

Part D

Combat Pistol Range

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CHAPTER 1
GEOTECHNICAL

NOT APPLICABLE
(Refer to Part B – General Design Requirements)

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CHAPTER 2
FUNCTIONAL AND AREA REQUIREMENTS

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CHAPTER 2
FUNCTIONAL AND AREA REQUIREMENTS

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CHAPTER 2

FUNCTIONAL AND AREA REQUIREMENTS

2-1 GENERAL REQUIREMENTS

2-1.1 **Net area definition.** Net area is measured to the inside face of the room or space walls.

2-1.2 **Net Area Requirements.** Net area requirements for programmed spaces are included in this chapter. If net area requirements are not specified in the Statement of Work, the space shall be sized to: accommodate the required function, comply with code requirements, comply with overall gross area limitations and other requirements of the RFP (for example, area requirements for field latrines will be in accordance with the standard design manual.

2-1.3 **Functionality.** Rooms shall be sized and arranged for efficient use, circulation, and furniture placement.

2-1.4 **Finish Requirements.** Room finishes stated in the following paragraphs are preferred minimums; finish selections are not limited to those listed.

Floors: Concrete with sealer.

Walls: Manufacturers standard liner panel.

Ceilings: Simple Saver System or approved equal.

2-1.5 **Furniture Requirements.** N/A.

2-2 **OBSERVATION TOWER FUNCTIONAL AND AREA REQUIREMENTS.** The design of the Observation Tower design shall be in accordance with the enclosed concept drawing.

IMPROVEMENTS: The building shall be a one-story structure sitting atop a steel frame. The finished floor of the structure shall be a minimum of 8'-0" (2438mm) above the finished grade. The actual height of the Observation Tower shall be in accordance with the results of the Sight Line Analysis Study. The intermediate observation deck is deleted. The outside to outside dimensions are to be 3658mm by 3658mm. The building structure shall be painted steel, but unpainted galvanized steel should be considered for the exposed structure as long as it can be supplied within the budget. This would also include all exposed accessories such as but not limited to nuts, bolts, anchor bolts, washers, etc. The concrete floor slab shall be insulated with a minimum of R-30 rigid insulation applied to the exposed underside of the slab. Total net building area of Observation Tower shall be a minimum of 12.47 square meters.

2-3 **AMMO BREAKDOWN BUILDING FUNCTIONAL AND AREA REQUIREMENTS.** The Ammo Breakdown building shall be designed in accordance with the enclosed concept drawing.

IMPROVEMENTS: The Ammo Breakdown buildings for the modified Record Firing and the Combat Pistol Ranges shall consist of a building with a 7.5 square

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meter canopy. (The canopy counts as only half scope). Provide a plywood counter 300 mm deep and 1050 mm from the finished floor to the counter top surface on three sides of the ammo issue room. Provide a space within the building to store a six wheeled all terrain vehicle nicknamed the "Gator". See the concept plan. Provide lightning protection for the Ammo Breakdown Building. Total net building area of Ammo Breakdown building shall be a minimum of 18.81 square meters. . The contractor has the option of providing separate buildings for the Ammo Breakdown building and the "Gator" storage building.

2-4

CLASSROOM RANGE BUILDING FUNCTIONAL AND AREA

REQUIREMENTS. The Classroom Range building shall be designed in accordance with the enclosed concept drawing.

IMPROVEMENTS: Inside the Range Classroom building construct an office in the location shown on the concept plan. The office shall have an inside to inside dimension of 1800mm by 2400mm. The office shall have a 900mm door as shown on the concept plan. The walls shall run from the finished floor to the underside of the structure above. Provide light, heat, and air conditioning for the office space. At each entrance to the building a 2400mm tall reinforced concrete wind wall shall be constructed. The wind walls shall consist of two (2) panels 200mm thick, cast so as to form a single unit and shall be constructed to provide protection from the wind and reduce the force of the wind entering the building as the doors are opened. Total net building area of Modified record Firing Range buildings shall be a minimum of 66.69 square meters.

2-5

DUAL SEX FIELD LATRINE FUNCTIONAL AND AREA REQUIREMENTS. The Dual Sex Field Latrine shall be designed in accordance with the enclosed concept drawing.

IMPROVEMENTS: At each entrance to the building a 2400mm tall reinforced concrete wind wall shall be constructed. The wind walls shall consist of two (2) panels 200mm thick, cast so as to form a single unit and shall be constructed to provide protection from the wind and reduce the force of the wind entering the building as the doors are opened. Provide a stainless steel shelf 1400mm above the finished floor on the toilet side of the privacy wall in the men's and women's latrines. The shelf shall be 225mm deep by 300mm wide. Total net building area shall be a minimum of 16.70 square meters.

2-6

COVERED TRAINING AREA (BLEACHERS) FUNCTIONAL AND AREA REQUIREMENTS. (SEE GENERAL DESIGN REQUIREMENTS)

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CHAPTER 3
SITE PLANNING AND DESIGN

CHAPTER 3 SITE PLANNING AND DESIGN

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CHAPTER 3 – SITE PLANNING AND DESIGN

- 3. Scope of work.** The following contains the civil design requirements for the Combat Pistol Firing Range. The designer will be required to prepare all specifications related to civil and sitework. Included are the minimum requirements for construction.

Range consists of 15 firing lanes with a width of 8 meters each. Each firing lane has an array of seven targets located from 10 to 31 meters from the firing position. Each lane also has a 20 meter move-out path.

3.1. Site Development plan. Contract Drawing sheets c3.1 and c3.3 show the general layouts for the ranges.

3.2. Pistol range is shown on Huntsville Standard drawing L-04.

3.3. Target Employment shall be as shown on Huntsville Standard drawing C-01 and C-02. Target emplacements shall be above grade.

3.4. Designer is referred to Huntsville Standard chapter 5 'target and simulation equipment emplacements' and chapter 6, 'Protection of the target mechanism'. For berm widths, design for a .50 caliber ball projectiles.

3.5. Range Lane markers are required between each lane at the down lane end of the range to denote firing lane numbers. Range limit markers are also required on each side of the range approximately 26 meters from the firing position. Details for range lane markers and limit markers are on Contract Drawing Sheets C6.1.

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CHAPTER 4
SURVEY REQUIREMENTS

NOT APPLICABLE
(Refer to Part B – General Design Requirements)

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CHAPTER 5
ARCHITECTURAL

NOT APPLICABLE
(Refer to Part B – General Design Requirements)

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CHAPTER 6
STRUCTURAL

NOT APPLICABLE
(Refer to Part B – General Design Requirements)

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CHAPTER 7
MECHANICAL

NOT APPLICABLE

(Refer to Part B – General Design Requirements)

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CHAPTER 8
ELECTRICAL

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CHAPTER 8

ELECTRICAL

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NOTE: Any reference made to the “standard design” document in this chapter is referring to the U.S. Army Corps of Engineers Design Manual for Remoted Target System (RETS) Ranges.

- 8-1 **GENERAL REQUIREMENTS.** Electrical requirements for the Combat Pistol Range shall closely follow what is included in the electrical portion of the standard design and described in Chapter 8 of the General Design Requirements included in Part A of this document. The range will consist of the following facilities: Combat Pistol Range, Observation Tower, Classroom Range, Field Latrine, Ammo Breakdown Building, and the Covered Training Area.
- 8-2 **SITE ELECTRICAL.** Primary single phase power will originate from a new riser pole that will replace existing pole 20283. This pole is part of an existing feeder that runs along 1st Division Road. The primary will be routed to the site as indicated on sheet C10.1. The cables shall be direct buried. The primary will be routed to transformer T4 which serves the classroom, the latrine, and the covered training area. The primary will then loop from T4 to T5. Transformer T5 will serve the Observation Tower and the ammunition/gator building.
- 8-3 **SITE COMMUNICATIONS.** A 25 pair telephone cable shall originate from a existing pedestal near 1st Division Road. The cable will be routed in duct as indicated on sheet C10.1 and will terminate in the classroom. Twelve pair will be routed from the classroom to the control tower.
- 8-4 **AMMO BREAKDOWN BUILDING.** Facility shall have a small distribution panelboard that is supplied by transformer T5. The lighting and receptacle requirements for the facility will be as specified in Chapter 8 of the General Design Requirements and the standard design.
- 8-5 **CLASSROOM RANGE BUILDING.** Facility shall be supplied by transformer T4 and distributed by a panelboard. The lighting and receptacle requirements for the building will be as specified in Chapter 8 of the General Design Requirements and the standard design. A simplex communications outlet will be provided for the classroom and a duplex communications outlet will be located in the office for a telephone and computer connection. The telephone backboard shall be located in the office.
- 8-6 **FIELD LATRINE.** The field latrine shall be fed from a panelboard that is supplied by the service panelboard in the range classroom. Lighting and receptacle requirements for the building shall be as specified in Chapter 8 of the General Design Requirements and as indicated in the standard design. All receptacles shall be GFCI.
- 8-7 **COVERED TRAINING AREA.** The covered training area has no power or lighting requirements.
- 8-8 **RANGE EXTERIOR LIGHTING.** The range exterior lighting shall be as indicated in Chapter 8 of the General Design Requirements and as indicated in the standard design. Power for the range lighting shall originate in the down range power panelboard.

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- 8-9 **COMBAT PISTOL RANGE.** Requirements for the target power and control cabling, lighting for the range limit signs, PA system, etc. shall be as described in Chapter 8 of the General Design Requirements and the standard design.
- 8-10 **OBSERVATION TOWER.** The Observation Tower power will be distributed by a panelboard supplied by transformer T5. The lighting and receptacle requirements for the building shall be as specified in Chapter 8 of the General Design Requirements and the standard design.

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CHAPTER 9
SUSTAINABLE DESIGN

NOT APPLICABLE

(Refer to Part B – General Design Requirements)