17858

Mounted Machinegun Gunnery Complex (MMGC)

RANGE DESIGN GUIDE

RANGE AND TRAINING LAND PROGRAM – MANDATORY CENTER OF EXPERTISE

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE

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General

This document provides detailed information specific to the Mounted Machinegun Gunnery Complex (FCC 17858), formerly known as the Scout/Recce Gunnery Complex (Scout). It outlines the unique design and construction requirements for this range. For comprehensive range requirements, refer to both this document and the general sections of the Range Design Guide (RDG), which cover features applicable to multiple range types

Purpose

This complex is used to train mounted machinegun and air defense crews and sections on the skills necessary to detect, identify, engage, and defeat stationary and moving infantry and armor targets in a tactical array. The standard layout includes a qualification course overlayed with four machine gun qualification lanes. All ground targets are fully automated, using event-specific and computer-driven target scenarios and scoring system from the range control tower. This range supports mounted and dismounted air defense and counter-UAS training with kinetic and non-kinetic engagements against Tier 1-3 UAS targets. When properly equipped and manned with Cyber and Electromagnetic Activities (CEMA) targets, this range can replicate a complex operational environment, better enabling units to train Multi-Domain Operations (MDO).

Primary Features

The primary features of the ranges are divided into two categories: the Range and the Range Operations and Control Area (ROCA).

Range

The following drawing depicts the standard layout for the range. It is included at the end of this document.

- MMG-C-01 Mounted MG

Layout

Use the standard MMGC layout referenced above as the basis for the range.

The standard MMGC range supports two different types of training on the same footprint, Mounted Maneuver and MPMG. The MMGC includes two course roads with defensive and rollover defilades for maneuver training. The trails extend approximately 1500 meters downrange. The total range footprint is approximately 2500 meters deep and 1000 meters wide. The range includes an overlay of the four center lanes of a Multipurpose Machinegun (MPMG) range to support vehicle mounted and dismounted machinegun training.

Number	Feature	RDG Section
4	Moving Armor Target	MAT
35	Stationary Armor Target	SAT
24	Stationary Infantry Target	SIT
8	SIT Arrays (1-WSIT + 2-SIT)	SIT

4	SIT Clusters (6-SIT + 1-MIT)	SIT
8	SIT Clusters (7-SIT)	SIT
4	Target Boot sets	
4	2-Man/Vehicle Fighting Positions	
2	Defensive Vehicle Defilades	
4	Hasty/Rollover Defilades	
2	Cameras	Cameras

Firing Line

The baseline has a defensive defilade at the beginning of each course road. There is a combined vehicle/dismounted firing position at the firing line for each of the MPMG lanes.

Down Range

The MMGC layout provided is an example of the general arrangement and should be used as the starting point for laying out the range. Tailor the specific range layout to meet training objectives based on detailed engagement requirements, Surface Danger Zone (SDZ) analysis, and site topography. To the maximum extent possible, keep downrange features, roads, trails, defilades, etc., out of the beaten zone of other targets; especially those areas behind MPMG targets. Refer to the MPMG section of the RDG for specific information about its lane dimensions and target layout.

Line of sight

Refer to the Line of Sight (LoS) section of the RDG for LoS requirements, procedures, and submittal requirements. For the MMGC portion, provide LoS from battle positions and maneuver boxes to targets as required to support the training tables with alternates. For the MPMG lanes, provide LoS from each firing position to all targets within that lane. Use the Small Arms Qualification Range design criteria for the MPMG portion and the Maneuver Range design and availability criteria for the MMGC targetry.

Targetry

The MMGC uses fully automated targets with event-specific, computer-driven target scenarios and scoring. The Range Control System (RCS) computer in the Control Tower controls the targets through the target data network. The target data network can be either hard-wired or Radio Frequency (RF), refer to the Electrical Range Design Section of the RDG for further information. The computer captures the video and scoring data which can then be used by the unit for performance evaluation in the after-action review (AAR) process. Refer to the Electrical and ROCA sections in the RDG for the location and configuration of workstations and server racks and the data connection requirements between buildings. Coordinate with the MCX and TPO Ranges to ensure that the latest information is included.

ROCA

Refer to the ROCA section of the RDG for general design information. The ROCA for the MMGC is based on the standard non-instrumented Armor ROCA. The Control Tower – Non-Instrumented Ranges is standard for the MMGC.

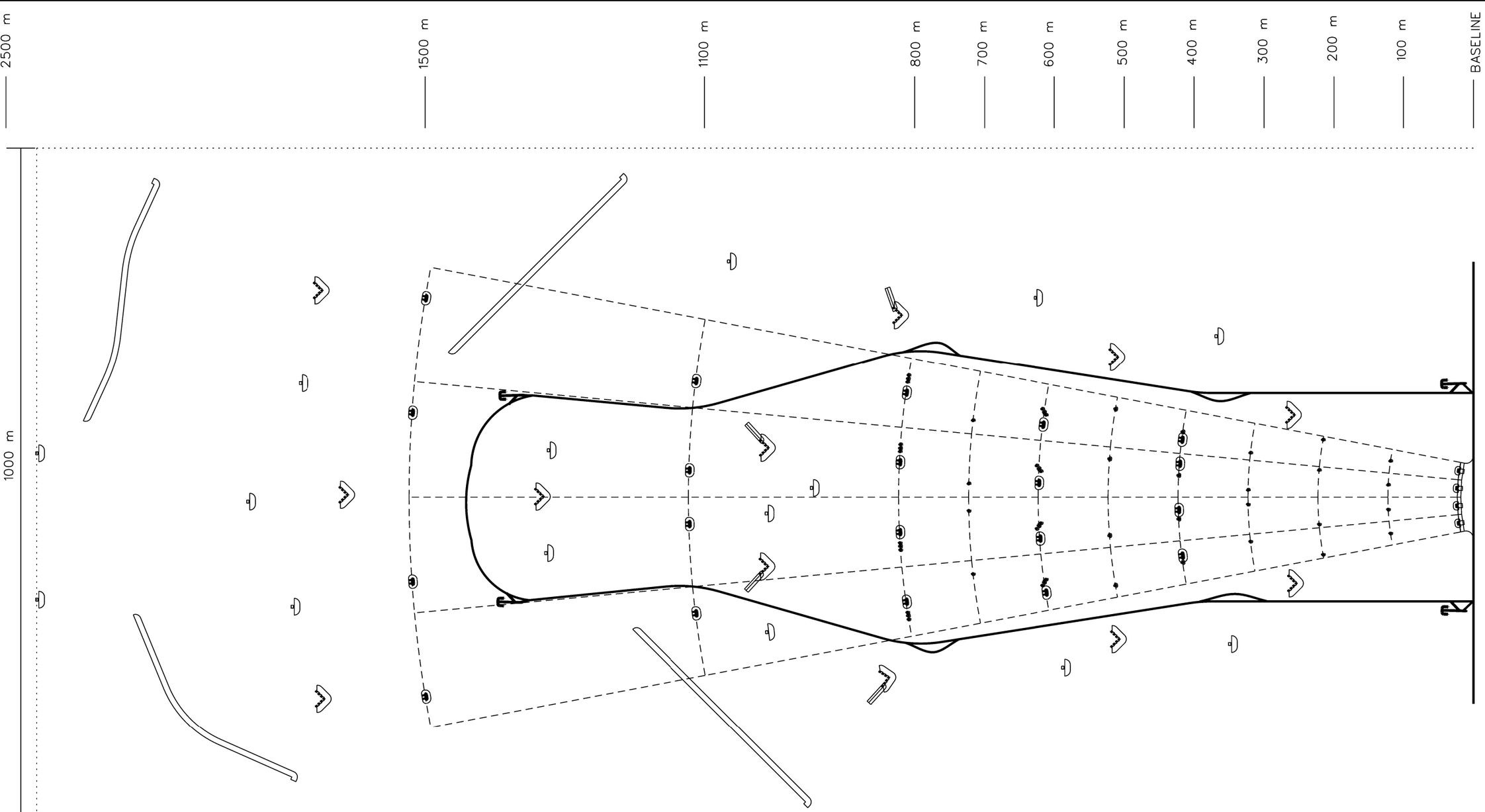
NAME	SIZE	UOM	RDG SECTION
Control Tower – Non-Instrumented Ranges	1	EA	Range Control Towers
Operations/Storage Building, Standard	800	SF	Ops/Stg Buildings
Latrine: Vault (Latrine: Water)	330 (550)	SF	Latrines
Bleacher Enclosure	1	EA	Bleacher Enclosure
Covered Mess	800	SF	Covered Mess
Small After-Action Review Building	1064	SF	Classroom and AAR Facilities
Ammunition Loading Dock	1	EA	Ammunition Breakdown Building
Bivouac Area	1	EA	
Unit Staging Area	1	EA	

Requirement Documents

Refer to Training Circular TC 25-8, Training Ranges, for additional information and references to the FMs, ARTEPs, TCs, etc. that describe and require the training on this type of range. The latest TC 25-8 is available at Army Knowledge Online (www.us.army.mil) and the General Dennis J. Reimer Training and Doctrine Digital Library (www.train.army.mil).

Additional Information

None



LEGEND

- STATIONARY INFANTRY TARGET (SIT) EMPLACEMENT
- SIT ARRAY 1-WSIT AND 2-SIT
- COMBINATION 2 MAN/VEHICLE FIRING POSITIONS
- MOVING ARMOR TARGET EMPLACEMENT (MAT)
- INFANTRY TARGET EMPLACMENT CLUSTER (7 SITs)
- INFANTRY TARGET EMPLACMENT CLUSTER (6 SITs plus 1 MIT)
- STATIONARY ARMOR TARGET EMPLACEMENT (SAT)
- TRAIL
- DEFENSIVE DEFILADE POSITION
- PULL THROUGH/ROLLOVER BATTLE POSITION

NOTES:

MPMG PORTION INCLUDES THE STANDARD HEAVY MG LANES WITHOUT THE SFF OVERLAY. REFER TO THE MPMG RANGE LAYOUT FOR TARGET COUNT AND LAYOUT AS WELL AS ANY SPECIFIC ADDITIONAL INFORMATION.

TARGET LAYOUT IS GENERIC AND MUST BE SITE ADAPTED TO THE SITE TERRAIN AND TO MEET TRAINING TABLE REQUIREMENTS

US Army Corps of Engineers

Rev.	Description	Date	Approved

Designed by: | Drawn by: | Reviewed by: | Submitted by:

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