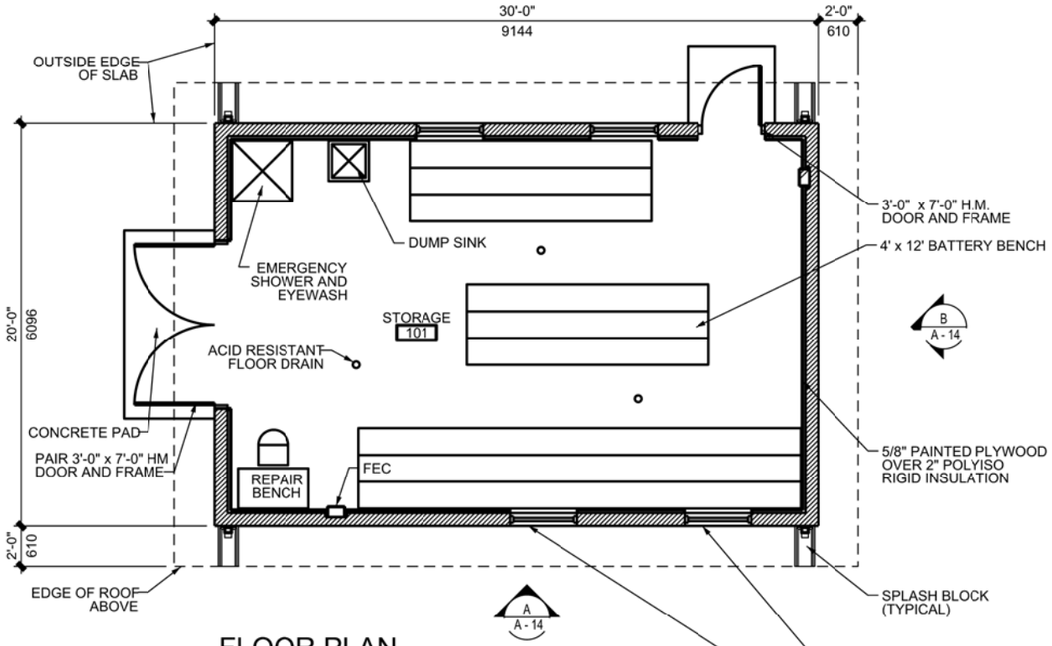
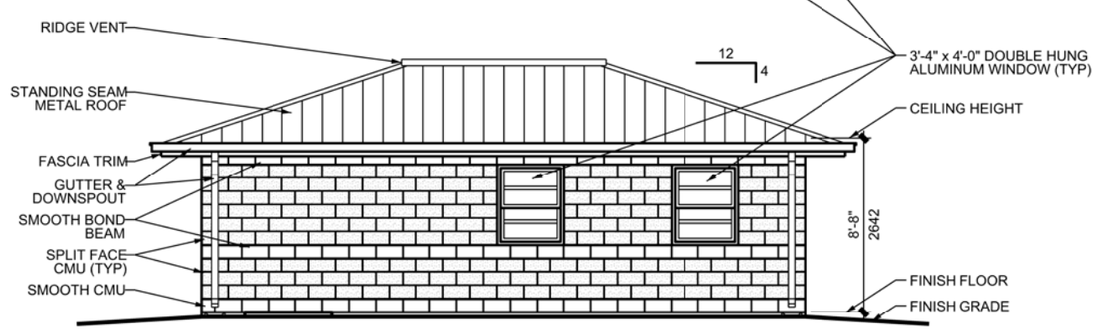


FLOOR PLAN

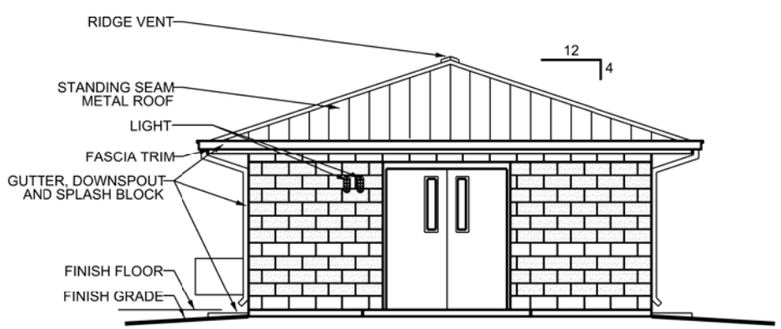
SCALE: 1/4" = 1'-0"



ELEVATION

A
A - 14

SCALE: 1/4" = 1'-0"



ELEVATION

B
A - 14

SCALE: 1/4" = 1'-0"

General

The Battery Building is used for storing and charging the batteries used downrange. The facility is 600 square feet (55.74 square meters) in area. The building will provide space for the storage and charging of batteries.

Site Adaptation

This standard definitive design should be adapted to local conditions such as climate, topography, seismic zone, available construction materials and techniques and the existing character of surroundings building. These factors may affect plans, elevations and building systems. The building foundation must be designed based on the results of a geotechnical investigation.

Reference Criteria

The design and construction must comply with applicable codes and standards including: technical instruction TI 800-01, "Design Criteria": Department of the Army regulations, technical manuals, handbooks, standards, and specifications.

Functional Requirements

All dimensions not labeled are in feet and inches. Lead acid and Nickel Cadmium (NICAD) batteries must be stored separately. There must be no direct access between a NICAD shop and a lead acid shop. A charger room must be separated from a lead acid shop per the National Electric Code. Windows are double hung to meet functional requirements providing natural lighting and ventilations. Windows have forced entry resistant metal framed and are provided with insect screens. Provide polycarbonate security glazing in windows and doors. Gutters, downspouts, and splash blocks should be provided where required by climatic conditions. Covered entries and ice guards may be necessary in northern climates. Floors shall be concrete. The Battery Building is accessed only by able-bodied personnel and does not require ADA compliance unless dictated by local criteria.

Mechanical

Heating, Air Conditioning, Ventilation and special Exhaust System requirements shall be provided in accordance with UFC 3-520-05. If different types of batteries are used, a separate heating system for each shop shall be provided so that air from the two shops does not mix. The heating system shall be designed to maintain a minimum temperature of 68 degrees F. Plumbing requirements may include an emergency shower and eyewash, a holding tank for waste electrolytes, and a compressed air system. Acid-resistant or alkali-resistant floor drains are required for lead acid or NICAD battery storage, respectively.

Electrical

Electrical system shall be designed in accordance with UFC 3-520-05. The Battery Building shall be served by 120/240V, 1 phase, 3-wire secondary power. Rigid Steel conduit shall extend a minimum of 5' (1524mm) outside the building for power and communication circuits entering and leaving the building. Voltage drop shall comply with NFPA 70 and Army technical manuals. Grounding will be installed in accordance with NFPA 70 and other applicable standards.
The panelboard shall be recessed mounted in finished areas.
Illumination levels will be designed in accordance with IES using white fixtures. Exterior and interior red lights are only provided when required by training: Separate switching shall be provided for white lamps and red lamps.
Lighting Protection shall be provided in accordance with NFPA 780.

Telephone

A telephone system is not required.

Fire Protection

If a NICAD charging shop is required, the charging bench shall have a CO2 fire extinguisher at each end, in accordance with UFC 4-520-05. Fire Protection shall also be in accordance with UFC 3-600-01, Design: Fire Protection Engineering for Facilities. Fire protection is not required per fire codes for this building. The fire alarm shall be a local audible alarm. Fire extinguisher's and cabinets are required per NFPA. Consult local Fire Marshall for compliance with local requirements. Provide a Mass Notification system per UFC.

4' 2' 0 4' 8' 12'

GRAPHIC SCALE: ¼"=1'-0"

US Army Corps of Engineers

Rev #	Description	Date	Approved

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

U. S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
HUNTSVILLE, ALABAMA

JANUARY 2011

RANGE AND TRAINING LAND PROGRAM
STANDARD DESIGN MANUAL

BATTERY CHARGING STORAGE BUILDING

Sheet reference number:

A–18