
CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION

2.0 INTRODUCTION

This chapter provides a description of the Proposed Action and those supporting actions that the Army and other military services in Hawai'i would undertake to modernize PTA.

This Programmatic EIS defines modernization as improvement or modification on existing training ranges, or to construct new ranges; improvement or modification on existing roads and utilities, or to construct new roads and utilities, where necessary; and, improvement or modification on existing facilities at the Cantonment Area, or to construct new facilities there.

The Army needs ranges that meet current, doctrinally required training standards; and the Army needs the training support facilities and training support infrastructure to provide adequate access to PTA's training assets. These modernization projects will ensure PTA meets the training needs of its multi-Service users.

This chapter describes the projects in the reasonably foreseeable future that could be implemented to meet the purpose (Section 1.4) and need (Section 1.5) for modernization. Because there are many projects and because they would not be implemented at the same time, it is necessary to prepare this programmatic analysis so that, in accordance with Army and CEQ NEPA policy (32 CFR 651.14 and 40 CFR 1502.4(d), 1502.20, 1500.4 and 1500.5) the Army may tier from this document in order to provide a more focused analysis of individual projects when design alternatives are ready for decision.

This chapter, in addition to describing the Army's modernization concept for PTA, describes in greater detail the proposed IPBA design, use, and function, and presents a range of reasonable alternatives for the public and decision maker to consider when siting the IPBA, including the consideration to not build and operate the IPBA at all.

2.1 PROPOSED ACTION

There is both a programmatic approach and a site-specific approach proposed in this EIS. In the programmatic approach, the Proposed Action consists of modernizing PTA training ranges, training support infrastructure (e.g., roads and utilities), and training support facilities in the Cantonment Area as three primary (programmatic) modernization activity group components of the Proposed Action. One activity specifically addresses construction and operation of the IPBA. As part of the modernization of training ranges at PTA, this Programmatic EIS provides a more detailed (site-specific) analysis of the IPBA, and a more general (high level) analysis of the other proposed projects.

2.1.1 Modernization

The Army developed the list of modernization projects in Table 2.1-1. Although there are many projects the installation would like to undertake over the next several years, these projects in Table 2.1-1 could be implemented in the reasonably foreseeable future. The Army, for the purposes of this EIS, defines the reasonably foreseeable future as the period covered in the Army's POM process (discussed in Section 1.2), specifically FYs 12-16. Although the POM is used to inform Congress of the Army's project needs and priorities for funding requests, some of the projects listed in Table 2.1-1 may not ultimately use MCA funding (instead they may use other sources of funding such as OPA, OMA, and MDEP VSCW as

discussed in Section 1.2.1), the Army's POM cycle is a natural delineator for project planning and funding through implementation. The Army also identified projects that fall outside of FYs 12-16. These projects will be evaluated in the cumulative impacts section (Chapter 5).

The projects in Table 2.1-1 are essential to support modernization of PTA and to ensure that the Army and other users of PTA continue to have access to sustainable training and training support facilities and can accomplish their doctrinally-required training missions. For projects that fall outside the current POM cycle, although they support PTA modernization, these projects may be re-defined or may drop off the project list completely or may be replaced based upon future Army doctrinal training requirements or associated infrastructure needs.

The Army coordinated with the Marine Corps, Navy, and Air Force on developing the project list. It is important to note that the Army projects in this list are assets that would be used to support primarily Army training and use of PTA, but these assets could be used by other military Services. There is not priority order to the list, other than that some projects would occur in FY12-16, and some would fall within the years following FY16. In addition, Congress has the authority to move funding so that a project could move from the Extended Planning Annex, to be implemented sooner, or Congress may remove funding completely.

Appendix A provides a description, purpose, and need for each of the planned future projects. The exception is the IPBA. The IPBA construction and operation is fully described in Section 2.1.3.

The Army first needs an IPBA at PTA to ensure infantry platoons and companies deploying to operations overseas meet FSO METL requirements and be successful in combat. These units must also integrate TTP with FSO requirements in order to be successful in combat. TTP would be integrated into the IPBA through enhanced IPBC range design, and use of the MOUT facility.

Table 2.1-1. Proposed PTA Projects

Project Title	Project Type	Military Proponent
Proposed Five Year Project List (FY 12-16) (Not in Priority Order)		
IPBA – IPBC, Live-fire Shootouse, and MOUT	Training Range	Army
IPBC (Range 10) Upgrade	Training Range	Army
ISBC Upgrade	Training Range	Army
MOUT Assault Course(s) (TTP)	Training Range	Army
Multipurpose Storage Facility	Cantonment Area	USMC
Ammunition Storage Facility	Training Range	Army
Range Road Improvements - East-West Main Supply Route (MSR), Charlie's Circle Upgrade, and Widening of Roads in the Southeast of the Installation	Infrastructure	Army
Production Water Well	Cantonment Area	Army
Training Aids Support Center / Multipurpose Training Facility	Cantonment Area	Army

Ammunition Storage Facilities	Training Range	USMC
Electrical Upgrade	Infrastructure	Army
Tactical Equipment/Vehicle Maintenance Shop	Cantonment Area	Army
UAV Facilities	Cantonment Area	Army
Brigade HQ and Exercise Control Facility	Cantonment Area	Army
AGR	Training Range	Army
Extended Planning Annex Projects (Not in Priority Order)		
BAAF Improvements – Runway Realignment*, Rotary Wing Apron, Hangar, Air Traffic Control Tower, and Aircraft Maintenance Facility	Cantonment Area	Army/USMC
Packaged Sewer System	Cantonment Area	Army
Access Control Point (ACP) / MP Station	Cantonment Area	Army
Dining Facility (DFAC)	Cantonment Area	Army
Battalion Billets (Barracks)	Cantonment Area	Army
Fire Station	Cantonment Area	Army
Physical Fitness Center	Cantonment Area	Army
PTA Industrial Area – Department of Public Works (DPW) Maintenance Shop, Tactical Equipment Maintenance Shop, Directorate of Logistics (DOL) Base Yard, Troop Issue Subsistence Activity (TISA), and Range Maintenance Facility*	Cantonment Area	Army
Range Maintenance Facility	Cantonment Area	Navy
Stormwater Drainage System	Cantonment Area	Army
Communications System	Infrastructure	Army
Urban Close Air Support (UCAS) Range	Training Range	USMC

* Evaluated in SBCT EIS (U.S. Army and USACE, 2004)

2.1.2 Primary Activity Group Components of the Proposed Action

As discussed in Section 2.1, the Proposed Action of modernizing training ranges, training support infrastructure (e.g., roads and utilities), and training support facilities in the Cantonment Area can be separated into three primary activity groups. These activity groups are necessary components for meeting the Army’s modernization requirements at PTA and are analyzed accordingly. Chapter 3 describes the existing conditions at PTA. Chapter 4 describes the relationship between the proposed projects listed in Table 2.1-1 and the potential environmental and human impacts from implementing these projects.

2.1.2.1 (Activity Group 1) Training Range Modernization (construction and operation)

This activity group encompasses the construction required for all range modernization projects; and the operational activities (i.e., live-fire and maneuver) for new projects. A general description of the requirements process for identifying a need for ranges or range modernization is provided in Section 1.2.1. The Army’s proposed range modernization projects are intended to meet doctrinal training requirements and resolve PTA’s existing shortfall in standard collective training range capability.

The proposed IPBA would be sited within the impact area at PTA where no ranges currently exist. This action would be to reclaim impact area as training area and therefore, the reclaimed portion of the impact area should be evaluated for potential environmental impacts. Evidence of MEC/UXO in the proposed Western Range Area (preferred alternative) and Charlie's Circle demonstrates that the project location has been exposed to indirect fire (artillery fire)²⁸. Projects, such as modernizing targetry on the existing IPBC (Range 10), would not change how the range is used. Only the potential impacts associated with construction should be considered for those projects.

TC 25-8 is the primary document the Army uses to design and build standard ranges. TC 25-8 provides the Army with current standard range designs, and descriptions of the purpose of the range and identifies training units (users) and authorized weapons. Additionally, it identifies the range's primary components including targets, objectives, firing points, and associated range operations and control facilities. These design features for related range modernization projects are discussed in Appendix A.

As discussed in Section 2.1, only the IPBA is ready for decision now and will be analyzed more thoroughly for construction and operational impacts. Section 2.1.3 discusses the construction related activities that would be analyzed; and Section 2.1.3.3 identifies example training scenarios for use of the IPBA upon which potential impacts could be evaluated. Other projects under consideration (Section 2.1.1) are in the planning stage and are not ready for decision and will be addressed more thoroughly in future, tiered NEPA documentation.

2.1.2.2 (Activity Group 2) Training Support Infrastructure (Roads and Utilities) Modernization

This activity group includes the roads and utilities that directly or indirectly support the military mission at PTA. Roads and utilities run throughout the installation and connect the Cantonment Area with the Range Area. Utilities include power, water, sanitary sewer, and other such infrastructure that is essential to support the daily operations of PTA.

The projects associated with this activity group are found on Table 2.1-1 and include future utility projects such as the PTA production well, installation-wide electrical upgrade, and a packaged sewer system within the Cantonment Area. Future road projects include building an east-west MSR reaching through the KMA, widening the road at the southwest range area, and improving existing roads or building new roads within the Cantonment Area, over time, while future plans to improve the Cantonment Area would be implemented.

Section 1.2.2 identifies when roads and utilities require modernization. These types of infrastructure at PTA are old, becoming more difficult and costlier to maintain, and are not built to current design standards (for roads) or may not meet future demand (utilities).

Appendix A provides more detail for each proposed training support infrastructure project, including a purpose and need specific to that project, and discusses the extent of each project. These infrastructure projects are still undergoing planning and are not evaluated in full detail in this Programmatic EIS. This document provides discussion and broad analysis on the types of potential impacts to the environment from implementing training support infrastructure projects, but because they are still in the planning stage

²⁸ Artillery firing points could be redirected to avoid impacting this area for future use.

specific potential impacts cannot be determined at this time. Rather, a future tiered NEPA analysis will be conducted for each project when it is ready for decision.

2.1.2.3 (Activity Group 3) Modernization of Training Support Facilities in the Cantonment Area

This activity group includes the construction of administrative offices, storage space, training support facilities, maintenance facilities, and other facilities required in the Cantonment Area to support PTA's mission. The full list of potential projects is found at Table 2.1-1 of this Chapter. This activity group also includes modernization of facilities required to support operations at BAAF.

Section 1.2.3 identifies when facilities located in the Cantonment Area require modernization and offers the Army standards by which new facilities would be designed and built. Many of the facilities in the Cantonment Area are old and have outlasted their function and purpose as originally designed (e.g., Quonset Huts), and do not meet current design standards as set by the Army Corps of Engineers. The cost to maintain them is high and many will continue to degrade until they are no longer usable.

Appendix A provides more detail for each proposed training support facility project, including offering a purpose and need specific to that project. This EIS provides a broad analysis on the types of potential impacts to the environment from implementing training support facility projects in the Cantonment Area, but because they are still in the planning stage specific potential impacts cannot be determined at this time. A tiered NEPA analysis will be conducted for each project when it is ready for decision.

2.1.3 IPBA (Activity Group 1) – 1st Modernization Project

2.1.3.1 IPBA Construction

The IPBC, Live-fire Shoothouse, and MOUT facility would be funded and constructed as separate ranges; but because the IPBA represents a shared footprint, and range construction for the three ranges could overlap, the environmental impacts of construction are looked at together, and not as separate events.

The construction site (for all alternatives) is remote and contains flows of pāhoehoe and 'a'ā lava. The Army estimates that only a small percentage of the IPBA would need to be softened to accommodate construction of the three ranges that comprise the IPBA, and provide space for Soldiers to maneuver to those ranges. The total estimate for ground softening of the IPBA footprint is 200 acres (80.9 ha).

Ground softening consists of running a large dozer, such as a D-9, over the lava for several passes to crush the lava and make it suitable for construction and ground maneuvers (foot and vehicle traffic)²⁹. Any fill material (dirt or rock) that is required at the construction site to construct berms or other features, would be transported in from a quarry that is located on PTA.

IPBC Construction

The entire developed footprint of the IPBC would be approximately 110 acres (44.5 ha) (ground softened), and includes an access road to access the IPBC, the Range Operations Control Area (ROCA),

²⁹ The Army generally tries to crush 'a'ā lava wherever possible because it is softer and more brittle than pāhoehoe.

objectives with targetry that Soldiers engage during training exercises, and maneuver lanes (trails that Soldiers and their equipment use to move down range to engage objectives).

Access Road. Since there is limited access to the impact area presently to any of the proposed IPBA/IPBC sites, the Army would need to construct an access road. D-9 bulldozers would be used to ground soften lava to create the road. The road would be sited around known MEC/UXO. Geotechnical surveys would be completed in advance of ground softening to ensure no large subsurface voids lie beneath the lava surface that could endanger the lives of authorized personnel operating in the proposed IPBA/IPBC area³⁰. The USACE has planned for the IPBC access road to be approximately 2,011 m (6,600 ft) long and 7.3 m (24 ft) wide. While the access road would initially be built to service the IPBC, it would also service the Live-fire Shoothouse and MOUT construction and operation phases.

ROCA. The IPBC would also include associated range operations and control facilities to operate the IPBC. Supporting facilities could include a range control tower, operations/storage building, classroom, bleachers enclosure, covered mess, ammunition breakdown building, and latrines. There would be enough parking to accommodate up to 20 high-mobility multipurpose wheeled vehicles (HMMWVs), or other combinations of vehicles around an approximate 20 HMMWV equivalent. Electricity and telecommunication lines would be run from the main road, on poles, down the access road and to the ROCA. Once at the ROCA, lines would be run underground to structures that require power and/or telephone. Electricity would feed only the ROCA and not the range itself. Power would be 150 kilo Volt Amperes (kVA) delivered by copper line. No water lines would be run to the ROCA; rather, water would continue to be delivered to Soldiers via trucks. A water reserve would be available in the storage building to operate an eyewash station co-located with battery storage. A nearby dip tank would serve helicopters that provide fire protection support to the IPBA/IPBC. The following are design specifications for each of the ROCA facilities:

- Range control tower – The structure would be 61 square meters (sq. m [657 sf]) in area. Building construction would consist of concrete spread footings, structural steel frame, and fencing around the tower to control access. The tower roof would be flat with guardrails to ensure the safety of personnel accessing the roof to provide maintenance to radio antennas secured to the roof. Gutters and grading would be used to divert rainwater away from the building base. Lighting would be installed inside and outside the tower. A heat pump would be installed for cooling and heating. Power lines would be run to this structure.
- Operations/storage building – The building would be approximately 74.3 sq m (800 sf) in area, constructed on a concrete slab with a steel frame and walls made of concrete masonry block. Power lines would be run to the building.

³⁰ Construction workers operating D-9s, or Soldiers operating Strykers (or USMC Light Armored Vehicles [LAV] which are similar in size to the Stryker) or HMMWVs, could break through the top of a lava tube situated close to the surface and be injured or killed by the impact. Geotechnical surveys are used to evaluate the soil characteristics, its natural stability and slope, and rock/fault distribution to allow designers to consider the site limitations of an area and allow for the proper engineering to site range features, develop foundations for buildings and roads, and characterize areas that may otherwise present a risk to human activity (e.g., vehicle operations).

- Classroom – This building (not sized yet) would be large enough to house one 40 person platoon. Similar to the operations building, the classroom would be a concrete masonry unit built with steel frame on a concrete slab. This facility requires power to run lighting and a few electrical outlets. A heat pump would be installed for cooling and heating.
- Bleachers enclosure – The bleachers enclosure would be 67.4 sq m (726 sf) in area, and placed on a concrete slab with a steel frame, metal siding roof, and three un-insulated walls. Power would be run to this facility to provide lighting and to run a few electrical outlets. The bleachers would have a capacity of holding 200 Soldiers.
- Covered mess – This structure would be of austere design approximately 74 sq m (800 sf) in area with steel beams supporting a metal roof built on a concrete slab. Wire mesh would be extended under the roof to prevent bird roosting in this open enclosure. Food would be prepared at the Cantonment Area and brought to this area as needed. Power would be run to the facility to operate lighting and an electrical outlet.
- Ammunition breakdown building – The ammunition breakdown build would be 11.1 sq m (120 sf) in area, built as a concrete masonry unit with steel frame on a concrete slab. Power would be run to this facility to operate lighting. This facility would require a 15 m (50 ft) set-back from other facilities in the ROCA as a safety feature when handling live ammunition. An explosives safety plan would not be required for this facility. Only small caliber munitions authorized for use on the IPBC would be permitted in this facility.
- Latrines – This would be a set of six portable latrines, emplaced on two concrete slabs (three latrines per slab). Power would be run to a light post in the latrine area. The installation would contract the removal and replacement of portable latrines on a regular basis to eliminate waste buildup.

Figure 2.1-1 illustrates a conceptual drawing of the IPBC ROCA. The actual design layout may be modified, but no changes to the type/function of the structures are expected.

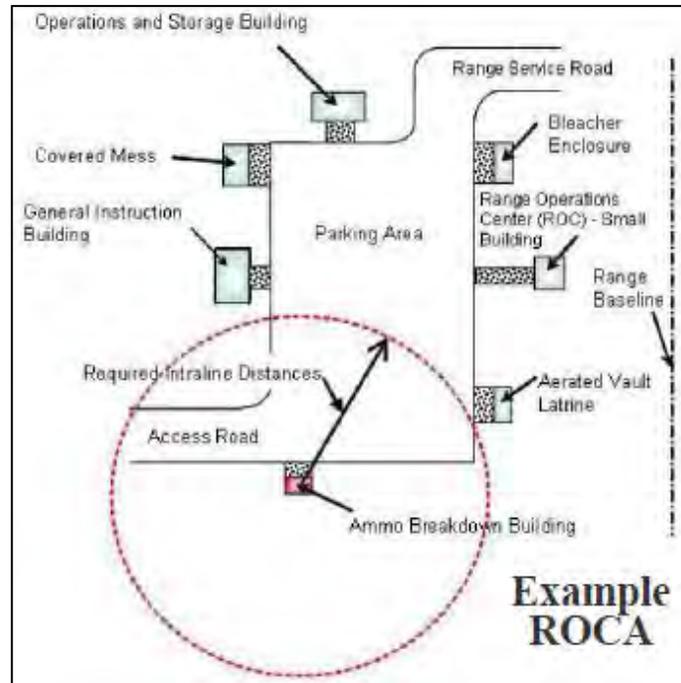


Figure 2.1-1. Conceptual Drawing of the IPBC ROCA

IPBC with Objectives. A standard IPBC is approximately 500 m (1,640 ft) wide at the initial engagement entry point and 1,500 m (4,921 ft) wide at the final engagement point, and 4,000 m (13,123 ft) long. The Army intends to construct an enhanced IPBC that is 1,000 m (3,281 ft) wide at the initial engagement entry point to increase the number of targets on the range, and realign objectives to enable a unit commander to have greater flexibility when designing training scenarios, and/or allow up to two platoons to use the IPBC at the same time. Target arrays would include stationary and moving armor targets (SATs and MATs), stationary and moving infantry targets (SITs and MITs), trench obstacle(s), machine-gun bunkers (with sound effects simulator), and an assault/defend house³¹.

<u>Standard IPBC Targetry Features</u>	<u>Enhanced IPBC Targetry Features</u>
500 m (1,640 ft) wide at initial entry point	1,000 m (3,281 ft) wide at initial entry point
43 SITs	56 SITs
6 SATs	8 SATs
1 MATs	1 MAT
9 machine gun/observation bunkers	10 machine gun/observation bunkers
14 MITs	18 MITs
1 trench obstacle	1 trench obstacle
2 LZs	2 LZs
1 assault/defend house	1 assault/defend house

³¹ In a memorandum dated, 14 July 2010, the USAG-HI Deputy Chief of Staff, G-3/5/7 (Operations, Plans, and Training) requested an exception to the TC 25-8 standard design for the IPBC for widening entry point range dimensions. That memorandum cited a shortfall in standard IPBC ranges. Construction of the enhanced IPBC, which exceeds the Army standard, would satisfy the shortfall. The exception to standard was approved on 1 December 2010.

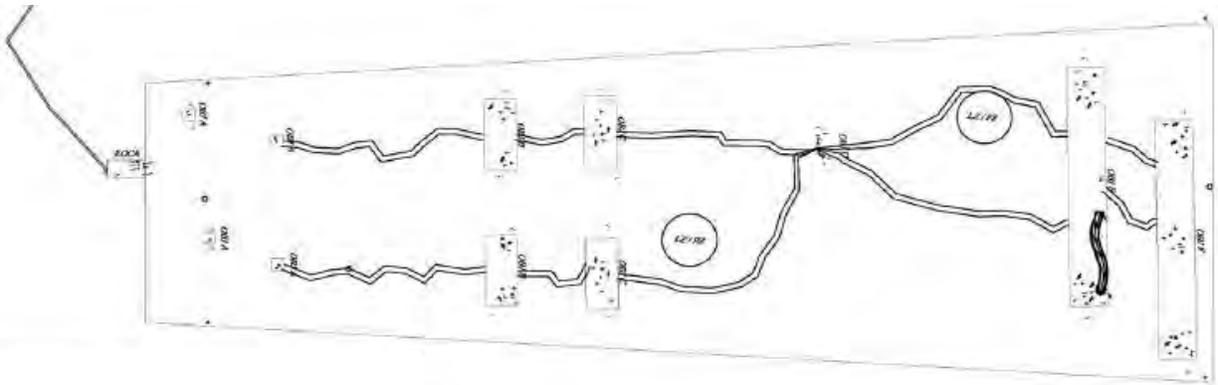


Figure 2.1-2. Enhanced IPBC (objectives still in design phase)

The enhanced design also includes hardened targetry to protect sensitive targetry on the IPBC from aircraft live-fire engagements³². Target locations would be site adapted to meet established training requirements. All trenches, bunkers, and target emplacements would simulate typical threat scenarios and would also contain battle/sound effects simulators. Mortar simulation device emplacements would be located in areas where unfriendly mortar fire would be simulated.

To simulate a realistic training environment, the IPBC would incorporate the use of thermal targets, night illumination devices, and visual flash simulators. Targets would be fully automated and powered by photovoltaic panels. Dirt berms would be built-up behind targets to collect lead from expended ammunition. Berm maintenance (including lead removal) would be closely monitored and conducted in accordance with Sustainable Range Program (SRP) environmental activities. Figure 2.1-2 illustrates the enhanced IPBC design, compared to Figure 2.1-3 showing the standard design of an IPBC in accordance with TC 25-8.

³² In a memorandum dated 31 March 2011, the USARPAC Director of Training requested an exception to the TC 25-8 standard design for the IPBC for hardening target emplacements. This would be accomplished by increasing protective berm dimensions on the IPBC to meet aviation berm standards. These berm standards would be built to withstand (with maintenance) the firing of 2.75 inch rockets from aviation assets. IPBC ammunition and weapon system requirements are discussed in Section 2.1.3.3.

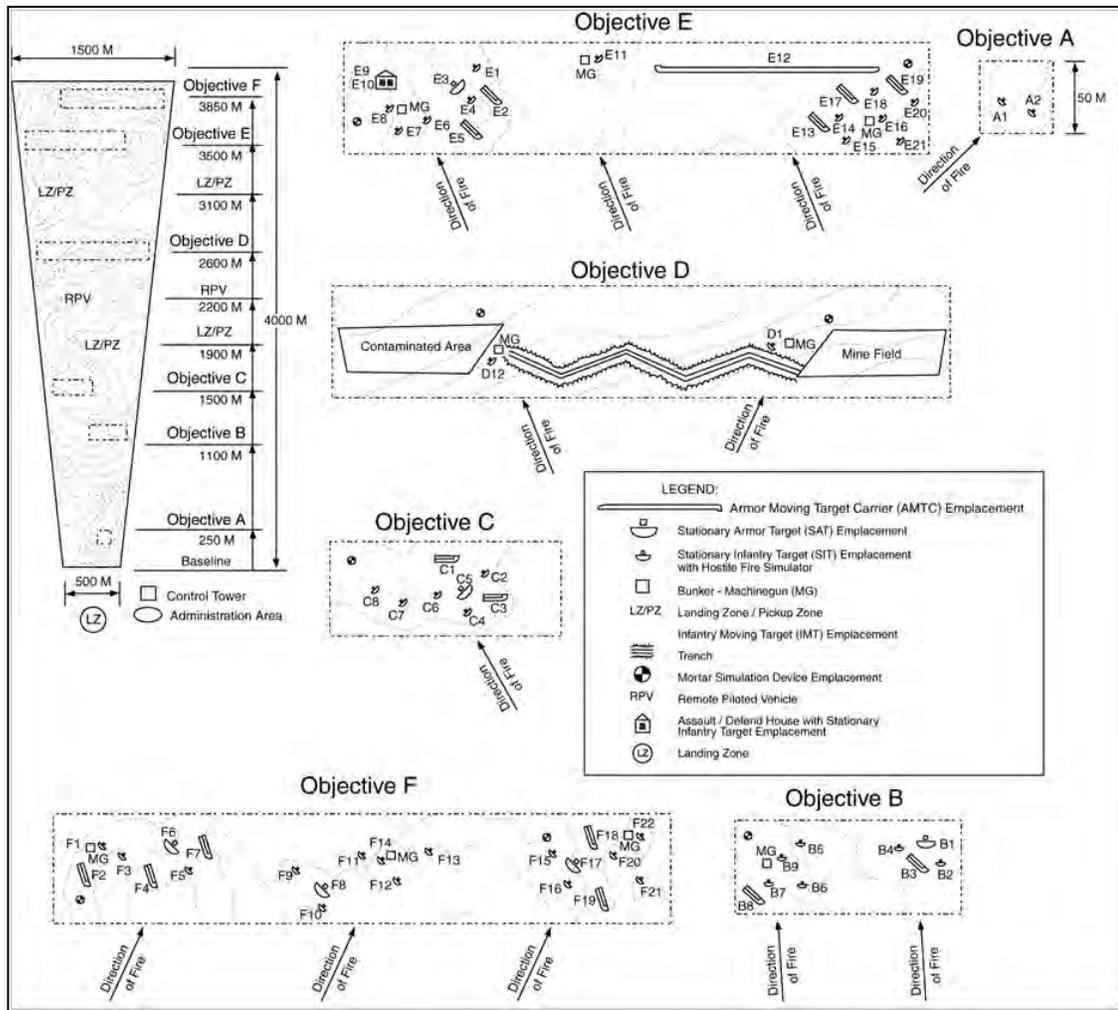


Figure 2.1-3. IPBC with Features (TC 25-8)

Live-fire Shoothouse Construction

The Shoothouse range is a two-story building (approximately 251 sq m [4,700 sf]) with stairways and a roof. It has a 360 degree SDZ surrounding the building. The building would be divided into separate rooms, hallways, target/camera outlets, and precision human urban targets (HUT). The roof would provide weather protection to the building, enhanced realism, reduced light, and a superstructure for an overhead crane needed for construction and maintenance of the Shoothouse. All targets would be fully automated. Event specific target scenarios would be computer driven and scored from the ROCA. Figure 2.1-4 is an illustration of a Live-fire Shoothouse from TC 25-8. Figures 2.1-5 and 2.1-6 are pictures of the existing Live-fire Shoothouse at Range 8C on PTA. The combined capability of the Live-fire Shoothouse located with the IPBC and MOUT offers a company realistic training opportunities and added efficiency in scheduling during deployments to PTA.

Per the USACE Design Guide for the Live-fire Shoothouse (USACE, 2007), the facility must be designed and built with proper ventilation to ensure indoor air quality is maintained such that Soldiers are not exposed to levels of lead dust (from live-firing ammunition) that would pose a health risk³³. Design consideration is given to the ventilation so that heating, ventilating, and air conditioning (HVAC) requirements are provided in each section of the facility. Some sections would be provided with exhaust fans in the top of the enclosure to ensure adequate ventilation and minimize situations where there could be a build-up of lead dust.

The facility would be served by 120/240V power to allow for proper lighting, ventilation, and equipment control (e.g., targets). Power would be distributed to the Live-fire Shoothouse from the new power lines connecting the IPBA to power lines running to the access road. Portable latrines would be sited near the range and would be serviced regularly by a licensed contractor to avoid waste build-up.

³³ The USACE Engineer Research and Development Center reported in an EA (TR-07-11, 2007) that as a projectile (e.g., lead bullets) ejects through the bore hole of the end of a weapon (fired towards a target) the bore of the weapon may scour copper and/or lead from the projectile, resulting in a very small amount of copper and/or lead to be first airborne, and then deposited at the point where the weapon was fired. In addition, projectile fragments are made at the point of impact. The National Institute for Occupational Safety and Health (NIOSH), in Publication 76-130, reports that without proper ventilation and design criteria, indoor ranges present health hazards, chiefly in the form of lead poisoning. The Army has incorporated protective design features into its standard Live-fire Shoothouse design, and has adopted indoor air quality monitoring procedures to continually monitor for airborne hazards.

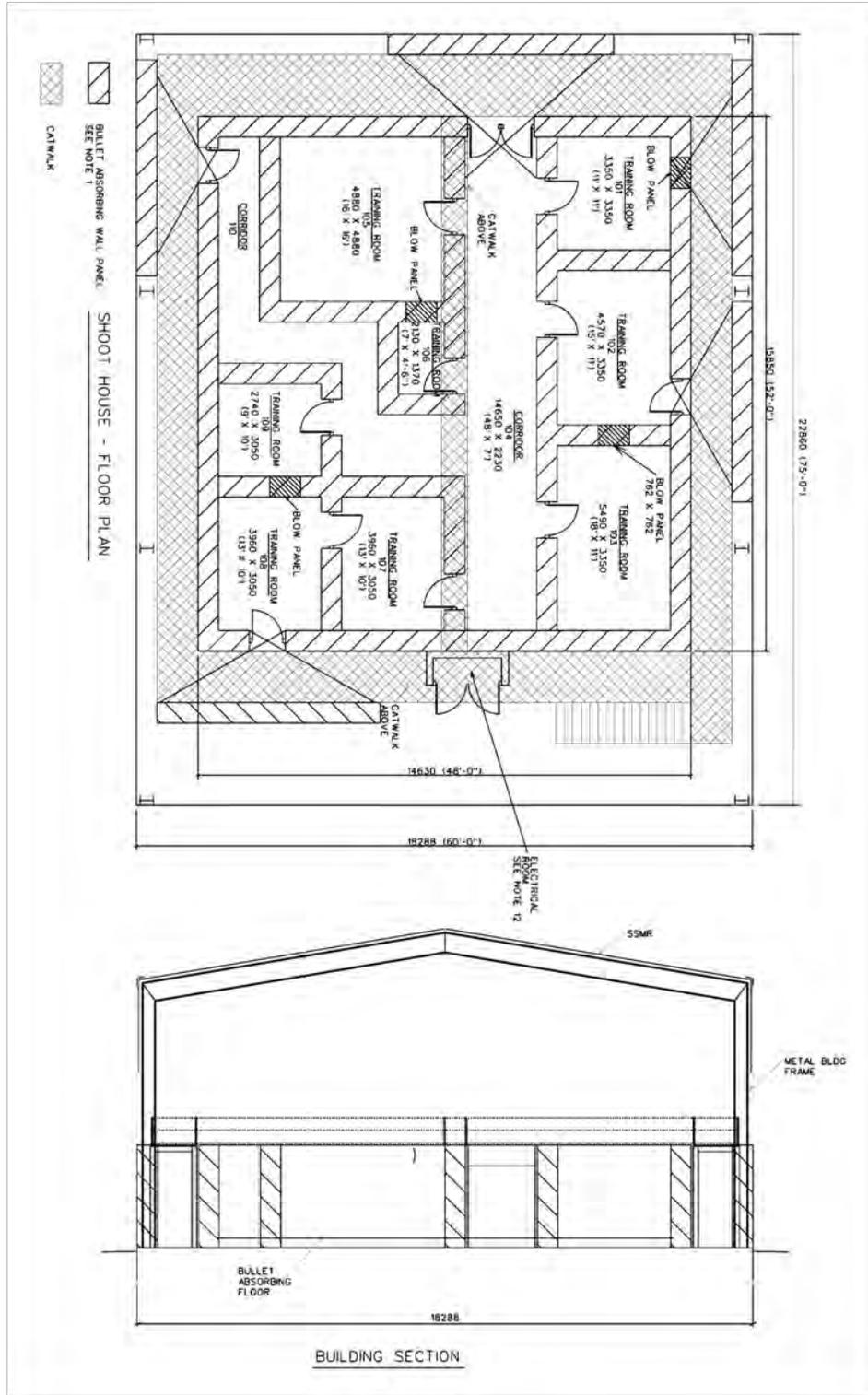


Figure 2.1-4. Live-Fire Shoothouse Depiction (TC 25-8)



Figure 2.1-5. Live-fire Shoothouse at Range 8C showing range footprint (Shown for comparison)



Figure 2.1-6. Live-fire Shoothouse at Range 8C (Shown for comparison)

MOUT Facility Construction

The MOUT facility would consist of approximately 24 modular pre-fabricated structures built to replicate small villages at which units would complete training tasks in an urban/semi-urban training environment. The facility would be 244 m (800 ft) wide by 244 m (800 ft) long or 59,458 sq m (640,000 sf), and sited on parcel of land located in the immediate vicinity of the IPBC.

There is no standard design for a MOUT³⁴. The structures that comprise a MOUT are meant to be modular (moveable within the range footprint) so that the range may be redesigned as needed for units to experience variation in target identification and engagement and to conduct a variety of tasks in a simulated urban or semi-urban environment. Figures 2.1-7 and 2.1-8 show an existing MOUT facility at PTA. The MOUT at the IPBA would be similar to the MOUT displayed here. The combined capability of the Live-fire Shootouse located with the IPBC and MOUT offers a company realistic training opportunities and added efficiency in scheduling during deployments to PTA.

While PTA has an existing MOUT, units training to the FSO METL tasks need to integrate lessons learned in Afghanistan and Iraq when preparing for deployment. Use of the MOUT is considered a TTP opportunity, and therefore, a company using the IPBA needs a MOUT co-located with the Live-fire Shootouse and IPBC to make efficient use of its limited time at PTA, and to enhance its doctrinally-required training.



Figure 2.1-7. Existing MOUT at PTA (shown for comparison)

³⁴ TC 25-8 has a standard design for an Urban Assault Course that is similar in function to a MOUT, but does not offer the same modular capability of a MOUT in that the structures could not be easily moved to simulate a new situation or replicate lessons learned from recent combat operations (e.g., TTP).

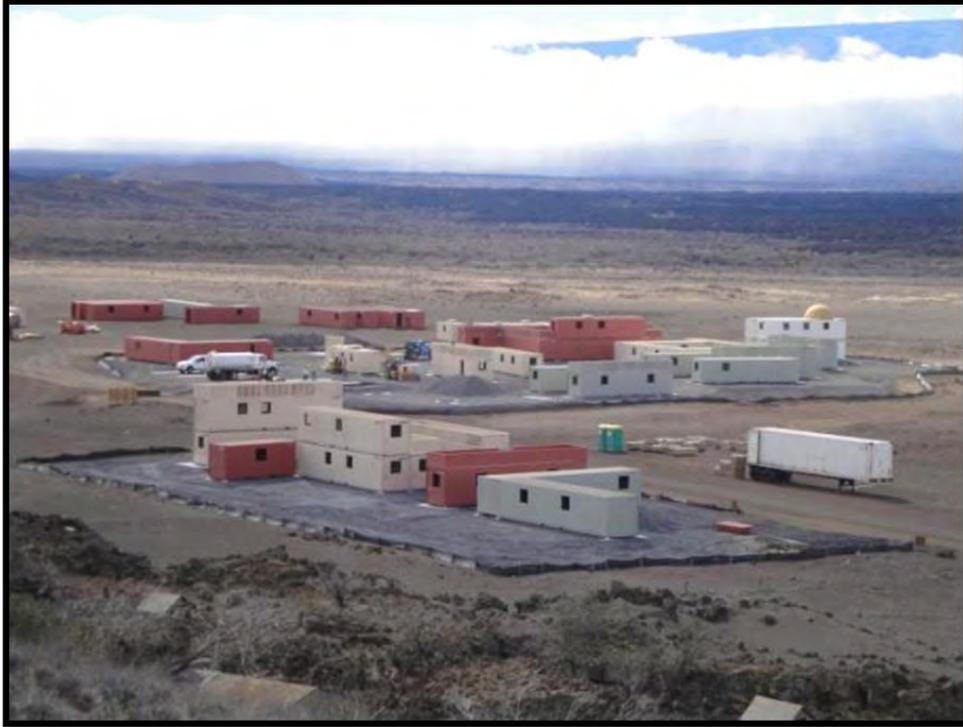


Figure 2.1-8. MOUT at PTA (shown for comparison)

Figure 2.1-9 (next page) depicts the general design of the IPBA. To make the most efficient use of each facility of the IPBA (IPBC, Live-fire Shootouse, and MOUT), the Army plans to construct the Shootouse and MOUT facility behind the IPBC regardless of the location for the IPBA. Final designs would incorporate avoidance measures for sensitive resources or known safety hazards

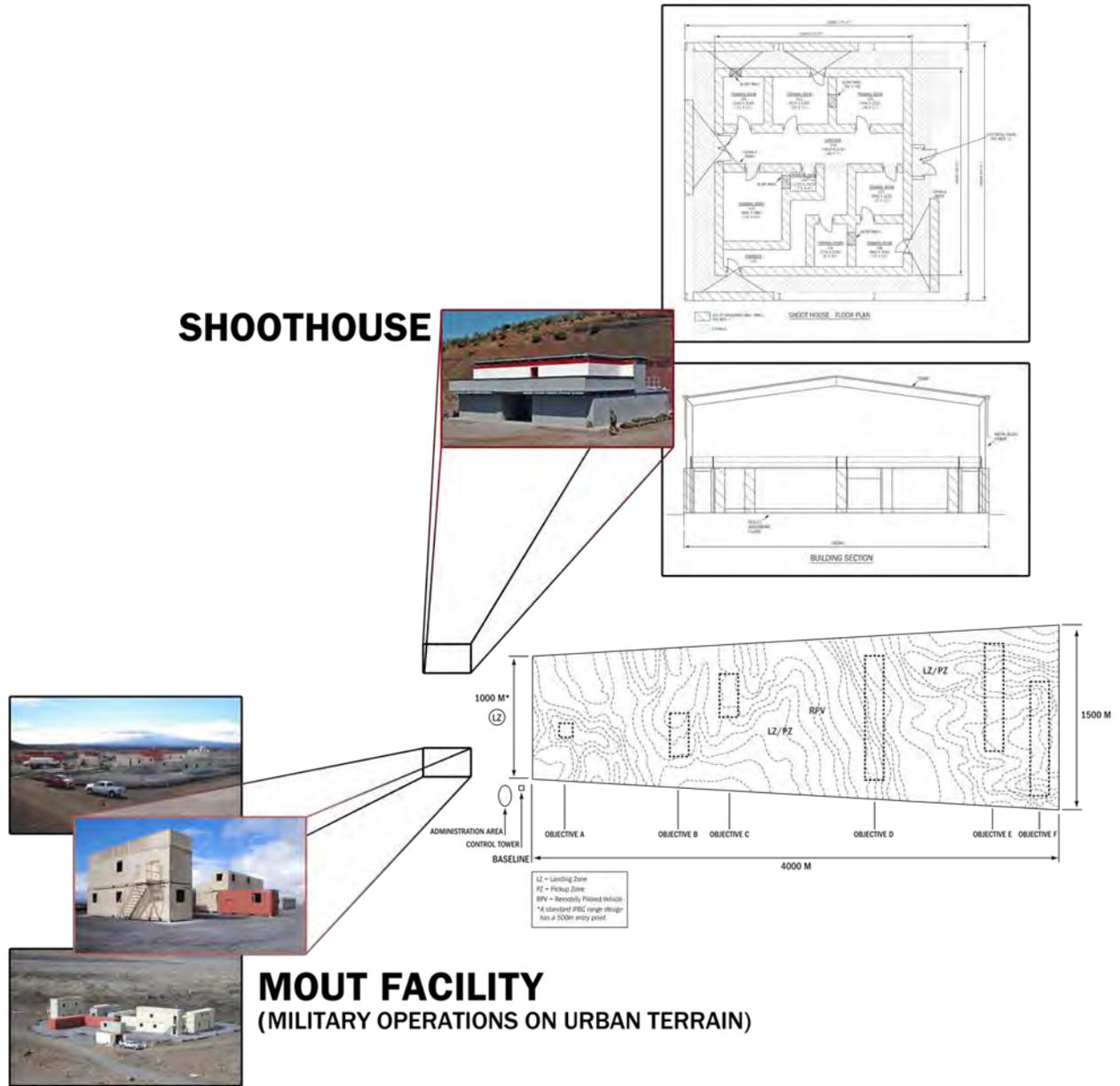


Figure 2.1-9. General Design of the IPBA

2.1.3.2 IPBA Operation

Travel to PTA

No additional Army units would travel to PTA to use the IPBA; rather, battalions of the 25th ID would deploy to PTA to conduct their FSO METL training twice per year and would schedule use of the IPBA (through RFMSS, discussed in Section 1.3).

Army units deploy to PTA from O‘ahu by helicopter or by fixed wing aircraft from Joint Base Pearl Harbor Hickam or Wheeler Army Airfield (WAAF) and landing at BAAF. Equipment supporting the unit training deployments is transported to PTA using up to 66 Logistic Support Vessels (LSV) and four barge round trips per year entering into the military dock at Kawaihae Harbor³⁵. Once unloaded at Kawaihae Harbor, troops and equipment would move by convoys of trucks or tactical vehicles on state and county two-lane roads to PTA. Convoys would include no more than 30 vehicles at a time. A convoy first travels on Kawaihae-Waimea Road and then on Māmalahoa Highway and onto Saddle Road or on Kawaihae-Waimea Road to Queen Ka‘ahumanu Highway to Waikoloa Road to Māmalohoa Highway and onto Saddle Road.

Per command guidance, USAG-HI convoys normally maintain a gap of at least 30 minutes between serials (a group of military vehicles moving together), and 330 feet (100 meters [m]) between vehicles on highways and 25 to 50 feet (7.5 to 15 m) while in town traffic. Per State regulation, military convoys are normally restricted from operating on state highways between 6:00 AM and 8:30 AM and between 3:00 PM to 6:00 PM during the normal work week. This is to avoid peak traffic hours and to reduce the risk of accidents. In addition, convoys and ammunition movements normally are not authorized to pass through a school zone when students are in transit; that is, when school zone lights are flashing Monday through Friday. Movements on Saturday, Sunday, and holidays are by special request only.

Arrival at Cantonment Area

Company leaders (Captains, Lieutenants, and Sergeants) receive special briefings in advance of the Company deployment to PTA. In addition, PTA natural and cultural resources staff have developed an environmental briefing; all troops receive safety and environmental briefings from the USAG-HI and DPTMS on the locations of threatened and endangered species and habitat, locations of known cultural resource sites, fire hazards, and fire prevention measures and procedures at the beginning of their deployment. Where necessary, the training scenario is modified to reduce the risk of fire and other damage to the environment (this is often accomplished through adjusting SDZs).

From the Cantonment Area, the IPBA would be reached by exiting the installation onto Old Saddle Road and travelling west to Menehune Road, and then exiting onto Lava Road, turning southward onto MPRC Road. MPRC Road can access the area west of the impact area at PTA. Charlie’s Circle Road, which is the primary proposed access point to the IPBA, is a loop that intersects MPRC Road in two locations.

Establish a Bivouac

³⁵ The length of the runway at BAAF is too short to support large aircraft that could directly transport such items.

Once at the IPBA, units using the IPBA would establish a bivouac site. A bivouac site consists of a series of tents and temporary structures for rest, resupply, refit, maintenance, and support. Bivouac sites vary, depending on unit size and mission, and can contain areas for vehicle and weapons maintenance and parking, general supply, munitions supply, medical service, helicopter LZs, and vehicle off-loading. Open fires are not allowed during bivouac³⁶. Smoking may be permitted only in designated areas.

Live-fire Training

The IPBA offers units several alternatives to conduct challenging and realistic training events. For example, one infantry platoon could fire and maneuver on the IPBC while two other infantry platoons of a company could train simultaneously at the Live-fire Shoothouse and MOUT. This training scenario would provide realistic urban operations conditions that enable the unit to train on multiple FSO METL tasks in live-fire and non-live-fire exercises. In another scenario, two infantry platoons could fire and maneuver on the IPBC simultaneously. The larger (enhanced) entry point supports the simultaneous use by two platoons versus a standard IPBC that supports the maneuver of a single platoon.

SDZs are designed for each military range and training event, in accordance with DA PAM 385-64 *Ammunition and Explosives Safety Standards*. SDZs include the ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include explosives and demolitions. In accordance with the USAG-HI and 25th ID Regulation 210-6 Installation Ranges and Training Areas the training unit provides the range control officer (RCO) with a training scenario describing the proposed fire and maneuver plan. The RCO validates the scenario and ensures the SDZ supports the training scenario. The SDZs will be adjusted as new types of ammunition are introduced.

In the event that MEC/UXO is discovered either during or post training, qualified explosive ordnance disposal (EOD) or other certified personnel would destroy the munitions item. Ordnance normally is destroyed where it is found, whether from the training being conducted or from earlier exercises. No known such rounds are left in place at the conclusion of a training exercise.

Section 2.1.3.3 through 2.1.3.5 discusses the general operation of an IPBC, Live-fire Shoothouse, and MOUT facility, including offering example training scenarios and it discusses the types of ammunition approved and expended at these ranges. The IPBA facilities would normally be available 242 days per year (range year) as discussed in Section 1.2.1.

2.1.3.3 IPBC Operation

Operational Description

An IPBC range supports unit live-fire collective (group) training. The IPBC range is used to train and test infantry platoons and other small units on the skills necessary to conduct tactical movement techniques, and detect, identify, engage, and defeat stationary and moving infantry and armor targets in a

³⁶ In the event of an accidental fire at any location, training is stopped immediately and Army personnel take all appropriate actions to put out the fire.

tactical array. Soldiers would engage targets with small-arms, machine gun, and other weapon systems as part of live fire exercises. In addition to live fire, the range would also be used for training with sub-caliber and/or laser training devices.

The unit actions are recorded on video, and the target engagements are scored in order to provide the unit commander a complete after action review package. Immediate feedback and a take-home after action review package are critical to effective training.

Example Training Scenario

The IPBC can support a variety of light infantry training events, day or night, such as: reconnaissance and security; movement to contact; attack; raid; ambush; defend and retrograde (retreat). The unit commander will select the missions and develop a fire and movement scenario according to: training directives, guidance and priorities from chain of command; the platoon's FSO METL; the platoon's current mission capability/readiness and availability of training resources (e.g., ammunition); and time.

In this example a light infantry platoon is conducting a daylight movement to contact on an IPBC of standard design with six objectives. Ordinarily the platoon would conduct the exercise "dry" (no ammunition) or using blank ammunition before conducting a live-fire exercise.

Phase One. The platoon is in assembly area in a covered and concealed position off the IPBC where it is given an operations order describing the enemy situation, the fire and movement plan, command and control procedures, and other tactical information as well as safety instructions. Ammunition and other supplies and equipment are issued and checked. At the designated time, the platoon leaves the assembly area and moves on to the start of the IPBC.

Phase Two. As the platoon crosses the start of the IPBC the Soldiers move into a tactical formation and load their weapons with ammunition. The platoon begins moving down the IPBC. Upon simulated enemy fire and/or targets appearing on Objective One, the platoon conducts a hasty attack by maneuvering on and firing at the targets until the targets are all engaged or the timed scenario ends. The platoon may stop briefly to consolidate and reorganize on the objective, and assess their own and the enemy situation. The platoon will resume moving downrange to the next objective.

Phase Two through Five. These phases are similar to Phase One, although the conditions (ex. bunkers, trenches, small buildings) and targets (stationary and/or moving and infantry and/or vehicle) will change. The platoon's actions are also similar: react, develop the situation, execute a battle drill of fire and movement, and use the most effective weapons to engage the targets. The commander may choose to add other elements to the scenario at any time, for example a simulated IED explosion, ammunition resupply, or casualties requiring treatment and evacuation.

Phase Six. The platoon will assault, secure, consolidate, and reorganize into a hasty defense on the final objective. At "cease fire" weapons are cleared and checked, and no more targets will be presented. The company and platoon leadership will conduct an After Action Review (AAR) to discuss how well the platoon did in accomplishing the mission. Depending on the training plan and how well the platoon executed the movement to contact and hasty attacks the platoon may stay on Objective Six to defend it and retrograde back to the IPBC start point, repeat the scenario or portions of it, or move off the IPBC to another training event.

Duration of Event

To complete the reconnaissance, one or more practice runs - which are determined by the leader's evaluation of the platoon's proficiency – and a live-fire exercise, each platoon would need 6 hours of daylight and 6 hours of reduced visibility (night). When combined with the time required to set up and close down the IPBC, safety briefings, and conduct an after action review, this would be equivalent to one platoon per day.

Weapons, Ammunition, and Aiming Devices Authorized for Use

The primary Soldier weapons authorized for use on this range are the M16 and M4 Rifle series; M21 and M24 Sniper weapons; M107 Long-range Sniper Rifle; M240, M249 Squad Automatic Weapon (SAW), Machineguns; M2 .50 Caliber Machine Gun; and M203 40-mm Grenade Launcher (training practice tracer (TPT) only). Ammunition authorized for use by Soldiers on this range is 5.56 mm, 7.62mm, .50 caliber, and M203 40mm grenade (TPT only). Helicopters will fire 2.75 inch Folding Fin Aerial Rocket (FFAR) practice ammunition, Captive Hellfire Trainer (M36E1) (simulator – not a live missile), 7.62mm and .50 cal machine guns. This range would also permit use of helicopter mounted laser range finders.

Tables 2.1-2 and 2.1-3 identify the estimated ammunition authorization for units of the 25th ID using the IPBC, in accordance with STRAC (HDQA, 2009), TC 25-8 (HQDA, 2010), FM 3-21.8 *The Infantry Rifle Platoon and Squad* (HQDA, 2007), and FM 3-21.9 *The SBCT Infantry Platoon and Rifle Squad* (HQDA, 2010). Note that when units of an SBCT train at the IPBC the training is “dismounted” (without tactical vehicles)³⁷.

Platoons, consisting of three (3) rifle squads and a weapons squad would train on the IPBC twice per year as part of the squad-platoon-company live-fire strategy (DA PAM 350-38, para. 5-7c(1)). The single engineer platoon per infantry battalion would also train at the IPBC. Elements of the 25th CAB also have annual training requirements for an IPBC. Table 2.1-4 identifies the estimated ammunition authorization for CAB units at the IPBC.

³⁷ Collective training strategies and ammunition resourcing are the same for the IBCT and SBCT (DA Pam 350-38, para. 5-8).

Table 2.1-2. Total IBCT Annual Ammunition Expenditures at the IPBC

Weapon Type	Ammunition Type	Ammo per weapon/event	Weapons per platoon	Weapons per company	Weapons per battalion	Weapons per BCT	Annual expenditures (2 events/yr)
Rifle Squads							
M16 / M4 Rifle	5.56 BALL (1)	40	15	45	135	405	32400
	5.56 BLANK	40	15	45	135	405	32400
M249 SAW (2)	5.56 BALL	100	6	18	54	162	32400
	5.56 BLANK	100	6	18	54	162	32400
M203 40mm Grenade Launcher (3)	40 MM TPT	4	6	9	54	162	1296
Weapons Squad							
M16/M4 Rifle	5.56 BALL	20	6	18	48	144	5760
	5.56 BLANK	20	6	18	48	144	5760
M240B (4)	7.62 BALL	100	2	6	18	54	10800
	7.62 BLANK	100	2	6	18	54	10800
M2 Machine Gun (5)	.50 CAL BALL	75	1	3	9	27	4050
MK 19 (5)	40 MM TPT	5	1	3	9	27	270
Engineer Platoon							
M16/M4	5.56 BALL	75	12			36	5400
M249	5.56 BALL	150	2			6	1800
M240	7.62 BALL	150	1			3	900
M2	.50 CAL BALL	50	1			3	300

(1) Each infantry squad rifleman and weapons squad rifleman is allocated 280 rounds of 5.56 mm per year for 6 live-fire events, or 45 rounds per event. Estimated use was at 40 rounds per event for the infantry squad rifleman and 20 rounds for the weapons squad rifleman, which allows the difference to be used in the squad and company live-fire events or elsewhere at the commander's discretion. (2) The infantry squad light machine gunner (M249) is allocated 600 rounds of 5.56 mm per year for 6 live-fire events or 100 rounds per event. Estimated use was at 100 rounds per event. (3) The M203 gunner is allocated eighteen 40 mm TPT rounds per year for 4 live-fire events. Estimated 4 rounds per event. (4) The weapons squad light machine gunner (M240) is allocated 600 rounds of 7.62 mm per year for 6 live-fire events or 100 rounds per event. Estimated 100 rounds per event. (5) The company may attach the M2 MG (.50 cal) and MK 19 GMG (40 mm) to the platoon during the IPBC exercise, I estimated their allocation at 75 rounds and 5 rounds respectively per exercise.

Table 2.1-3. Total SBCT Annual Ammunition Expenditures at the IPBC

Weapon Type	Ammunition Type	Ammo per weapon/event	Weapons per platoon	Weapons per company	Weapons per battalion	Weapons per BCT	Annual expenditures (2 events/yr)
Rifle Squads							
M16 / M4 Rifle	5.56 BALL (1)	40	15	45	135	405	32400
	5.56 BLANK	40	15	45	135	405	32400
M249 SAW (2)	5.56 BALL	100	6	18	54	162	32400
	5.56 BLANK	100	6	18	54	162	32400
M203 40mm Grenade Launcher (3)	40 MM TPT	4	6	9	54	162	1296
Weapons Squad							
M16/M4 Rifle	5.56 BALL	20	6	18	48	144	5760
	5.56 BLANK	20	6	18	48	144	5760
M240B (4)	7.62 BALL	100	2	6	18	54	10800
	7.62 BLANK	100	2	6	18	54	10800
M2 Machine Gun (5)	.50 CAL BALL	75	1	3	9	27	4050
MK 19 (5)	40 MM TPT	5	1	3	9	27	270
Engineer Platoon							
M16/M4	5.56 BALL	75	12			36	5400
M249	5.56 BALL	150	2			6	1800
M240	7.62 BALL	150	1			3	900
M2	.50 CAL BALL	50	1			3	300

*SBCT units using the IPBC have the same requirements for ammunition use as does units of the IBCT.

Table 2.1-4. Total CAB Annual Ammunition Expenditures at the IPBC

Weapon Type	Ammunition Type	Ammo per weapon/event	Weapons per platoon	Weapons per company	Weapons per battalion	Weapons per CAB	Annual expenditures (2 events/yr)
Aviation Battalion							
M16/M4	5.56 BALL	75	12			36	2700
M249	5.56 BALL	150	2			6	900
M240	7.62 BALL	150	1			3	450
M2	.50 CAL BALL	50	1			3	150
Attack Helicopter (1) Squadron (Light)							
HA 13 M274	2.75 inch Rocket (Captive Trainer)	4	N/A	N/A	30	30	240
HA 13 M267	2.75 inch Rocket (Captive Trainer)	2	N/A	N/A	30	30	60
Assault Helicopter (2) Squadron							
A143	7.62 Ball	70	N/A	N/A	30	30	4200
A131	7.62 Mix	25	N/A	N/A	30	30	1500

(1) 30 each OH-58 Kiowa Helicopters

(2) 30 each UH-60 Black Hawk Helicopters

2.1.3.4 Live-fire Shoothouse Operation

Operational Description

The Shoothouse would be used to train and evaluate individual Soldiers and squads on their ability to move tactically (enter and clear a room, enter and clear a building), engage targets, conduct breaches, and practice target discrimination in a live-fire environment. There would be immediate performance feedback to the Soldiers using the range.

Example Training Scenario

Unit leaders and the entire training unit will complete separate dry run and blank ammunition practice exercises before beginning a live-fire exercise.

Phase One. The platoon or squad is in an assembly area in a covered and concealed position some distance from the Shoothouse where it is given an operations order describing the enemy situation, the fire and movement plan, command and control procedures, and other tactical information, as well as safety instructions. Ammunition and other supplies and equipment are issued and checked. At the designated time the platoon leaves the assembly area moves towards the Shoothouse.

Phase Two. The lead element enters and clears the entrance to the Shoothouse. It and other elements then move from hallway to hallway and room to room, identifying and either bypassing or engaging targets, and clear each hallway/room. Once the entire Shoothouse has been cleared, a “cease-fire” is given and weapons are cleared and checked. The unit exits the Shoothouse.

Phase Three. The unit leadership will conduct an AAR to discuss how well the unit did in accomplishing the mission. Depending on the training plan and how well the unit executed the mission the unit may repeat the scenario or portions of it, or move off the Shoothouse to another training event.

Duration of Event

In order to complete the leader’s walk through, one or more practice exercises - which are determined by the leader’s evaluation of the platoon’s proficiency – and a live-fire exercise, each platoon would require 4 hours of daylight and 4 hours of reduced visibility (night) if approved by range control. When combined with the time required to set up and close down the Shoothouse, safety briefings and after action reviews this would be equivalent to one platoon per day.

Weapons and Ammunition Authorized for Use

The weapons authorized for use on this range include all pistols up to .45 caliber; the M16 Rifle; M4 Carbine; 12 Gauge Shotgun; and M240 Machineguns. The ammunition authorized for use includes 5.56 mm (Ball only), all 12 Gauge Shotgun ammunition; and Practice Fragmentation Hand Grenades. Short Range Training Ammunition (SRTA) may also be used at this range. SRTA has a smaller range fan than service ammunition and is designed specifically for training to maximize Soldier safety by limiting the distance by which the ammunition is accurate and effective (approximately 25 m [82 ft]).

Table 2.1-5 displays the estimated ammunition authorizations at the Live-fire Shoothouse from use by units of the 25th ID. Ammunition totals are displayed in terms of usage by rifle squads. There is no requirement for the weapons squad of a BCT to use the Live-fire Shoothouse.

The Shoothouse SDZ is 360 degrees, and extends 3,100 m (10,171 ft) from the exterior (distance X of the 5.56 ball ammunition). The USARPAC Commander would need to approve a Deviation in accordance with DA PAM 385-63 that restricts the SDZ to the interior of the Shoothouse. This Deviation must be reviewed and updated annually.

Table 2.1-5. Total estimated 25th ID ammunition requirements at the Live-fire Shoothouse

Weapon Type	Ammunition Type	Ammo per weapon/event	Weapons per platoon	Weapons per company	Weapons per battalion	Weapons per BCT	Annual expenditures (2 events/yr)
Rifle Squads - IBCT							
M16 / M4 Rifle	5.56 BALL	20	15	45	135	405	16200
	5.56 BLANK	20	15	45	135	405	16200
	SRTA	20	15	45	135	405	16200
M249 SAW	5.56 BLANK	20	6	18	54	162	6480
	SRTA	40	6	18	54	162	12960
Rifle Squads - SBCT							
M16 / M4 Rifle	5.56 BLANK	20	15	45	135	405	16200
	SRTA	20	15	45	135	405	16200
M249 SAW	5.56 BLANK	20	6	18	54	162	6480
	SRTA	40	6	18	54	162	12960

The infantry squad rifleman is allocated 20 rounds of blank and 20 rounds of SRTA ammunition for each exercise, and trains in the Shoothouse twice per year.

Given their support-by-fire mission and no 7.62 SRTA for the M240 MG, the weapons squad will not train in the Shoothouse (as opposed to an IPBC requirement).

2.1.3.5 MOUT Facility Operation

Operational Description

A MOUT facility supports a variety of small unit training missions based on the commander's assessment of the unit's proficiency and FSO METL training requirements.

Example Training Scenario

Common missions are patrolling, security operations, clearing, and attack and defend. Exercises can be dry-fire, blank ammunitions to include force-on-force exercises, SRTA or frangible ammunition. Stationary and/or automated targets could be emplaced based on the training scenario.

Phase One. The platoon or squad is in assembly area in a covered and concealed position some distance from the MOUT Site where they are given an operations order describing the enemy situation, the patrol plan, command and control procedures and other tactical information, as well as safety instructions. Blank, Ultimate Training Munition (UTM), or Special Effects Small Arms Marking System (SESAMS) ammunition and other supplies and equipment are issued and checked. At the designated time the platoon leaves the assembly area moves towards the MOUT.

Phase Two. The lead element enters the MOUT site, clears the initial area and halts to provide local security. Follow on elements move past, and continue to clear buildings, alleys, and other designated areas of interest. Unit movement techniques are dictated by the situation and potential threat. Friendly and enemy targets may be presented and engaged, or the unit may conduct force-on-force operations. Once the training objectives have been met, a "cease-fire" is given and weapons are cleared and checked. The unit exits the MOUT Site.

Phase Three. The unit leadership will conduct an AAR to discuss how well the unit did in accomplishing the mission. Depending on the training plan and how well the unit executed the mission the unit may repeat the scenario or portions of it, or move off the MOUT site to another training event.

Duration of Event

In order to complete the leader's walk through, one or more practice runs - which are determined by the leader's evaluation of the platoon's proficiency – and a live-fire exercise each platoon would require 4 hours of daylight and 4 hours of reduced visibility (night) if approved by range control. The more complex the mission, the longer the required time. When combined with the time required to set up and close down the MOUT Site, safety briefings and after action reviews this would be equivalent to one platoon per day.

Weapons and Ammunition Authorized for Use

The weapons authorized for use at the MOUT site includes all pistols thru .45 cal.; M16 Rifle; M4 Carbine; and M240/M249 Machine Guns. Ammunition authorized for use includes: 9mm, .45 cal., and

5.56 mm (Blank, UTM, SESAMS, and frangible munitions only)³⁸; smoke grenades, smoke pots, and artillery/hand grenade simulators.

Table 2.1-6 displays the estimated ammunition authorizations expected at the MOUT facility from use by units of the 25th ID. Ammunition totals are displayed in terms of usage by squad through BCT.

In addition to the SESAMs ammunition allocated in Table 2.1-6, infantry battalions are potentially resourced up to 18 live hand grenades, 30 inert training grenades, 150 5.56 mm fuses for training grenades, 78 stun grenade bodies, and up to 780 stun grenade fuses. Use of these items were analyzed for potential impacts (e.g., to account for a conservative estimate on impacts to air quality), but are not included in Table 2.1-6 because they may, in reality, be used throughout the year by a battalion during a number of different training exercises to simulate more realistic combat scenarios.

³⁸ Frangible, or “soft,” rounds are designed to break apart when they hit walls or other hard surfaces to prevent ricochets during close-quarters combat.

Table 2.1-6. Total estimated 25th ID ammunition requirements at the MOUT Facility

Weapon Type	Ammunition Type	Ammo per weapon/ event	Weapons per platoon	Weapons per company	Weapons per battalion	Weapons per BCT	Annual expenditures (2 events/yr)
Rifle Squads - IBCT							
M16 / M4 Rifle	5.56 BLANK	20	15	45	135	405	16200
	SESAMS (Paint Ball)	60	15	45	135	405	48600
M249 SAW	SESAMS	100	6	18	54	162	1944
Weapons Squads - IBCT							
M16 / M4 Rifle	5.56 BLANK	20	6	18	48	144	5760
M240B	7.62 BLANK	100	2	6	18	54	10800
Rifle Squads - SBCT							
M16 / M4 Rifle	5.56 BLANK	20	15	45	135	405	16200
	SESAMS	60	15	45	135	405	48600
M249 SAW	SESAMS	100	6	18	54	162	1944
Weapons Squads - IBCT							
M16 / M4 Rifle	5.56 BLANK	20	6	18	48	144	5760
M240B	7.62 BLANK	100	2	6	18	54	10800

MOUT sites are not live-fire training sites. Only SESAMS and blank ammunition have been estimated for use. The infantry squad rifleman is allocated 20 rounds of SESAMS and blank ammunition for each exercise, and trains in the MOUT site twice per year. Given their support-by-fire mission, the weapons squad will train in the MOUT site. Each rifleman is allocated 20 rounds 5.56 mm blank ammunition and each M240MG is allocated 100 rounds of 7.62 blank ammunition.

2.2 ALTERNATIVES

2.2.1 Introduction

As discussed in Section 1.6.4, the Army presents two levels of alternatives. Tier 1 addresses the programmatic nature of all the projects collectively, the modernization of PTA. Within Tier 1 the Army presents for the public and the decision maker an action alternative of modernizing PTA, and a No Action alternative of not modernizing PTA. If a decision is made to modernize PTA, then the Army will consider Tier 2 projects (Table 2.1-1) and alternatives as they become available for decision. Currently, the only Tier 2 project ready for decision is the IPBA. All of these projects are subject to funding restrictions and it may not be possible for those be built in the sequence identified in Table 2.1-1.

The Army presents four (4) possible alternatives for the IPBA Tier 2 project; this involves three (3) locations within the existing impact area, and a No Action alternative for not building the IPBA at all.

This section also provides a discussion of the criteria that the Army uses to assess whether a proposed Alternative is “reasonable” to be carried forward for evaluation.

2.2.2 Tier 1: Modernization

2.2.2.1 *Modernization No Action Alternative*

The “No-Action” Alternative is the decision to take no action other than to continue utilizing existing training ranges, training support infrastructure (e.g., roads and utilities), and training support facilities in the Cantonment Area as efficiently as possible.

Under this alternative, the installation would not modernize PTA. Therefore, the Army would also not construct Tier 2 projects such as the IPBA at PTA. The No-Action Alternative serves as a snapshot of the existing training environment and infrastructure at PTA, and provides the benchmark for comparison of the environmental impacts of the action alternatives. Implementing the No Action Alternative would not meet the objectives of modernizing PTA. Units of the 25th ID could not meet their FSO METL doctrinal training requirements because they would not have access to some doctrinally-correct (standard) ranges. Also, existing training support infrastructure and training support facilities would continue to degrade, and thus, would continue to encumber access to PTA training infrastructure and use of the Cantonment Area.

2.2.2.2 *Alternative 1: Modernize training ranges, training support infrastructure, and training support facilities at PTA*

Figure 2.2-1 illustrates the conceptual locations of proposed modernization projects within PTA. The project list at Table 2.1-1 lists range modernization projects. Some of these projects are shown on Figure 2.2-1 (IPBA, AGR, ISBC, and the Range 10 IPBC). These are range projects where specific range requirements have been identified and undergone some level of resource planning (in accordance with the planning process described in Section 1.2.1). Some of the range projects also involve modernizing existing infrastructure (i.e., Range 10 IPBC, Range 1 ISBC), whereas some projects are new (i.e., IPBA and AGR). The location shown for the AGR range depicts just one potential course of action. Alternative courses of action (alternative locations) have not yet been determined, but will be considered

in future tiered NEPA documents if the decision is made to modernize PTA³⁹. Other projects (not shown on Figure 2-8) such as the proposed MOUT Assault Courses at the KMA are still in early development. Figure 2.2-1 also highlights the entire Cantonment Area. Projects in the Cantonment Area are still in early development and potential locations and alternatives have not yet been identified. Figure 2.2-1 also references range numbers for existing ranges, these correlate to the range numbers and types shown on Table 1.5-1 in Chapter 1.

2.2.2.3 Modernization Screening Criteria

In general, Proposed Actions and Alternatives for detailed environmental evaluation are those that support a comprehensive, long-term plan to insure the installation's sustainability. Specific criteria for evaluating proposed modernization projects and potential alternatives include mission support, sustainability, cost, and location.

Mission Support. The projects must promote, support, or be consistent with an Army mission requirement. Determining training requirements and assessing range needs, including training support facilities and training support infrastructure, is discussed in Section 1.2. Unit training requirements, weapons and ammunition use, and range capacity and design dictate the number and type of ranges required at an installation. Likewise, the number and type of units drive the amount of requisite training support facilities such as administrative buildings and vehicle maintenance facilities found within the Cantonment Area. Finally, every installation requires support infrastructure that ties communication, utilities, and roads from the Cantonment Area to the Range Area. The primary driver for infrastructure requirements at PTA is adequate and available training and training support infrastructure to meet doctrinal training standards and to facilitate better mission and combat readiness.

Sustainability. The proposed project should enhance or support installation sustainability as defined in AR 350-19 The Army SRP, AR 420-1 Army Facilities Management, and discussed in part in Section 1.2.1; an integrated analysis would be accomplished during the planning process utilizing information gained from environmental, safety, munitions and facility management plans (e.g., Master Plan, Integrated Natural Resource Management Plan (INRMP), Integrated Cultural Resource Management Plan (ICRMP), energy and water conservation, etc.) and also consider such elements as security (e.g., force protection measures), encroachment, supporting infrastructure requirements, and economic impacts. All facility designs should consider the Military Standard as defined by the USACE. In addition, to the extent practicable, the proposed project should try to avoid conflicts with known natural and cultural sensitive resources, or other limitations as specified in the management plans listed above, or incorporate avoidance measures into construction plans and operational plans for the proposed facility.

Cost. The proposed project must be achievable within a reasonable cost as compared to the Proposed Action and other alternatives. Alternatives that are considerably more expensive to implement without increased benefit commensurate with the additional cost may be eliminated from detailed evaluation.

³⁹ This map does not necessarily represent the preferred alternative for most of the proposed construction projects, with the exception of the IPBA preferred alternative in the Western Range area.

Location. The proposed project must be located at PTA. As discussed in Section 1.3, PTA is classified by the Army (see TC 25-8) as a Major Training Area, and it is the primary large unit training area for units of all Military Services permanently stationed in Hawai‘i, as well as for units stationed elsewhere in the Pacific. The facilities at PTA in both the Range Area and the Cantonment Area are designed to support training at the installation, and specifically offer collective training capability for large units so that they may meet their FSO METL requirements prior to deployment. In order to utilize fully the capability that PTA has to offer, proposed projects in the Range Area and Cantonment Area would support the training mission.

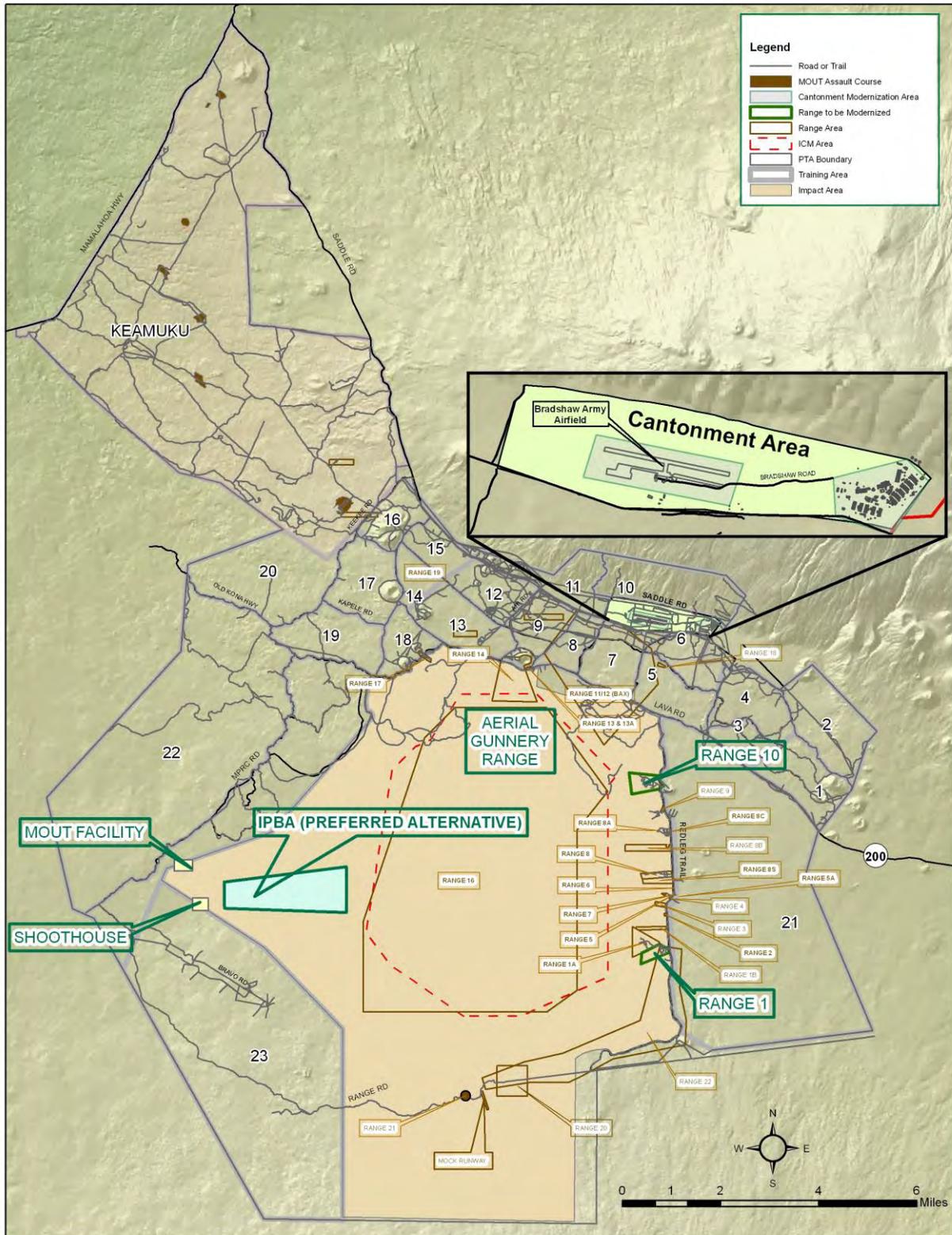


Figure 2.2-1. Map of proposed modernization projects at PTA

2.2.2.4 Alternatives considered but eliminated from analysis

This Programmatic EIS carries forward for evaluation the modernization alternative, and offers baseline criteria by which individual projects must meet, at a minimum, to be considered reasonable. In determining whether or not an alternative was reasonable, each identified alternative was also evaluated against the stated Purpose (Section 1.4) and Need (Section 1.5). The Army identified alternatives to the modernization of facilities at PTA. These include utilizing facilities on O‘ahu; building new facilities on O‘ahu; and building new facilities outside of Hawai‘i at another Army installation. Locating the facilities at any other place than Hawai‘i Island would not be able to meet the purpose and need to modernize the ranges available for units using PTA. At the programmatic (Tier 1) level, there are few reasonable alternatives that could be conceived to meet the need for modernizing facilities at PTA. Many of the projects identified in Table 2.1-1 involve improving infrastructure that is already in existence at PTA. Alternatives that involve moving existing infrastructure [to outside PTA] could be costly and unnecessary, and may not be supportive of the training that currently occurs at the installation. Some of the projects at Table 2.1-1 would be new, and could potentially be evaluated against alternatives outside of PTA, but the majority of these projects is still in the planning phase and could not be fully analyzed at the Tier 1 level at this time. Section 2.3 discusses alternatives in O‘ahu for the IPBA project.

At the programmatic (Tier 1) level, this EIS (for most projects) reviews alternatives to modernizing PTA in the broader terms of meeting the stated purpose and need of the proposed modernization, and in terms of meeting the screening criteria (Section 2.2.2.3) which ask the questions, is the project supportive of the mission? Is the project sustainable in terms of the installation’s resource management plans (e.g., INRMP)? Will the project be of reasonable cost?

2.2.3 Tier 2 (Site Specific): Construct and Operate the Infantry Platoon Battle Area

Figure 2.2-2 illustrates the preferred location and two Alternative locations for siting the IPBA within the impact area at PTA. The preferred alternative for constructing and operating the IPBA is at the Western Range Area of the PTA impact area. Alternative locations are at Charlie’s Circle and the area southwest of existing Range 20. The IPBA would be built similarly at any of these locations as discussed in Section 2.1.3 and depicted in Figure 2.2-1.

The preferred location (Western Range Area) and the two alternative locations are all located within the existing impact area at PTA. Under these alternatives no new impact area would be required. No expansion of PTA’s boundaries would be necessary to accomplish the Proposed Action.

Each of the proposed locations are in underutilized portions of the PTA impact area where no ranges exist; but each of these locations have been exposed to indirect munitions fire. The proposed IPBA action involves reclaiming portions of the impact area to build the IPBA. Most live-fire occurring at the IPBA will be directed towards the impact area in order to preserve the newly-built range features.

The closest range to all three locations is the Training Area 23, which is currently inactive due to the presence of listed species. Sections 2.2.3.1 through 2.2.3.3 discuss these alternatives in greater detail.

2.2.3.1 Alternative 1 (Preferred Alternative): Western Range Area

Location Description

The Western Range Area IPBA alternative is shown on Figure 2.2-2, running west to east from the western most portion of the impact area toward the center of the impact area. A recent survey of the preferred IPBA location found that the terrain in the western range area slopes steadily from the western and northern boundaries of the surveyed area, towards the eastern and southern boundaries. Much of the terrain consists of smooth rolling pāhoehoe flows interrupted by elevated ‘a‘ā flows with steep banks up to 30 m (100 ft) high in some areas, and is sparse of vegetation (*Draft Archaeological Reconnaissance Survey Report of Infantry Platoon Battle Course*, 2011). A‘a flows cover approximately 57 percent (974 ha, 2,408 ac) of the area and pāhoehoe flows cover approximately 43 percent (735 ha, 1,816 ac). A surface of rock covers the majority of the area, much of which would need to be softened in order to accommodate dismounted training by infantry units. Figures 2.2-3 and 2.2-4 demonstrate the terrain at the western range area that is largely characterized by past lava flows.

The nearest range to the preferred alternative is the MPRC at Training Area 23, which is approximately 2 km (1.24 mi) to the south. Training Area 23 can be accessed from MPRC Road, which runs west of the impact area. There are no active ranges at Training Area 23, but the area contains threatened and endangered species. If the preferred alternative is selected, the SDZs for the IPBA would not encroach on Training Area 23, and therefore, the species found at Training Area 23 would remain protected.

Supporting Infrastructure (Roads and Utilities)

The nearest roads to the Western Range Area preferred IPBA alternative are Charlie’s Circle road and MPRC road. If the preferred alternative were selected an access road would be made from Charlie’s Circle Road, south toward the proposed IPBA. Utilities for the IPBA would tie into existing utilities running from the MPRC road. The access road and supporting facilities at the IPBA is discussed in greater detail in Section 2.1.3.1.

The Army is considering an alternative access road to reach the Western Range Area alternative, which would extend from MPRC Road in the west of the impact area, east toward the IPBA. Additional surveys for cultural resources and threatened and endangered species would be conducted outside the impact area between MPRC Road and the IPBA. The Army is in the process of consulting with the appropriate regulatory agencies on the proposed action. Neither road alternative is located within a flood plain.

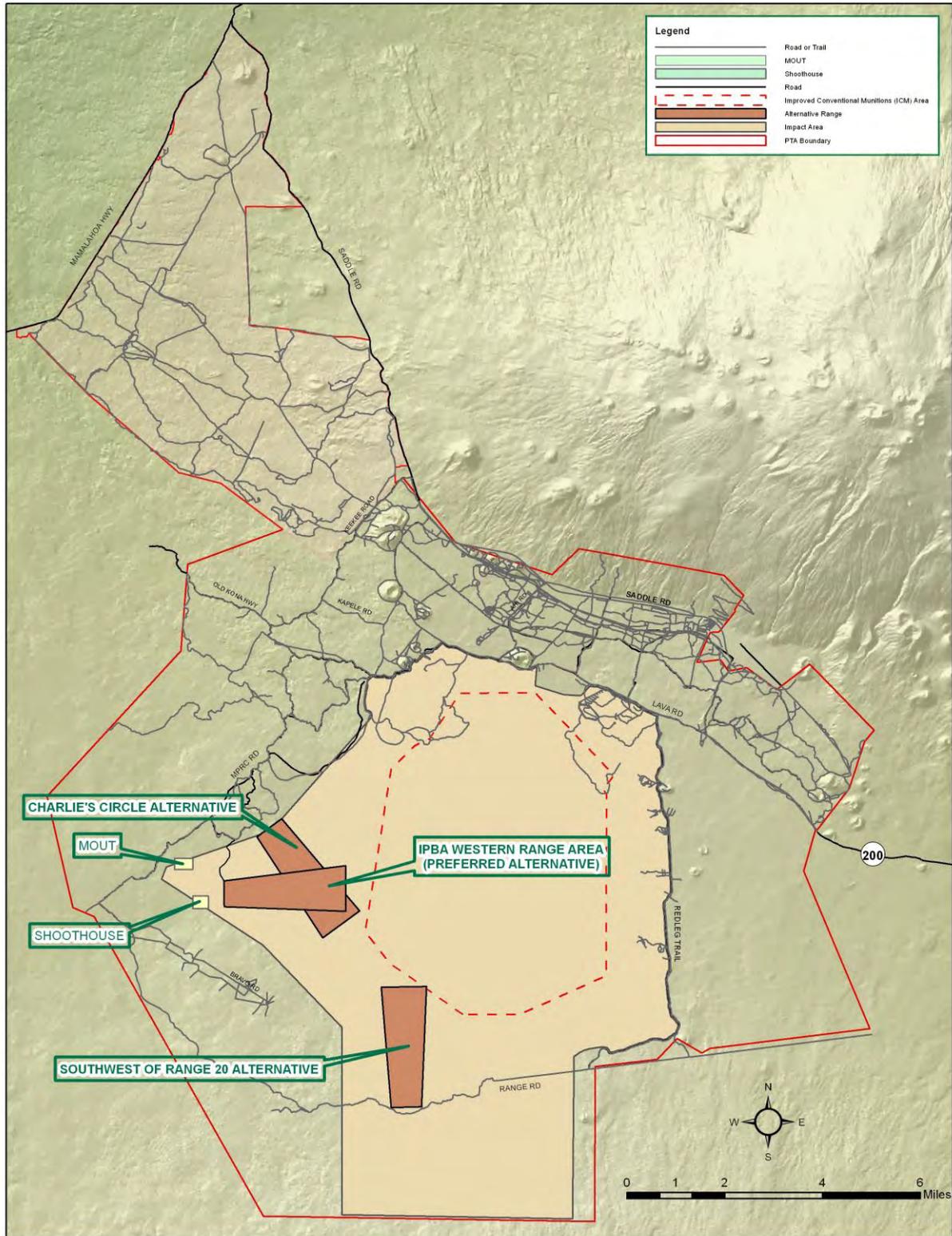


Figure 2.2-2. IPBA Alternatives



Figure 2.2-3. Terrain of the Western Range Area showing an a`a flow



Figure 2.2-4. Panoramic view of Western Range Area

Surveys Conducted

The Army conducted several surveys in the Western Range Area in 2010. A threatened and endangered plant species survey of the Western Range Area covered a large swath of land that also encompassed a portion of what is the Charlie's Circle alternative location. The results of that survey are summarized in Section 3.9 (Biological Resources). The Army further conducted Phase I and Phase II archaeological surveys in 2010 and 2011 of the IPBC range footprint in the Western Range Area. Those surveys are summarized in Section 3.10 (Cultural Resources). For both of these surveys, surveyors were escorted by certified contractors trained in ordnance identification (i.e., EOD technicians) who also surveyed for UXO within the investigation area. In addition, EOD technicians performed a full survey of the IPBC range footprint in the Western Range Area in 2010 to identify and Global Positioning System (GPS) tag MEC/UXO hazards specifically. The results of EOD technician surveys are summarized in Section 3.11 (Hazardous Materials and Hazardous Waste)⁴⁰.

The Army in 2010 conducted a survey for threatened and endangered plant species in the western range area over a large swath of land that also encompassed a portion of what is the Charlie's Circle alternative location. The results of that survey are summarized in Section 3.9 (Biological Resources). Surveyors were escorted by EOD technicians who also surveyed for MEC/UXO within the investigation area. The results of EOD technicians MEC/UXO survey while accompanying natural and cultural resources surveyors are summarized in Section 3.11 (Hazardous Materials and Hazardous Waste). The Army further conducted a Phase I archaeological survey there in 2010. A Phase II survey is currently in progress, but is anticipated to be complete by late 2011. These surveys are summarized in Section 3.10 (Cultural Resources).

The western range area in the past was the subject of a planning level survey for listed species that indicated a potential high amount of rare plant species at this alternative. Upon further review, it was found that the planning level survey has since been proven inaccurate due to information gained in follow-on ground surveys. The Army also reviewed past surveys for threatened and endangered species and cultural resources at Training Area 23, to be sure that the IPBA could be sited to avoid adversely impacting sensitive resources in that area. It should be noted that Training Area 23 is not part of any proposed modernization effort in this Programmatic EIS. A more detailed discussion of surveys of the Western Range Area is found in Section 3.9.3.2.

Surveys and Consultations Remaining

In April 2011, the Army identified a small parcel of land on the northeast border of the IPBC range footprint that requires additional surveys for cultural resources and threatened and endangered species. These surveys, and the Phase II archaeological survey for the proposed IPBA, will be complete by late 2011. The results of these surveys will be included in the Army's consultations with the State Historic Preservation Division (SHPD) and U.S. Fish and Wildlife Service (USFWS). See Sections 3.9 and 3.10 for more detail all cultural and natural resources surveys.

⁴⁰ Successful identification of MEC/UXO will enable the Army to design the IPBC around known high-volume clusters of MEC/UXO, and remove only those that pose a threat to construction contractors when ground softening and building targets/objectives, and to Soldiers that would maneuver on the range. The high cost associated with MEC/UXO removal makes it unfeasible to clear the entire IPBC footprint of all known hazards.

The Army entered into informal consultation with the SHPD on this alternative in March 2011 and will consult with the SHPD based upon the findings of its archaeological surveys under Section 106 of the National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. §470).

The Army is also currently completing a Biological Assessment (BA) based on its survey findings of the Western Range Area alternative. Once complete, the Army will formally enter into Section 7 consultation with the USFWS under the Endangered Species Act (ESA) of 1973. The USFWS will issue a Biological Opinion (BO) based upon that consultation.

The results of both regulatory consultations, and any recommended mitigation or conservation measures, will be included in the Final Programmatic EIS.

2.2.3.2 Alternative 2: Charlie's Circle

Location Description

The Charlie's Circle alternative location shown on Figure 2.2-2 begins at Charlie's Circle Road, and runs from northwest to southeast, entirely in the impact area, ending just west of the ICM restricted area. The Charlie's Circle location shares much of the same proposed footprint as the preferred alternative at the Western Range Area, and it shares similar characteristics in ground cover (e.g., vegetation and volcanic rock) and topography as the preferred alternative. The nearest range to the Charlie's Circle alternative is the MPRC (inactive) located at Training Area 23. The SDZs for approved IPBC weapons would encompass the Training Area 23/MPRC mitigation area for listed species, posing a potential risk to species there.

Supporting Infrastructure (Roads and Utilities)

The nearest roads to this alternative are Charlie's Circle and MPRC road. If this alternative were selected a short access road would run directly from Charlie's Circle road to the proposed IPBA. The Charlie's Circle alternative would have similar infrastructure requirements (power and solid waste) as the preferred alternative.

Surveys

A portion of the Charlie's Circle alternative was surveyed within the western range area 2010 listed plant species (Section 3.9), archaeological (Section 3.10), and MEC/UXO (Section 3.11) surveys. If the Army selects the Charlie's Circle alternative it would conduct supplemental surveys and prepare supplemental NEPA documentation tiered from this Programmatic EIS to assess the potential impacts to biological and cultural resources at that area.

2.2.3.3 Alternative 3: Southwest of Range 20

Location Description

The alternative location southwest of range 20, as shown on Figure 2.2-2, runs south to north beginning in the southwestern portion of the impact area and ending in the southwest of central portion of the impact area adjacent to the southern boundary of the ICM restricted area. No surveys have been conducted of this alternative location. A review of the vegetative cover map located in Section 3.9 (Biological

Resources) shows that much of the proposed location is bare ground with scattered shrub land. The area noted by Range Planners (personal communication dated 14 January 2011) as being extremely rocky and largely barren of vegetation (also as described in Section 2.5.1 of the Final EIS for Military Training Activities at Mākuā Military Reservation (Alternatives)). SDZs for the proposed IPBC in the location southwest of range 20 would fall entirely within the impact area.

Supporting Infrastructure (Roads and Utilities)

This IPBA alternative is situated between Training Area 23 and Range 20. The nearest roads to this location are Hilo Kona Road, which runs west from the southern end of Red Leg Trail and abuts to the southern end of the proposed IPBC range at this location. Power lines run along Hilo Kona Road only go to Range 20. If this alternative were selected the Army would need to build new poles carrying power lines out to the proposed IPBA. The Army would also build a small access road to reach each the IPBA.

Surveys

Only aerial surveys have been conducted for this alternative location. If the Army selects this alternative it would conduct the necessary surveys and prepare supplemental NEPA documentation tiered from this Programmatic EIS to assess impacts to biological and cultural resources at that area.

2.2.3.4 No Action Alternative: Do Not Build and Operate the IPBA

Under this No-Action Alternative, the Army would not construct the IPBA at PTA. The No-Action Alternative serves as a snapshot of the existing training environment and infrastructure at PTA, and therefore provides the benchmark for comparison of the environmental impacts of the action alternatives. The No Action Alternative does not meet the purpose and need for the proposed IPBA action. Without a standard IPBC, units of the 25th ID could not meet all doctrinally-required collective training tasks, and would not be prepared sufficiently to succeed in combat. The combined capability of the IPBA (IPBC, Live-fire Shoothouse, and MOUT) offers a company realistic training opportunities and added efficiency in scheduling during deployments to PTA (Section 2.1.3.2). Without the IPBA, units training at PTA to the FSO METL tasks would continue use the existing IPBC, Live-fire Shoothouse, and MOUT as efficiently as possible, and as needed prior to deploying to the operational environment.

2.2.3.5 Screening Criteria

The screening criteria for the IPBA alternatives, at a minimum, match the criteria established for all modernization projects; these are mission support, sustainability, cost and location.

Mission support

PTA's mission is to provide higher level collective task training. As discussed in Section 1.1.3.1, USARPAC has the responsibility to promote regional security and deter against aggression in the Pacific AOR in accordance with the NSS and NMS, including being prepared to respond to the full spectrum of military contingencies. This means having a ready fighting force, trained to standard, to accomplish its mission. The ATS further sets policy for units of USARPAC to train to doctrine (FSO METL) (Section 1.1.4), and therefore, units of USARPAC must have access to standard ranges and supporting infrastructure in order to be successful in meeting the full spectrum of military contingencies in the

Pacific AOR. Currently, there is a shortfall in standard collective (group) ranges for platoons and higher units stationed in Hawai'i (Section 1.4). This shortfall in standard collective training ranges exists even when including the training capability that is available on O'ahu.

In order to support the mission of the 25th ID, the Army needs to have at least a standard IPBC. The existing IPBC (Range 10) does not meet doctrinal training standards as established in TC 25-8, and therefore, a unit cannot adequately meet its FSO METL requirements on Range 10.

While PTA does have a standard Live-fire Shoothouse (Range 8C), lessons learned in Afghanistan and Iraq drive the need for a Live-fire Shoothouse and MOUT Facility to be co-located with the proposed IPBC as an essential component of platoon-level urban/semi-urban training that accompanies platoon-level exercises in the field. The Army determined that co-locating an IPBC, Live-fire Shoothouse, and MOUT together would maximize the training time available and provide other efficiencies for units deploying to PTA to train. Units deploying to PTA must maximize their training time in order to meet their FSO METL requirements in a given year.

Sustainability

The proposed range, including; the “downrange” maneuver, firing and target areas; SDZ and administrative/support facilities and area should be sited and integrated to ensure the range “footprint” has the comparably less significant impact on natural and cultural resources and other environmental elements. It should also be capable of incorporating sustainable design standards that are built to current range designs and specified by the USACE, including having properly designed target emplacements, berms and roadways that generally do not promote the migration of munitions constituents and expended lead bullets; firebreaks that minimize the potential for wildfires to threaten the areas outside the IPBA, and features to divert storm water.

Cost and Time

Range siting, construction, and operation must be achieved at a reasonable cost, and should be constructed within a reasonable timeframe so that Soldiers may train there as soon as possible in order to meet FSO METL requirements. The Army follows the processes laid out in Section 1.2.1 to determine training and resource requirements (when to modernize ranges, how to plan for their construction and operation, and how to pay for them). The cost for building an IPBA composed of standard ranges and a MOUT is fairly well fixed. For example, the IPBA is estimated at costing \$29 M. NEPA documentation, site surveys and other related studies are additional to that amount and although these items are resourced by the Army as necessary, the point of utilizing the processes described at Section 1.2.1, and especially the RDP is to maximize the use of Army land holdings until it is not feasible to do so. In other words, the first natural choice for a military planner when determining how much it will cost to build a range is to compare resources (available land and existing range assets) with known limitations described in management plans (e.g., ICRMP and INRMP). Army policies described in Section 1.2.1 limit the amount of funding that can be made available for range construction and any excesses later deemed necessary through the NEPA process for example would require a separate funding request and approval.

2.2.3.6 Selection Criteria

The Army, in the case of the IPBA, also considers operational limitation and technical viability, which includes looking at range design. The Army used all of these parameters to conduct a holistic approach to identifying feasible alternatives to evaluate when considering the IPBA.

Location and Technical Viability

As discussed in Section 1.3, PTA is classified by the Army as a MTA. In accordance with TC 25-8 (Section 3-8 through 3-10) PTA should accommodate collective live-fire training (platoon through company) and maneuver training (battalion or brigade) according to doctrine and standards that LTAs (such as training facilities on O‘ahu) cannot accomplish higher-echelon training tasks (Section 2.3).

An Alternative should, to the extent practicable, adhere to the following requirements set forth in Army policy, directives, and memorandums that apply to the siting of ranges of the IPBA:

- The terrain should be conducive to constructing an IPBC and accounting for adequate line-of-sight for firing positions and targets.⁴¹ The line-of-sight analysis should be able to be accomplished using a minimum of a ½ m (or 1 ft) contour interval topographic survey of the proposed site without special software beyond normal design tools (USACE, 2004a). Therefore, the terrain should be relatively flat otherwise extensive costs could be incurred for modifying the terrain (softening and flattening) to accommodate line-of-sight.
- The ranges of the IPBA should be available for training at least 242 days per year IAW TC 25-1; and range siting should avoid negatively impacting training with overlapping SDZs of other ranges in accordance with AR 350-19;
- Ranges of the IPBA should meet training range design standards such as size of range, number of targets, etc., in accordance with TC 25-8;
- The IPBC range of the IPBA should be located at a minimum, adjacent to an impact area (USACE, 2004a) to allow for large caliber munitions and duded rounds (e.g., MK19) to be fired safely into an impact area (restricted access) (AR 385-63 Range Safety);
- Siting of the IPBA should avoid ground disturbing activities in the ICM restricted area in accordance with Headquarters, Department of the Army (HQDA) Letter 385-01-1, Section 7;⁴²
- To the extent practicable avoid areas of operational ranges that contain DU in accordance with Department of Defense Instruction (DODI) 4715.11 Environmental and Explosives Safety Management on Operational Ranges within the U.S., April 2007; and

⁴¹ Line-of-sight is defined as the unobstructed path between the firing point and the target that insures Soldiers can first visually acquire the target, and then being capable of engaging the target with a direct fire weapons system (e.g., .50cal rifle).

⁴² ICMs, also referred to as cluster bombs, are artillery munitions that contain multiple submunitions. Due to the extreme safety risk, ICMs are no longer used on Army training land. Evidence of ICM detonation has been discovered at the PTA impact area. This area is closed to Soldiers and vehicles.

- Minimize impacts to natural and cultural resources, and limit proximity to existing mitigation areas in accordance with installation management plans. Use of the IPBA must not be severely constrained by being co-located or sited in a way that potentially endangers Army programs that promote survivability of listed species or may endanger or damage known artifacts or other culturally sensitive areas.

Range Design and Area Capacity

Range design is essential to a unit for meeting its FSO METL tasks prior to deployment to the operational environment. The range design should meet the Army's design standards so that Soldiers can train to standard. Standard designs for the IPBC and Live-fire Shoothouse are found in TC 25-8 Training Ranges. As discussed in Section 2.1.3, there is no standard design for a modular MOUT facility. It is designed according to available space for its footprint and the size of the units that are anticipated to train on it. The range area to be considered for the IPBA must be of sufficient size to accommodate the IPBC, Live-fire Shoothouse, and MOUT. The land requirements for the IPBC, Live-fire Shoothouse, and MOUT are found in 2.2-1.

Table 2.2-1. Approximate land requirements for the ranges of the IPBA

	Facility	Area
IPBC	Range	6,000,000 sq. m (64,583,462 sf)
	ROCA	12,141 sq. m (130,680 sf)
Live-fire Shoothouse	Range Building	*232 sq. m (2,500 sf)
MOUT	Modular Structures (total)	*59,458 sq. m (640,000 sf)

sf = square foot

* Does not include a cleared buffer area surrounding the facility (to be determined)

These ranges must be co-located to insure that units travelling to PTA to meet their semi-annual training requirements spend their time efficiently, and can maximize the use of training facilities at PTA. The ranges of the IPBA would be used in different training scenarios to test and improve the ability of the company commander and unit commanders to communicate and coordinate essential tasks.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED

To be carried forward for full evaluation, an Alternative must meet the screening criteria listed in Section 2.2.3.5. It should be noted that while cost may not be a factor that eliminates an alternative completely from consideration, it is, however, a contributing factor. The defense budget is finite, and cost-prohibitive projects essentially may not be funded by Congress. Additionally, the process to request additional unplanned funding is lengthy and could unnecessarily keep Soldiers from meeting their FSO METL requirements defined in Army doctrine.

The Army applied its screening criteria to several alternatives for the IPBA. There were eight possible locations for siting the IPBA at PTA.

The improvements proposed at PTA within this Programmatic EIS do not eliminate the need for live-fire ranges on O‘ahu. The purpose and need for this project is to modernize PTA’s infrastructure as a whole in order to provide better training opportunities for units that use PTA. Ranges at locations other than PTA (such as ranges at O‘ahu) would not meet the purpose and need for this action.

2.3.1 Hawai‘i Island

Eight (8) possible locations were considered at PTA as illustrated in Figure 2.3-1. These locations are:

- IPBA North
- Range 10 (existing IPBC)
- IBPA South (east of range 20)
- IPBA Southwest of Range 20
- IPBA Western Range Area
- IPBA Charlie’s Circle
- IPBA West
- IPBA Twin Pu‘us

Table 2.3-1 provides a summary of the Alternatives considered on both O‘ahu and the Hawai‘i Island

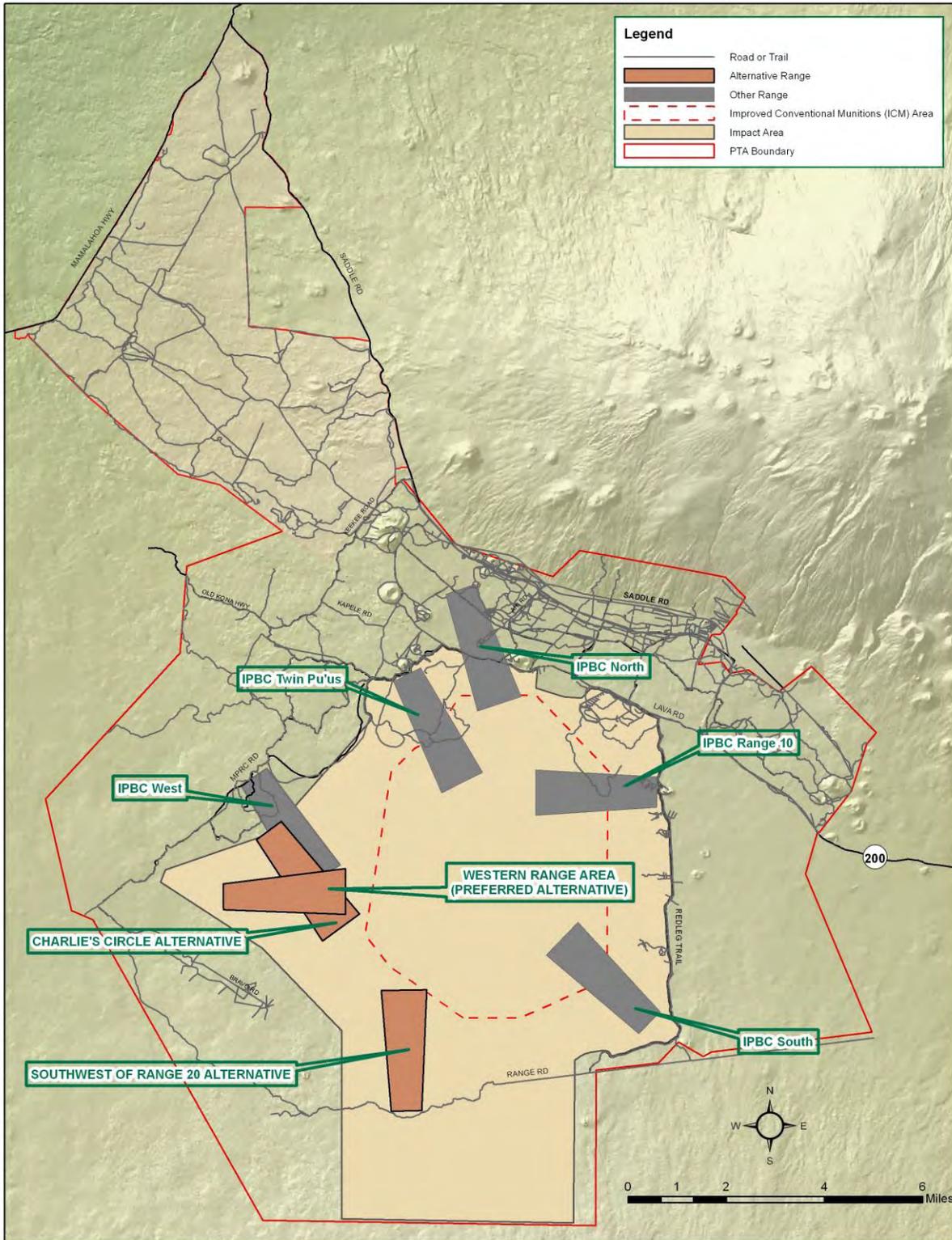


Figure 2.3-1. Eight alternative IPBA/IPBC locations considered at PTA

Table 2.3-1. IPBA Alternatives Screening and Selection Criteria

Screening Criteria				Selection Criteria								
IPBA Alternatives	Mission Support	Sustainability	Cost	Location and Technical Viability							Range Design, Area Capacity	
				Adequate Line-of-Sight	Avoid SDZ Conflicts	Avoid ICM Area	Avoid DU Area(s)	Avoid Mitigation Areas	Impact Area Present	Sufficient Acreage		
North	Meets Criterion	Meets Criterion	Does not meet	Meets Criterion	Does not meet	Does not meet	Does not meet	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion
Range 10	Meets Criterion	Meets Criterion	Does not meet	Meets Criterion	Does not meet	Does not meet	Does not meet	Meets Criterion	Does not meet	Meets Criterion	Does not meet	Does not meet
South	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Does not meet	Does not meet	Does not meet	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion
(1) Southwest of Range 20	Meets Criterion	Meets Criterion	Does not meet	Does not meet	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion
(1) Western Range Area (Preferred)	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Does not meet	Meets Criterion	Meets Criterion	Meets Criterion
(1) Charlie's Circle	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Does not meet	Meets Criterion	Meets Criterion	Meets Criterion
West	Meets Criterion	Meets Criterion	Does not meet	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Meets Criterion	Does not meet	Does not meet	Does not meet	Meets Criterion
IPBA Twin Pu'us	Meets Criterion	Meets Criterion	Does not meet	Meets Criterion	Does not meet	Does not meet	Does not meet	Does not meet	Does not meet	Does not meet	Does not meet	Meets Criterion

(1) Alternatives carried forward for full evaluation in this EIS.

In the 2009 Final EIS for Military Training Activities at Mākua Military Reservation, Hawai‘i, the Army looked at alternatives for an IPBC, to include the Twin Pu‘u location on PTA. The Army reviewed eight possible PTA sites and determined that the Twin Pu‘u was the only operationally feasible site. Several intervening factors have since arisen, with the result that the Twin Pu‘u site is no longer under consideration and other sites are. Two of the sites under consideration in this Programmatic EIS had somewhat similar alternatives in the 2009 Mākua EIS that were not deemed feasible (IPBC West and Southwest of Range 20) (see Figure 2.3-1).

Since the 2009 Mākua EIS was issued, the Army has located DU material in several areas within PTA, including the Twin Pu‘u location. Although the DU could be removed, this would be a lengthy and costly process and would delay construction.

In the case of the Charlie’s Circle western area (PTA area #2 in the 2009 Mākua EIS), this area was unfeasible because it would require creation of a new duded impact area. However, the sparse number of endangered plants southeast of that area allows for that alternative range location to be relocated entirely within the existing impact area, and it is reconsidered in this EIS as the Charlie’s Circle alternative.

The site located Southwest of Range 20 was considered unfeasible in the 2009 Mākua EIS because the site has very difficult terrain that would need to be “softened” extensively in order to support troop movement. Nevertheless, the Army now believes that this alternative could be made to work, albeit at great expense. The Army also recently decided to build an AAFP (Range 21) adjacent to this location, which causes SDZ conflicts with the proposed IPBC (see Figure 2.2-1), and presents new challenges for the Army when considering this IPBA alternative⁴³. The AAFP was identified in the Army’s project list for this Programmatic EIS during the scoping period (December 23, 2010 through February 7, 2011), but was moved up in priority to meet TTP training requirements and support combat missions in Iraq and Afghanistan. HE munitions are to be used at the AAFP. This capability was provided at Range 8B until the discovery of DU material nearby, thus rendering the Army incapable of using HE munitions at Range 8B⁴⁴. While the AAFP SDZs fall within the proposed IPBC Southwest of Range 20, these SDZ conflicts could be mitigated by range scheduling. The Army would further monitor all munitions fired at the AAFP, and clean up any MEC/UXO that lands within the IPBC, or repair damage that may occur to that range. The AAFP would not adversely impact training at the IPBC and, therefore, does not eliminate this IPBA alternative from full analysis.

⁴³ An AAFP does not require reclamation of the impact area such as what is proposed to construct the IPBA. Instead, the Army air drops targets into the impact area that a Soldier/unit would subsequently direct fire towards using the TOW or MK19 weapons system. This range type is used to familiarize the Soldier/unit with the weapon, and to qualify (or train to become proficient) on that weapon for use in combat. The Army prepared a Record of Environmental Consideration to address the limited environmental impacts from firing into existing impact area.

⁴⁴ DODI 4715.11 prohibits use of HE munitions in areas known to contain DU.

After considering this information and Table 2.3-1, the Army eliminated the following alternatives from full analysis:

Alternative	Restriction(s)
IPBA North	<ul style="list-style-type: none"> - Conflicts with DU area which also increases time and cost; - Conflicts with ICM area; - SDZs conflict with other ranges.
Range 10 (Existing IPBC)	<ul style="list-style-type: none"> - Conflicts with DU area which also increases time and cost; - Conflicts with ICM area; - SDZs conflict with other ranges; - Live-fire Shoothouse and MOUT sited behind the IPBC would conflict with a mitigation area for listed species.
IPBA South (east of Range 20)	<ul style="list-style-type: none"> - Conflicts with ICM area; - SDZs conflict with other ranges.
IPBA West	<ul style="list-style-type: none"> - Requirement for expanded impact area at an excessive cost and extensive further documentation; - Conflict with a mitigation area.
IPBA Twin Pu'us	<ul style="list-style-type: none"> - Conflicts with DU area which also increases time and cost; - Conflicts with ICM area; - SDZs conflict with other ranges; - Requirement for expanded impact area at an excessive cost.

Based this information, the Army determined that three (3) potential IPBA Alternative locations remained available for full consideration; these are:

Alternative	Restriction(s)
IPBA Southwest of Range 20	<ul style="list-style-type: none"> - Terrain would limit line-of-sight between firing points and down range targets. Additional costs are required to soften and flatten the ground surface at this location; - Additional surveys would need to be conducted to determine extent of archaeological resources and listed species at this area. - SDZs from Range 21 falls within the IPBC range footprint of this alternative. - Benefit: No conflicts with other ranges would insure that the IPBA could be open when other ranges are in use; - Benefit: No conflicts with known DU areas would keep costs for building the range reasonable.

IPBA at Charlie's Circle	<ul style="list-style-type: none"> - SDZs of the IPBC may fall within the mitigation area for listed species at Training Area 23. Due to the distance between the two ranges avoidance measures could be easier to implement at the firing points on the IPBC to site SDZs away from Training Area 23; - 2010 surveys for archaeological resources and listed plant species were conducted, and both were found to be present on the proposed range area. Additional surveys would need to be conducted to determine extent of archaeological resources and listed species at this area. - Benefit: No conflicts with other ranges would insure that the IPBA could be open when other ranges are in use; - Benefit: No conflicts with known DU areas would keep costs for building the range reasonable.
IPBA at Western Range Area	<ul style="list-style-type: none"> - 2010 surveys for cultural resources and listed plant species were conducted and both were found to be present on the proposed range area. - Benefit: No conflicts with other ranges would insure that the IPBA could be open when other ranges are in use; - Benefit: No conflicts with known DU areas would keep costs for building the range reasonable.

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