMR-KTA ²		
Vehicles Per Convoy	Number of Convoys	%Trail-Roadway Split ¹	Annual Frequency	Vehicles per Convoy	Number of Convoys	% Trail-Roadway Split ¹	Annual Frequency	Vehicles per Convoy	Number of Convoys	% Trail-Roadway Split ¹	Annual Frequency	Vehicles per Convoy	Number of Convoys	Annual Frequency	
<u>Company Level Exercises</u>															
Current															
Trucks and HMMWVs	15	1	All road	4	<u>15</u>	<u>1</u>	All Road	12	0	0	N/A	0	5	1	1
SBCT															
Strykers	11	1	90/10	4	<u>11</u>	<u>1</u>	90/10	12	0	0	N/A	0	0	0	0
Trucks and HMMWVs	6	1	60/40	4	16	<u>1</u>	60/40	12	0	0	N/A	0	5	1	1
<u>Battalion Level Exercises</u>															
Current															
Trucks and HMMWVs	0 ³	0	0	0	<u>24</u>	<u>2</u>	All Road	3	<u>24</u>	3	All Road	2	0	0	0
SBCT															
Strykers	11	1	90/10	4	<u>24</u>	<u>3</u>	90/10	4	<u>24</u>	3	90/10	2	0	0	1
Trucks and HMMWVs	6	1	60/40	4	<u>24</u>	<u>2</u>	60/40	4	<u>24</u>	2	60/40	2	8	1	0
<u>Brigade Level Exercises</u>															
Current															
Trucks and HMMWVs	24 ³	8	All Road	2	<u>24</u>	<u>11</u>	All Road	1	<u>24</u>	10	All Road	2	24	3	<u>1</u>
SBCT															
Strykers	6	1	90/10	1	<u>24</u>	<u>1</u>	90/10	1	<u>24</u>	12	90/10	2	0	0	<u>0</u>
Trucks and HMMWVs	24	8	60/40	1	<u>24</u>	<u>2</u>	60/40	1	<u>24</u>	21	80/20	2	24	3	<u>1</u>

Notes:

¹Split between trails and public roadway estimated as a worst case for public roadway travel.²Travel would be entirely on public roadways.³Current force would not conduct multi-location exercise.

Prior Army training doctrine called for using large areas of contiguous maneuver land. This would be preferable if available, but the advent of advanced communication makes it possible for the SBCT to train on noncontiguous parcels of land, even on separate islands, and still simulate operating in a 31-mile by 31-mile (50-kilometer by 50-kilometer) area. For example, while the entire SBCT cannot train within the WPAA, all squad, platoon, company, battalion, and a portion of the brigade tasks can be accomplished there. Only nonlive-fire maneuver training will be done in the WPAA. All training in the WPAA will be supported from PTA. Table 2-8 gives the 2002 land use requirements study (LURS) acreages for existing maneuver land available to the Army in Hawai'i (US Army 1997c). The table shows that a total of 34,637 acres (14,017 hectares) of suitable training land is available to USARHAW units for dismounted and mounted training. (Other lands are unsuitable for a variety of reasons, because they include cantonment areas, are too steep, or are set aside for environmental reasons.)

Table 2-8
Existing Maneuver Land (in acres)

Training Area	Suitable Terrain
SBMR	1,235 (500 hectares)
SBER	2,223 (900 hectares)
WAAF	494 (200 hectares)
MMR	1,034 (418 hectares)
DMR	354 (143 hectares)
KLOA	5,310 (2,149 hectares)
KTA	4,569 (1,849 hectares)
PTA	56,661 (22,930 hectares)
Total	71,880 (29,089 hectares)

Source: Land Use Requirements Study (US Army 1997c)

The RTLTP Range Development Plan (RDP) describes the land required for individual maneuvers necessary to meet the training requirements for combat within a 31-mile by 31-mile (50-kilometer by 50-kilometer) area (Nakata Planning Group, LLC 2002a). By looking at the amount of land required to support these individual maneuvers the total maneuver lands needed can be determined. The largest of these maneuvers is the semiannual "movement to contact" exercise for the SBCT as a whole, which requires 122,564 acres (49,600 hectares). The same maneuver at the battalion level is to be conducted four times per year and requires only half as much land (61,284 acres [24,801 hectares]).

The Proposed Action encompasses two land acquisitions that would increase the amount of maneuver land available: the South Range land acquisition of approximately 1,402 acres (567 hectares), approximately 1,300 acres (526 hectares) of which would be used for maneuver, and the West PTA maneuver training area land acquisition of up to 23,000 acres (9,308 hectares). These land acquisitions would add up to 24,300 acres (9,834 hectares) to the inventory of 71,880 acres (29,089 hectares) of existing maneuver lands shown in Table 2-8, bringing the total available to 96,180 acres (38,923 hectares). This is approximately 78

percent of the goal, which, when combined with training available along the proposed military use trails, will meet mounted maneuver training needs. Although the most notable physical difference between the current force and SBCF forces is the introduction of the Stryker vehicle, operations and capabilities would also change. The Stryker vehicle is primarily a troop transport vehicle that would traverse terrain and obstacles to ensure protected delivery of infantry squads to their dismount points. Because of the limitations of the Stryker, most mounted movement takes place on roads or unrestricted terrain. The Stryker can maneuver across a slope that is less than 30 percent, up a slope that is less than 60 percent, and over trees less than five inches (13 centimeters) in diameter. In addition, the Stryker would not be allowed in areas subject to other restrictions, such as those containing sensitive species or cultural features resources. The number of Strykers involved in training exercises would depend on the capacity of the training area involved. All 1,005 emission-producing vehicles (including 291 Strykers) would be based at SBMR and would deploy for training as required. Mounted maneuver training at the South Range Acquisition Area would involve from one to 96 Strykers, one to 27 at DMR, one to 96 at KTA, and 32 to 192 at PTA. There would be no mounted maneuvers in KLOA, except along Drum Road.

Dismounted Maneuver Training

As described above, Strykers would rapidly transport troops to a predetermined action area, where they would conduct dismounted maneuvers to train for enemy engagement. At times, training may include only dismounted maneuvers without the Stryker. During dismounted maneuvers Soldiers would walk in dispersed groups overland toward a given objective. During simulated engagement, Soldiers would seek cover or concealment, and one section may provide a base of weapons fire, while another maneuvers toward the objective.

During extended maneuver training, Soldiers may sleep in the field. To allow for quick deployment, they would not set up tents. Training may involve live-fire and nonlive-fire exercises. Nonlive-fire exercises use blank ammunition, laser weapons, and simulated artillery and mortar fire with pyrotechnics. During nonlive-fire training there would be no aerial pyrotechnics allowed. If used, helicopters would land in established landing zones.

Reconnaissance Training

Reconnaissance training would be carried out in a similar manner as the current force reconnaissance training, except that UAVs would provide air reconnaissance that, in combination with ground reconnaissance, would provide situational awareness and knowledge throughout a larger area.

It is anticipated that the UAV's total flying hours would amount to 2,400 hours of flight per year (4 UAVs at 600 hours per year), or 600 takeoffs and landings per year. The UAVs would not need to take off from or land at ordinary airfields but could be launched from any location using their own hydraulic launchers. An arrested recovery system using nets and/or cables would also be used, minimizing the area required for launch and recovery. Due to this mobility, most of the launch and recovery sites would be within the existing restricted airspace on O'ahu and the island of Hawai'i. However, launching from WAAF or BAAF may be desired for routine training and maintenance. Before such training and maintenance flights, the Army would coordinate with and obtain approval from the Federal Aviation

Administration (FAA). UAVs would not be launched or recovered at DMR, KTA, KLOA or West PTA, although they would be flown over KTA and WPAA under visual ground monitoring.

Live-Fire Training

The transformed brigade would use new and existing live-fire ranges and firing points. SBCT units would perform individual weapon and combined arms live-fire training. Use of pyrotechnics, obscurants, and simulators is anticipated to be similar to current force use. All SBCT training would be planned and conducted in accordance with established USARHAW range and training land regulations and standard operational procedures (SOPs). The SBCT would use the same weapons and explosives as the current force, with the addition of the 105mm mobile gun system on the Stryker and the 120mm mortar and a change from 12 105mm howitzers to 18 155mm howitzers.. All current forces at USARHAW use approximately 16 million rounds and individual explosives per year at the various ranges in Hawai'i. SBCT forces with a current force Brigade would use approximately 20 million rounds and individual explosives per year as part of SBCT training, an increase of 25 percent. No live-fire training would be conducted at WAAF, KLOA, DMR or WPAA. Table 2-9 compares the ammunition used for the Proposed Action to the No Action Alternative.

**Table 2-9
Comparison of Ammunition Use**

Ammunition	No Action	PA
HE Artillery (>40 mm)	17,952	22,434
Non-HE Artillery (>40 mm)	174,520	284,390
Mortar Rounds (60, 81, 120 mm)	6,836	14,022
Non-HE Mortar Rounds (60, 81, 120 mm)	11,740	18,176
Rockets	44	44
Mines	1,088	1,087
Demolition/Breeching Charges	283,675	205,229
Standard Live Ammunition (Small Arms)	7,297,358	9,314,025
Tracer Rounds (Small Arms)	2,807,282	4,051,655
Blanks/SRTA Rounds (Small Arms)	3,738,584	5,127,061
Pyrotechnics	588,380	91,955
<u>Fuses</u>	575,378	120,248

Existing military operations on the urban terrain assault course at SBMR are inadequate to satisfy the SBCT training requirements for the Stryker MGS, light armored vehicle and reconnaissance armored vehicle because it does not have an urban assault course training facility (UACTF), breach facility, or live-fire shoot house. The proposed UACTF at SBMR would provide facilities to train Soldiers in the proper techniques associated with urban combat. These exercises would be conducted with mobile support. The BAX is proposed to provide a realistic battle area for company-level infantry units (dismounted or with supporting vehicles) in need of live-fire training required for an SBCT, which does not exist on O'ahu and the island of Hawai'i. QTR1 is proposed at SBMR to allow consolidation of small arms qualification training that currently is spread across a wide area, requiring units to

occupy numerous antiquated ranges. Ranges for modified record fire and combat pistol qualification on SBMR are nonstandard and conflict with higher priority ranges or other proposed ranges. The construction of QTR2 would eliminate this conflict and would provide a modern training facility. A special use airspace, called a controlled firing area (CFA), would be established above QTR2 to contain activities that, if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft. Hawai'i-based units lack a large range to train Soldiers in an urban environment under simulated conditions. The proposed CACTF at KTA would provide a 24 building, SRTA live-fire, facility and range operation support facility to fill that need.

A BAX is proposed at PTA to provide brigade-level CALFEXs not found in Hawai'i. The BAX would provide for gunnery training for MGS, armored vehicle training, or armored vehicle reconnaissance vehicles. Construction at PTA allows enough space for brigade-level CALFEXs that cannot be conducted at SBMR. There currently is no range for anti-armor live-fire and tracking training, which is necessary for supporting Strykers and anti-armor forces firing from HMMWVs. The AALFTR would enable individual and collective gunnery training that simulates sweeping gunfire during movement along the flank of an opposing force.

Service Support Operations and Training

There would be no change in service support operations and training under the Proposed Action. Training would be carried out in a manner similar to current force training.

Deployment Training

Deployment training would principally involve moving troops and equipment from SBMR to the other training areas in Hawai'i or to the continental US. As with current force training, transportation would use a combination of vehicles, high-speed vessels, and C-17 and C-130 aircraft, depending on the type and location of training. Deployment training would be similar to the current training, except SBCT units would be deployed at least twice a year to PTA from HAFB or WAAF using one to two C-17 or C-130 aircraft. Equipment would be deployed to PTA by 6 more individual LSV roundtrips a year. There are no adequate facilities to support deployment activities from multiple airfields in Hawai'i. The proposed Multiple Deployment Facility would provide the facilities necessary for SBCT to prepare equipment and vehicles for deployment from either WAAF or HAFB. Stryker vehicles and trucks would also move Soldiers and equipment from SBMR to other training areas. Those that travel on public roads would follow the rules for convoys as spelled out in Section 2.2.3.

Aviation Training

The number and types of aircraft used for aviation training are expected to be the same as under current force training, with the exception of UAVs. However, the SBCT will not rely on helicopters in the same way light infantry units do. SBCT aviation units will not be used to transport troops but will be used more for supply, convoy support, and close air support. There will not be as many air assault operations during SBCT training.

The aircraft that are used in support of current forces in Hawai'i are the armed reconnaissance OH58D Kiowa Warriors, utility lift UH60 Blackhawks, and the medium lift

CH47 Chinook. The individual use and frequency of the UAVs has yet to be determined, as it would be dictated by each individual training scenario.

Combined Live-Fire/Maneuver Training

SBCT forces would conduct dismounted training to include company-level CALFEXs. The only increase in CALFEXs would be from the introduction of the RSTA Squadron, which could conduct up to three company CALFEXs per year. The SBCT dismounted CALFEXs would be similar to the CALFEXs conducted by the current force, using the same types of weapons and similar tactics. SBCT dismounted CALFEX training would occur at several ranges throughout Hawai'i including the SBMR BAX (company-level), PTA BAX (brigade-level), and possibly MMR (company-level).

MMR is important to military training in Hawai'i. Although SBCT training does not depend on it, SBCT forces would use MMR if the range were available after completion of the MMR FEIS and ROD. The MMR EIS will analyze the potential environmental impacts associated with dismounted CALFEXs for both current force and SBCT; therefore, this SBCT EIS does not analyze training impacts of SBCT at MMR.

Force-on-Force Training

There would be no change in force-on-force training under the Proposed Action, except for the nonlive-fire training at WPAA. However, there would be additional organizations, such as the RSTA Squadron and Anti-Armor Company, which would support the force-on-force units. Force-on-force training would still occur at SBMR, KTA, and existing PTA installations.

2.3.5 Institutional Programs

Total Army transformation also affects installation management. Installation management that directly affects the environment includes range management, environmental management, and real property management. The programs described below reflect ongoing programs and total Army transformation changes.

Implement Sustainable Range Program

The Army is undertaking a new approach to its range management. The Sustainable Range Program (SR Program) will improve the integration of all programs that affect or are affected by live training. The SR Program begins at Headquarters, Department of the Army, and will be integrated at the Major Army Command and installation level. Through the SR Program, the Army seeks to ensure that its ranges will be available indefinitely to support training readiness. Army ranges are considered to be a combination of live training infrastructure, installation facilities, and the environment. The SR Program integrates training, facility, and environmental management.

Implement Ordnance Impact Area Management

After each training event all range trash, including spent shell casings, outside the ordnance impact areas would be cleaned up. In addition all range trash would be cleaned up as feasible during range maintenance.

Implement an Environmental Management System

An Environmental Management System (EMS) is a tool that could provide the Army with a means for the management of environmental activities and resources. The EMS would require the Army to define its environmental goals and to document the processes it uses to achieve those goals. By imposing this discipline, the Army would be able to improve compliance with environmental laws and to reduce environmental impacts. USARHAW already has mature environmental programs with many elements of an EMS.

Executive Order 13148, Greening the Government Through Leadership in Environmental Management, requires implementing an EMS at all appropriate federal facilities by December 31, 2005. The policy calls for systematic integration of environmental management into all missions, activities, and functions. The policy requires current processes to be continually reviewed to identify better ways to reconcile national defense and environmental stewardship missions.

EMS is not a new requirement but a change in management practices. It requires the Army to adapt existing management processes to identify and reduce the environmental risks inherent in mission activities. This approach is intended to make complying with environmental laws simpler, less costly, and a routine part of mission planning and execution.

Continue Cultural Resources Management Planning

The Army will continue with cultural resources management as it currently exists.

Continue Environmental Management Programs

As discussed previously, the current Army environmental strategy consists of four major areas of activity: pollution prevention, compliance, restoration, and conservation. Projects under each major activity area are implemented and managed at USARHAW. Activities currently conducted under these programs would continue under the Proposed Action and would ultimately be integrated into the EMS.

Continue Ongoing Management Programs to Manage Training and Protect the Environment, as Detailed under the No Action Alternative and Fully Implement Existing Management Plans

Several plans and programs are in place or would be developed to mitigate potential impacts of the Proposed Action, as well as to protect and manage the biological, physical, and socioeconomic environment at USARHAW during transformation. The following programs are in place and operating at USARHAW and would be fully implemented under the Proposed Action:

- Integrated training area management;
- Integrated natural resources management plan;
- Integrated cultural resources management plan;
- Range development plan; and

- Real property master plan.

2.4 REDUCED LAND ACQUISITION ALTERNATIVE

This alternative would involve downsizing the proposed SRAA by approximately 93 percent, from approximately 1,402 acres (567 hectares) to approximately 100 acres (40.5 hectares). The 100 acres (40.5 hectares) of land would be necessary within the SRAA for constructing the proposed SBCT motor pool because the motor pool must be located close to SBMR where the Soldiers are based and no space is available for building this facility at SBMR or WAAF. This alternative is identical to the Proposed Action, with two exceptions: moving QTR2 to PTA and reducing the land acquired at SRAA. This would require that an expanded version of QTR2 be constructed at PTA rather than at the home station, SBMR. This is contrary to current training of the 25th Infantry Division, which is based on troops completing qualification training at SBMR prior to deploying to PTA. The larger exercises conducted at PTA are more effective if each Soldier is fully qualified at SBMR before deploying to PTA. However, the length of deployment at PTA could be extended to allow training at QTR2 before other training is conducted at PTA. Soldiers not able to qualify during deployment would have to return to PTA to complete their qualifications. The best available site for the proposed QTR2 at PTA is on the site of the current Range 8. A controlled firing area over the QTR2 at PTA would not be necessary since the range would be overlain by the existing R-3103 restricted area. This location falls within the overall boundaries of the anti-armor and live-fire tracking range (AALFTR) also proposed for this site, meaning that both ranges could not be used for live-fire at the same time. An expanded version of QTR2, to include sniper and machine gun training, as well as pistol and M16, would be constructed at PTA, overlaying the proposed AALFTR, so no new area would need to be used or ordnance impact area created. Although the purpose and need for transforming the 2nd Brigade, 25th ID(L) would still be fulfilled, it would not be as efficient, and in some circumstances not every Soldier would become qualified, requiring additional training.

2.5 NO ACTION ALTERNATIVE

CEQ regulations state that an EIS must evaluate a No Action Alternative, to serve as a benchmark against which the potential effects of actions can be evaluated. The No Action Alternative represents what would occur if the Army were not to carry out the Proposed Action.

Under the No Action Alternative, the Army would not undertake the proposed conversion of the 2nd Brigade to an SBCT in Hawai'i and therefore would not meet the purpose and need for transforming the USARHAW 2nd Brigade, 25th ID(L). The 2nd Brigade would continue to train and operate as a conventional light infantry force.

2.5.1 Current Force Vehicle and Weapon Systems

Vehicles and weapons used under the No Action Alternative would be similar to those that are used now.

2.5.2 Construction

Construction projects under No Action assume that projects proposed for maneuver training facilities and USARHAW's inventory of facilities for an SBCT would not proceed. However, other projects in support of current training may be constructed on a case-by-case basis, as dictated to meet the continuing needs of the Army's conventional forces. These projects would be evaluated under separate NEPA documentation as appropriate. These projects are described in discussion in Chapter 9, Cumulative Impacts.

2.5.3 Land Acquisition

None of the land acquisitions, which are a part of the Proposed Action, would be undertaken. Land could be acquired in support of current training on a case-by-case basis, as might be dictated to meet the continuing needs of historically conventional forces. For example, under No Action, some or all of the SRAA could be acquired for current force maneuver land requirements. While the acreage and precise locations are not known at the present time, these projects would be evaluated in separate NEPA documents, as appropriate.

2.5.4 Description of Training

Under No Action, current training is expected to continue, and may include future changes in training as appropriate. These changes could result in requirements for new weapons that are yet to be developed or the development of new strategies as potential conflicts may dictate.

2.5.5 Institutional Programs

USARHAW has implemented the following institutional programs at all training areas: ITAM, an INRMP, an ICRMP, a range development plan, institutional controls, and a real property management plan. Chapter 2, Section 2.3, describes these programs in more detail. The Army would continue to fund these programs under the No Action Alternative, as funding is available, with the complexity and scope of the program proportional to the proposed land use.

2.6 ALTERNATIVES CONSIDERED BUT NOT STUDIED IN DETAIL

Table 2-10 compares each alternative to the training requirements for an SBCT. Several factors shape alternatives available to USARHAW. First, any alternative must meet the purpose of and need for the action by assisting to bring the Army's Interim Force to operational capability and by providing realistic field training in Hawai'i while providing the nation with capabilities that meet current and evolving national defense requirements. Alternatives must be practical and feasible; that is, they must be capable of being implemented by the Army or another agency, be technically feasible, and not require commitment of resources that cannot practically be obtained. In addition, in framing alternatives, USARHAW has taken into consideration information and suggestions submitted by individuals, organizations, and public agencies. Finally each alternative, with the exception of the No Action Alternative, must meet the training needs required for an SBCT, as outlined in Table 2-10.

2.6.1 Transformation of a Different Brigade at Another Location

The Army has identified the first units to be converted to Interim Force status as the “bridge” to the future force. Headquarters, Department of the Army designated the action proposed for implementation by the 2nd Brigade, the effects of which have been evaluated by the Army’s headquarters. Section 4.2.2 of the final *Programmatic Environmental Impact Statement for Army Transformation* states, “The Army’s operating forces are stationed at those installations that can provide adequate facilities (maneuver areas and training facilities) and infrastructure support. For the foreseeable future, the Army would expect to conduct its transformation of existing operating forces ‘in-place.’ Relocation of units would not be expected” (US Army 2002c). The long-term view is that the entire Army would transform. In the short-term, as indicated by the ROD for the programmatic EIS, converting units to the future force would be sequenced as directed by Headquarters, Department of the Army. The initial sequencing includes the conversion of the 2nd Brigade.

Headquarters, Department of the Army directed the 2nd Brigade to transform in Hawai’i because the Pacific Rim is a critical area of interest for the United States. Stationing an SBCT in Hawai’i allows the President to rapidly respond to events in an area of increasing importance to national security. This alternative does not meet the purpose and need and is not included in Table 2-10.

2.6.2 Transformation with Existing Facilities

Under this alternative the Army would attempt to transform but would rely on existing facilities. USARHAW would propose and undertake military construction projects only on a piecemeal basis for the primary purpose of maintaining resources in an acceptable useful condition for current training and as needed as SBCT moves toward the future force. Projects not associated with transformation could continue to be funded and programmed (e.g., family housing improvements or in-kind replacement of deteriorated facilities). Those associated with transformation would have to be funded on a piecemeal basis, and separate NEPA documentation would have to be prepared as each project is identified. Training would continue using existing maneuver and training facilities, under constraints similar to those now managed by unit commanders and would use new facilities as they are constructed.

The principal differences between the current force and the SBCT would be an increase in the number of personnel, introduction of the Stryker, and modification of the training requirements to guide the unit’s readiness training. Current facilities would not accommodate the needs of an SBCT, such as sufficient maneuver training land for the Stryker and automated digitally capable ranges and training facilities. The Army seeks to have the 2nd Brigade capable of executing assigned combat missions in 2007.

This would occur after Strykers, MGSs, and UAVs have been fielded and the Soldiers in the 2nd Brigade have demonstrated their ability to execute their assigned tasks, individually and collectively. The Initial Operating Capability (IOC) cannot be attained without the appropriate types of modernized training facilities with adequate capacity to train individual Soldiers and units available. As is shown on Table 2-10, the existing facilities do not have the

**Table 2-10
Comparison of Alternatives Considered to Training Requirements**

Function	Requirements for SBCT (Source of Requirement) ¹	Alternative						
		1	2	3	4	5	6	7
		No Action (Current Force Training)	Proposed Action (Preferred Alternative): Transform with New Facilities on O'ahu and Hawai'i	Transform with Reduced Land Acquisition (Construct QTR2 at PTA)	Transform with Existing Facilities (No New Construction or Land Acquisition)	Transform with Maneuver Training on a Continental US Installation (Includes Maneuver Live-Fire Training)	Transform by Using Other Existing Military Facilities (e.g., Marine or Navy Bases)	Move All Training to PTA
Qualification training (fixed firing ranges)								
Sniper and machine gun training	355 days/year (RDP ¹ pp 7-25).	230 days/year does not meet requirements (RD Plan pp 7-25).	355 days/year does meet requirements (construct QTR1 and QTR2 at SBMR).	355 days/year does meet requirements (construct QTR1 at SBMR and QTR2 at PTA).	230 days/year does not meet requirements (existing capacity per RDP pp 7-25)	355 days/year does meet requirements (construct QTR1 at SBMR).	Does not meet requirements.	Meets requirements. Would require replication of all Schofield Barracks ranges (including Tars) at Pōhakuloa Training Area
M4/M16 qualification	281 days/year (RDP pp 7-10).	230 days/year does not meet requirements (RDP pp 7-10).	281 days/year does meet requirements (construct QTR1 and QTR2 at SBMR).	281 days/year does meet requirements (construct QTR1 at SBMR and QTR2 at PTA).	230 days/year does not meet requirements (RDP pp 7-25)	281 days/year does meet requirements (construct QTRs 1 and 2 at Schofield Barracks).	Does not meet requirements 0 days/year available; Marine Corps Base Hawai'i has one multipurpose small arms range, used by their forces (http://www.mcbh.usmc.mil/g3/g3rrkb.htm).	Meets requirements. Would require replication of all Schofield Barracks ranges (including QTRs) at Pōhakuloa Training Area.
Virtual training	Virtual training is an essential element of Army Transformation.	Does not meet requirements VFTF ² and FTI ³ not available; cannot conduct virtual training.	Meets requirements. Construct a VFTF and FTI.	Meets requirements. Construct a VFTF and FTI.	Does not meet requirements. VFTF and FTI not available; cannot conduct virtual training	Meets requirements. Construct a VFTF and FTI.	Does not meet requirements Not available--no other service has comparable facility	Meets requirements. Construct a VFTF and FTI at PTA.
Collective training								
Urban combat training	230 days/year use of Combined Arms MOUT Training Facility (RDP pp 9-7).	Does not meet requirements. Existing MOUT assault course, grenade house, and 17-building MOUT does not meet standard (RDP pp. 7-65).	230 days/year does meet requirements. Split facility at KTA (SRTA live-fire CACTF) and SBMR (urban assault course)..	230 days/year does meet requirements. Split facility at KTA (live-fire CACTF) and SBMR (urban assault course).	Does not meet requirements. Existing MOUT assault course, grenade house and 17-building MOUT do not —RDP pp 7-65	230 days/year does meet requirements. Split facility at KTA (live-fire CACTF) and Schofield Barracks (Urban Assault Course).	Does not meet requirements Not available; no other service has comparable facilities	230 days/year does meet requirements Would require construction of live-fire CACTF and UACTF facility at PTA.
Anti-tank Missile (Javelin and TOW) training	Anti-armor live-fire and tracking range (RDP pp 7-39).	Does not meet requirements. None.	Meets requirements. Anti-armor live-fire and tracking range constructed at PTA.	Meets requirements. Anti-armor live-fire and tracking range constructed at PTA.	Does not meet requirements. None.	Does not meet requirements. No capacity to train additional SBCT units.	Does not meet requirements. Not available; no other service has comparable facilities.	Meets requirements. Anti-armor live-fire and tracking range constructed at PTA.
Collective live-fire training	241 days/year use of Battle Area Complex, Multipurpose Range Complex, Multipurpose Training Range (RDP pp 7-69).	Does not meet requirements. All collective live-fire ranges are nonstandard	Meets requirements. Construct BAXs at SBMR and PTA.	Meets requirements. BAXs at SBMR and PTA.	Does not meet requirements. All collective live-fire ranges are nonstandard.	Does not meet requirements. No capacity to train additional SBCT units.	Does not meet requirements. Not available; no other service has comparable facilities.	Meets requirements. Construct BAXs at PTA only.

¹Range Development Plan
²Virtual Fighting Training Facility
³Fixed Tactical Internet

ability to provide specific training, such as virtual training with a fixed tactical internet (FTI) and antitank missile training. Furthermore shortcomings in capacity and capability of live-fire and simulation training facilities would make it impossible to train the Soldiers of the SBCT to the Army standard. Reduced training time would mean that fewer Soldiers were qualified on their individual weapons systems and that elements of the brigade would not be trained in their collective tasks. This alternative would not meet the purpose and need of transforming the USARHAW 2nd Brigade, 25th ID(L).

2.6.3 Transformation in Hawai'i with Maneuver Live-Fire and Nonlive-Fire Training on the Continental US Instead of on Hawai'i

Under this alternative, the Army would transform by conducting collective live-fire and maneuver training on a continental US installation. All proposed cantonment facilities required to support an SBCT would be built, but no new collective maneuver ranges (nonlive-fire and live-fire) would be constructed. The Army would not acquire the 23,000-acre (9,308 hectare) WPAA adjacent to PTA. In addition the following projects would not be built in Hawai'i under this alternative because they are tied to the relocated maneuver training:

- The battle area complexes at SBMR and PTA;
- The Combined Arms Collective Training Facility (CACTF) with SRTA live-fire training at KTA;
- The Urban Assault Course (UACTF) at SBMR; and
- The Anti-Armor Live-Fire and Tracking Range at PTA.

QTR1 and QTR2 would still be constructed, and the SRAA would still be needed to provide space for QTR2 and the SBCT motor pool. Both QTRs would be needed to provide day-to-day training of Soldiers on their individual weapons. The Virtual Flight Training Facility (VFTF) to be built at SBMR is a key element of the training requirements for an SBCT because their suite of simulators and specialized training equipment are an integral part of the transformation process.

The Army considered ranges west of the Mississippi River to minimize travel time. Based on these criteria, continental US Army installations considered as potential sites for 2nd Brigade live-fire and maneuver training include Fort Richardson and Fort Wainwright and the Donnelly Training Area in Alaska (considered as one installation for this analysis and collectively called US Army, Alaska (USARAK), Fort Lewis and Yakima Training Center in Washington State (considered a single installation and referred to as Fort Lewis), the National Training Center at Fort Irwin in California, Fort Carson and Piñon Canyon Training Area in Colorado (considered as one installation and referred to as Fort Carson), Fort Hood in Texas, Fort Riley in Kansas, and Fort Polk in Louisiana. These are the major Army installations in the western US devoted to training US Army forces command units. Table 2-11 provides an overview of the installations.

In Table 2-11, “total area” is the land area in acres occupied by each military reservation. Ranges, environmental constraints, cantonment areas, and other factors, such as regulatory

requirements and access, reduce actual lands available for training at each installation. “Current mission” describes the major functions of each installation. As indicated in the last column of the table, USARAK, Fort Lewis, and Fort Polk are undergoing transformation to receive SBCTs; one will be stationed in USARAK, two at Fort Lewis, and one at Fort Polk. The specialized ranges, as well as the MSTF/ISE, VFTF, FTI, and Installation Information Infrastructure Architecture (I3A) projects required for SBCT training are already programmed to be built at these installations. The other installations may eventually receive similar facilities as transformation to the future force occurs over the next 30 years, but at present Forts Irwin, Riley, Hood, and Carson are not capable of providing the specialized training an SBCT requires, and there are no current plans to construct the required facilities at those installations.

Table 2-11 shows that, of the six installations considered, only USARAK, Fort Lewis, and Fort Polk will have the facilities required to train a Stryker brigade; therefore, the others are excluded from further consideration.

If the 2nd Brigade is to train at either of these installations, all the people, equipment, and vehicles associated with each element of the brigade would have to be transported to Alaska or Washington. This would be required to ensure that the Soldiers could train with their own equipment in accordance with Army doctrine. In addition equipment belonging to the Stryker brigades in Alaska and Washington cannot be assumed to be available for use by Hawai'i personnel. While it is possible to move equipment by barge from O'ahu to the island of Hawai'i, Alaska and Washington are too far away for this type of transport to be practical, and the equipment and personnel would need to be airlifted. Military Traffic Management Command's Traffic Engineering Agency estimated in December 2000 at least 79 C-5 aircraft and 110 C-17 aircraft would be required to move one Stryker brigade (USARHAW 2001a), effectively removing over 80 percent of the Air Force's transport capabilities during training of one SBCT. The Air Force will receive the last of its 120 C-17 aircraft in November 2004 (FAS 2002a) and has 109 C-5 aircraft, with no more in the pipeline (FAS 2002b). Only six C-17s are proposed to be stationed in Hawai'i and will replace four C-130s currently stationed there.

Even though the entire brigade may not need to be transported at one time, moving even one rifle battalion would tie up a substantial portion of the Air Force's airlift capability for an extended period of time. Air Force airlift support would be unavailable for other uses, including actual wartime deployments of the force. Aside from the substantial costs of such operations, it is impractical to expect the Air Force to commit so large a percentage of its resources to support a training exercise.

USARHAW staff estimates that preparation prior to and after each deployment would take five days total. Flight times are estimated at six hours each way. Assuming that maneuver training is to be conducted four times per year, approximately 40 training days of the available 270 would be lost during deployments to Alaska or Washington.

Table 2-11
Continental US Army Installations Considered

Installation, State	Total Area (acres)	Current Mission	SBCT Required Facilities?
Fort Richardson Fort Wainwright Donnelly Training Area, Alaska	71,441 (28,923 hectares) 656,241 (265,684 hectares) 640,488 (259,290 hectares)	Home to 172 nd Infantry Brigade; programmed for one SBCT.	Will be constructed. ¹
Fort Lewis Yakima Training Center, Washington	86,174 (34,888 hectares) 316,786 (128,253 hectares)	Home to I Corps, 1st Brigade of the 25 th ID(L), and the 3rd Brigade of the 2nd Infantry Division. Programmed for two SBCTs.	Will be constructed. ¹
National Training Center at Fort Irwin, California	636,251 (257,591 hectares)	National Training Center—desert training of heavy Army forces.	No
Fort Carson Piñon Canyon Maneuver Site, Colorado	137,404 (55,629 hectares) 235,896 (95,504 hectares)	Home to 7th Infantry Division (mechanized).	No
Fort Hood, Texas	214,352 (86,782 hectares)	Home to III Corps, 1st Cavalry Division, 4th Infantry Division (mechanized).	No
Fort Riley, Kansas	100,656 (40,751 hectares)	Home to the 24th Infantry Division (mechanized).	No
Fort Polk, Louisiana	198,143 (80,220 hectares)	Home of the Joint Readiness Training Center and 2 nd Armored Cavalry Regiment.	Will be constructed. ¹

¹Facilities of the type used to train an SBCT will ultimately be built at all major Army training installations as part of Transformation to the future force, except the AALFTR, which is specifically designated for Hawai'i, but not in time for the 2nd Brigade to meet its 2007 IOC target date.

Source: Acreage from Table C-8, US Army 2002c

An analysis of USARAK and Fort Lewis training facilities and capacity was conducted as an appendix to the USARHAW RD Plan (Nakata Planning Group LLC. 2002a). It showed that Fort Lewis and USARAK would lack adequate collective live-fire training facilities to support an additional SBCT. Neither USARAK nor Fort Lewis is proposing to build an anti-armor live-fire and tracking range to provide the capacity for training that has been programmed for Hawai'i. The Army proposes to conduct anti-armor live-fire training at these facilities on ranges constructed for other uses. This requires careful scheduling to avoid conflicts, and adding an additional SBCT would reduce the throughput capacity to unacceptable levels. Because Fort Polk will already be training an SBCT unit, as well as

conducting joint readiness training, the addition of a second SBCT would compromise the throughput capacity of Fort Polk, a situation that is considered unacceptable.

Owing to climate limitations, training can be conducted only 205 days per year at Fort Wainwright and 224 days per year at Fort Richardson (Nakata Planning Group, LLC 2002a), weather permitting, whereas training in Hawai'i can be conducted 270 days per year. This limitation of training for the SBCT to be stationed in USARAK is considered an acceptable compromise when taken as a part of the Army's overall stationing strategy. However, if the SBCT proposed for stationing in Hawai'i were limited to training only when weather allowed in Alaska, the SBCT's ability to train its units could be diminished, as USARAK's forces would have priority.

In addition, if wartime situations required deploying Hawai'i's SBCT while training on the continental US, the SBCT forces would need to return to Hawai'i for full deployment, making it impossible to meet the 96-hour deployment goal.

In summary, the alternative of conducting collective live-fire training of the 2nd Brigade of the 25th Infantry Division on continental US installations is not feasible or practical for the following reasons and as such will not meet the purpose and need of transforming the 2nd brigade, 25th ID(L):

- The Hawai'i-based SBCT could not meet its training requirements using facilities at Forts Irwin, Hood, Riley, and Carson due to the lack of specialized facilities required to train an SBCT, and at present there are no plans to construct them;
- The Hawai'i-based SBCT could not meet its training requirements at Fort Lewis and USARAK, which are also to receive SBCTs, because they would not have adequate collective live-fire training capacity to support the requirements of an additional SBCT;
- Transporting a Hawai'i-based SBCT to the continental US for training would consume an unacceptably large portion of the Air Force's strategic airlift capability needed to meet its other missions and would result in a loss of at least 28 training days while in transit; and
- If an SBCT were training at either USARAK or Fort Lewis and military actions required its deployment to an action area, the brigade would have to return to Hawai'i to assemble for full deployment. This would prevent the SBCT from meeting its goal to deploy worldwide within 96 hours.

2.6.4 Transformation Using Other Existing Military Facilities and Existing USARHAW Facilities in Hawai'i

Under this alternative the Army would attempt to transform relying on existing facilities at USARHAW and other military facilities in Hawai'i not under USARHAW's control. Other branches of the Armed Forces in Hawai'i train at existing Army facilities because they do not have adequate live-fire ranges themselves. In addition there are no additional maneuver lands available at other bases in Hawai'i.

The Army seeks to have the 2nd Brigade obtain IOC in 2007. This would occur after the unit receives its required Strykers and MGSs and the training necessary to execute its mission. Adequate facilities are required to effectively train to Army-established IOC standards. IOC cannot be attained without the appropriate types of modernized training facilities with adequate capacity to train individual Soldiers and units available. Limited facilities would result in reduced training time, which would mean that fewer Soldiers were qualified on their individual weapons systems and that elements of the brigade would not be trained in their collective tasks. Shortcomings in capacity and capability of live-fire and simulation training facilities for individual and crew-served weapons, including the lack of a shoothouse, mock villages, and other modernized training facilities, would make it impossible to train the Soldiers of the SBCT to the Army standard.

2.6.5 Transforming by Moving All Training to PTA

Under this alternative the Army would attempt to transform by moving all SBCT training to PTA. USARHAW would propose and construct all military construction projects and would also construct new barracks, unit headquarters, classrooms, simulation training facilities, family housing, qualification training ranges, and community support facilities on the island of Hawai'i. All training requirements for SBCT could be met, with the exception of the maneuver training, as approximately 15,219 acres (6,159 hectares) of maneuver lands on O'ahu would not be available or acquired for use. However, a significant amount of land would need to be acquired to accommodate all the new support facilities required for this alternative, essentially everything that now exists on SBMR and WAAF. Aside from the enormous cost, PTA lacks sufficient water, electric power, sewage treatment capability, and road access to support the required population. In addition construction of all these support facilities would eliminate additional maneuver lands, further increasing the shortfall for maneuver lands.

The Army seeks to have the 2nd Brigade obtain IOC in 2007. This would occur after the unit receives its required Strykers and MGSs and the training necessary to execute its mission. IOC cannot be attained without the proper types of facilities being readily available and having adequate capacity for training the requisite number of units. Although enough land may be available for acquisition for maneuver training and the required construction of an entire new military installation, SBCT Soldiers would not be able to conduct air deployment training operations between SBMR and PTA. Table 2-11 has a comparison of all alternatives to the training requirements for an SBCT. In the absence of adequate maneuver training, Soldiers would not be adequately trained for deployment.

This alternative is not feasible even though the training requirements for an SBCT would be met because the infrastructure at PTA could not handle the housing and other needs of stationing the SBCT at PTA. This would require significant travel between housing at O'ahu and training at PTA, resulting in lost training days; therefore, this alternative was not evaluated in detail in the EIS.

2.6.6 Alternative Land Purchases Considered

In response to public comments about alternative land acquisitions the following previously considered information has been added to the EIS.

Pu'u Pā

Pu'u Pā is approximately 14,000 acres (5,666 hectares) located northwest of WPAA, next to the town of Waimea. This parcel is close to but not contiguous with PTA. USARHAW has habitually used the WPAA more often because it is adjacent to PTA, but the current and proposed tank trail goes through both WPAA and Pu'u Pā. The Pu'u Pā parcel was eliminated from detailed analysis because of the following factors:

- The terrain is rougher and less likely to support vehicle maneuvering than the WPAA, and the parcel is too small, which would require buying additional land elsewhere;
- The area is not contiguous with PTA, requiring the use of public roads to transit from PTA;
- It could have a greater environmental impact in some portions because there is excessive grass that has not been grazed in several years;
- The area is located between the community of Waimea and the ocean and would have a greater impact on the scenic viewshed because of visible maneuver activities and dust;
- There are numerous known archaeological sites that would result in additional legal requirements; and
- The parcel is closer to built-up areas (Waimea), increasing concerns about noise and dust.

Lualualei

Naval Magazine Lualualei lies in a large coastal valley near the southwestern shoreline of O'ahu, approximately 10 miles southwest of Wahiawa, and occupies 8,105 acres (3,280 hectares) of the valley. The nearest urban area is Maili, which lies approximately one mile west. Waianae and Nanakuli are also nearby. The parcel was eliminated from further analysis because of the following factors:

- The site has extensive environmental and encroachment concerns, including 192 cultural sites, over 25 endangered species in close proximity, wetlands, and a possible hazardous material spill site;
- The site cannot accommodate vehicle maneuvers, so additional lands would need to be purchased and public roads would have to be used to access the site; and
- The cost would be very high, considering the limitations on construction and potential cleanup costs.