



AMMUNITION BREAKDOWN BUILDING



Purpose

The Ammunition Breakdown Building is an ammunition issue point for troops using the range. The intent of the standard facility is to breakdown containerized small arms ammunition, load magazines and issue for use. Ammunition and/or explosives are not stored in the facility, even temporarily.

The use of this facility for any other purpose requires special design considerations outside the scope of this design guide. Nonstandard use includes ammunition storage and/or issue or storage of explosive breaching charges, live concussion or fragmentation grenades, Bangalore torpedoes, Battlefield Effects Simulator (BES) cartridges, cutting or cratering charges, etc. Refer to DA PAM 385-64 for additional requirements.

Design Requirements

See the standard drawings in the RDG for details of construction not included in this document.

General

The standard design must be site adapted to local conditions such as climate, typical construction materials and methods, and the installation design guide. Design the facility in accordance with the design codes and criteria of the specific location, geotechnical information, structural loads, mechanical design criteria, etc.

Unless specifically requested by the installation, the facility requires access by able-bodied personnel only and does not require ADA compliance.

Siting

Site the facility in accordance with DA PAM 385-64 based on the quantity and classification of the ammunition items that will be involved. Siting is typically no less than 50 feet (15 meters) from the range firing line, range support facilities, and other exposed sites associated with the range. Site the facility convenient to the firing line considering soldier and vehicle circulation. Ensure that the building is visible from the control tower, but does not block views of the firing line.

The standard design is for ammunition issue only, not storage or temporary storage, when used as such, no explosives safety site plan is required. Coordinate with installation and user to determine the exact use of the facility.

Architectural

The standard building has an enclosed area of 10 feet by 12 feet (3.05 meters by 3.66 meters), with an issue window. It has an attached 10 feet by 12 feet (3.05 meters by 3.66 meters) covered area. For programming purposes, the size of the building is 180 square feet (16.72 square meters); the covered area is included at half of its gross area.

The issue window may be overhead coiling, sliding, or bi-fold type. Interior counter should be level with issue windowsill. Interior shelf may be stainless steel or laminate depending on installation preferences. An exterior counter under the canopy is optional.

Coordinate building material choices with the user and the installation design guide. The standard designs depict both Concrete Masonry Unit (CMU) and pre-engineered metal building versions as these are the most commonly used materials; other roof styles and materials may also be used. The construction materials must be non-combustible and substantial. Coordinate security requirements with the installation. Most installations require forced entry resistant windows and doors. Provide interior finishes that are easily cleanable, durable and maintainable. Due to the location and training environment of the ranges, these facilities commonly have sealed concrete floors.

Mechanical

There are no range specific mechanical requirements for this building. Heating or cooling is not standard for this building. The installation must provide portable, explosion proof heaters if heating is required.

Electrical

Power Distribution

Primary distribution service may be overhead or underground. Consider the type of tactical vehicles used in the Range Operations and Control Area, proximity of building to Ammunition Supply/Breakdown/Distribution points, and local utility requirements for determining the routing of primary power to the facility. Provide 120/240V, single-phase, 3-wire secondary power with a Surge Protective Device (SPD) on the incoming service to the facility. Provide this facility with a panelboard supplied with main circuit breaker that serves separate circuits for the lighting and convenience outlets.

General Power Requirements

Provide general purpose 120V, 20A duplex convenience receptacles; mounted 18" (450mm) above the finished floor.

Lightning Protection and Grounding

Grounding and lightning protection systems are required for safety. Building electrical system grounding will consist of one or more ground rods connected to the service panel in accordance with NFPA 70.

Provide a lightning protection system in accordance with DA PAM 385-64. The lightning protection system may be provided as a mast-style system or air terminals located on the building structure. Use exothermic welds for cable connections and connections to the ground

rods and structural steel. Follow local installation requirements for lightning protection systems where they are more stringent than the requirements defined in the Range Design Guide.

Lighting

Design illumination levels in accordance with the IES. Provide red lenses or red lamps in addition to standard lighting on ranges where training will occur at night. See Night Operations Lighting paragraph for more information. Provide Emergency and Exit lighting in accordance with NFPA 101 and NFPA 70.

Night Operations Lighting

To prevent interference with specialized equipment used during night operations, provide separate fixtures with red lenses or red lamps in addition to standard lighting on ranges used for night training where the lights will be visible from training and/or staging areas. Include the following areas as a minimum

- exterior lighting visible from the training area
- rooms where ROCA building has windows that are facing the training area and cannot be covered
- rooms where the building has a doors that opens to the training area

Provide separate switching for the standard and red lighting. Clearly label switches and provide covers over white lights, or similar protective measures, to deter turning on white lights while red lights are in use. Locate switches near points of egress. Provide a means to turn off all exterior white lights including an over-ride for lights controlled by a photocell.

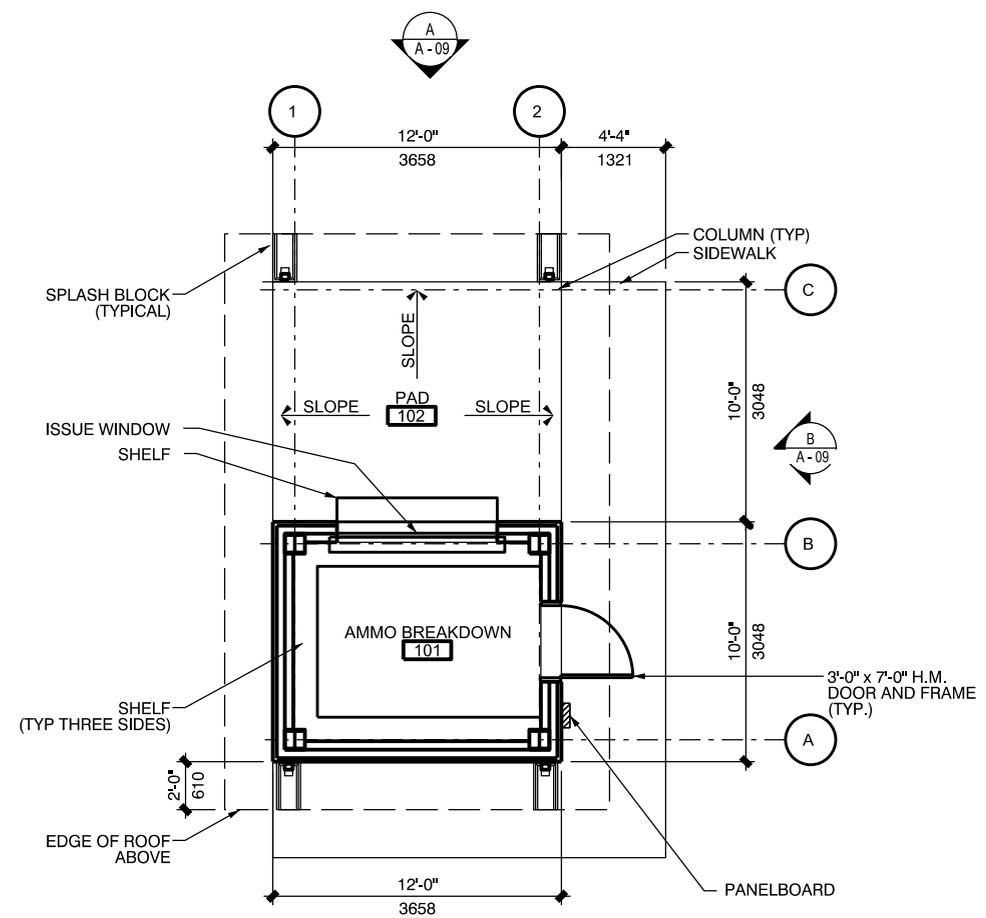


Common User Cable Systems

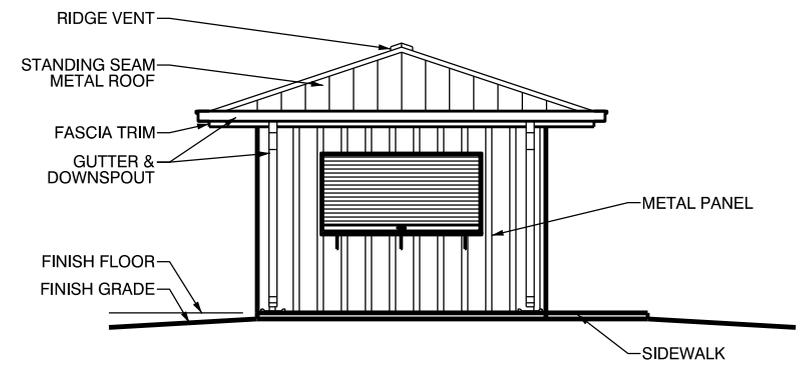
The Ammunition Breakdown Building does not require telephone connection.

Special Considerations

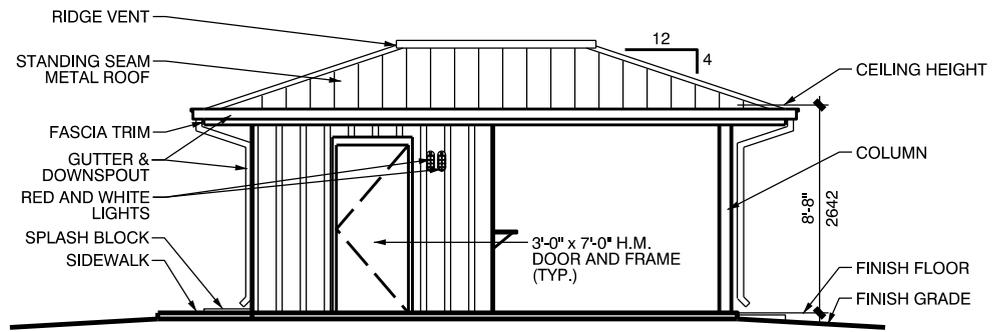
Fire protection is not normally required for this facility, though installation requirements may control. Consult the installation Fire Marshal for local requirements. Provide fire extinguishers and brackets per NFPA, DA PAM 35-64, and UFC 3-600-01.



FLOOR PLAN
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"

GENERAL

The primary purpose of the Ammunition Breakdown Building is an ammunition issue point for troops using the range. Ammunition and/or explosives are not stored in the facility. Some ranges use the facility to breakdown containerized small arms ammunition and load magazines for issue. The standard building has an enclosed area of 10 feet by 12 feet (3.05 meters by 3.66 meters), with an issue window. It has an attached 10 feet by 12 feet (3.05 meters by 3.66 meters) covered area. For programming purposes, the size of the building is 180 square feet (16.72 square meters); the covered area is included at half of its gross area.

SITE ADAPTATION

The standard design must be site adapted to local conditions such as climate, typical construction materials and methods, and the installation design guide. Design the facility in accordance with the design codes and criteria of the specific location, geotechnical information, structural loads, mechanical design criteria, etc. The design and construction must comply with applicable codes and standards including technical instruction T1800-01, "Design Criteria" Department of the Army regulations, technical manuals, handbooks, standards and specifications, and installation specific requirements.

ADDITIONAL CRITERIA

Refer to the Range Design Guide for additional information and requirements.

Rev.	Description	Date	Approved

Designed by:	Date:	Rev.
Drawn by:	Design file no.:	
Reviewed by:	Drawing code:	
Submitted by:	File name:	
	Plot date:	
	Plot scale:	

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