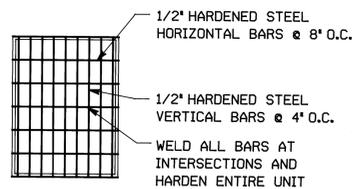
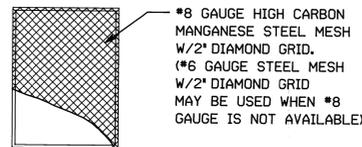


**TYPICAL PLAN**  
SCALE: 1/2" = 1'-0"

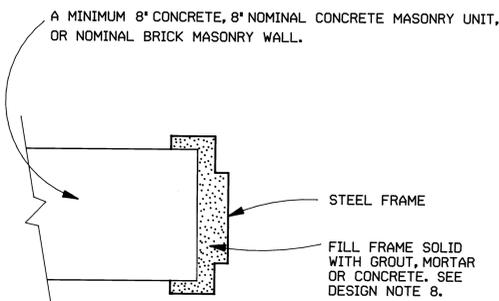


**BAR PROTECTED**

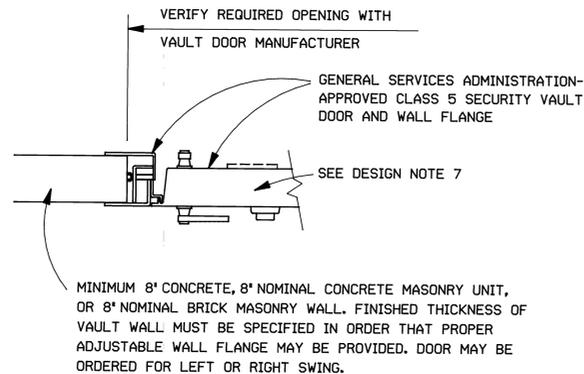


**MESH PROTECTED**

**PROTECTION FOR WINDOWS AND OTHER OPENINGS** (SEE NOTE 10)  
SCALE: NONE



**STEEL DOOR FRAME TYPICAL JAMB**



**SECURITY VAULT DOOR AND WALL FLANGE**

**DESIGN NOTES**

- THIS DRAWING IS INTENDED TO BE USED IN CONJUNCTION WITH AR 190-11, PHYSICAL SECURITY OF ARMS, AMMUNITION, AND EXPLOSIVES. THIS DRAWING DEPICTS ARMS ROOM DETAILS THAT CONFORM STRUCTURALLY TO THE REQUIREMENTS OF AR 190-11. ROOM DIMENSIONS, INCLUDING HEIGHT, TO BE DETERMINED BY THE DESIGNER. HVAC AND LIGHTING REQUIREMENTS ARE TOO SITE SPECIFIC TO BE COVERED ON A GENERAL DRAWING OF THIS TYPE.
- ALL REQUIREMENTS SPECIFIED ON THIS DRAWING ARE THE MINIMUM ACCEPTABLE FOR CONSTRUCTION OF AN ARMS STORAGE ROOM FOR STORAGE OF CATEGORY II ARMS, AS LISTED IN APPENDIX A OF AR 190-11. THE SPECIFIED WALL, CEILING & FLOOR THICKNESS AND REINFORCING REQUIREMENTS ARE FOR SECURITY ONLY. THESE REQUIREMENTS WILL BE MODIFIED, AS REQUIRED, TO INSURE THAT THE WALLS, CEILING AND FLOOR MEET THE DEAD LOAD, LIVE LOAD, AND SEISMIC REQUIREMENTS OF THE SITE.
- ALL FOOTING DETAILS INCLUDING FOOTING DEPTH, FOOTING WIDTH AND REINFORCING REQUIREMENTS ARE TO BE DETERMINED IN ACCORDANCE WITH THE LOCAL SITE CONDITIONS.
- THE HIGHEST DEGREE OF SECURITY IS OBTAINED BY USE OF THE CAST-IN-PLACE REINFORCED CONCRETE WALL CONFIGURATION SHOWN IN SECTION A, ON SHEET A-2. A SOMEWHAT LESSER DEGREE OF SECURITY IS PROVIDED BY USE OF THE REINFORCED MASONRY WALL CONFIGURATION SHOWN IN SECTION B, ON SHEET A-2. THE LEAST SECURE, CONFIGURATION ALTHOUGH ADEQUATE, IS OBTAINED BY USE OF THE BRICK MASONRY WALL CONFIGURATION SHOWN IN SECTION C, ON SHEET A-2.
- ON-GRADE FLOORS SHALL BE REINFORCED CONCRETE WITH A MINIMUM THICKNESS OF 6". WHEN THE FLOOR OF THE ARMS ROOM ACTS AS A CEILING OF AN UNDERLYING ROOM OR AREA, THE CEILING STANDARDS AS SHOWN ON SECTIONS A, B OR C, ON SHEET A-2, SHALL APPLY.
- IF THE CEILING OR ROOF IS OF CONCRETE PAN-JOIST CONSTRUCTION, THE THINNEST PORTION MAY NOT BE LESS THAN 6 INCHES AND THE CLEAR SPAN BETWEEN JOISTS MAY NOT EXCEED 1'-8"; THE REINFORCING GRID REQUIREMENTS FOR FLAT SLAB CONSTRUCTION ALSO APPLY. ROOF STRUCTURES AND CEILINGS OF EXISTING FACILITIES SHALL PROVIDE A COMPARABLE DEGREE OF SECURITY TO THAT REQUIRED FOR WINDOWS AND DOORS.
- AT A MINIMUM, DOORS SHALL BE EITHER (1) 1-3/4" THICK SOLID OR LAMINATED WOOD WITH A 12 GAUGE STEEL PLATE ON THE OUTSIDE FACE, OR (2) 1-3/4" THICK HOLLOW METAL INDUSTRIAL TYPE DOOR WITH INTERNALLY REINFORCED VERTICALLY WITH CONTINUOUS STEEL STIFFENERS SPACED 6" MAXIMUM ON CENTER AND WITH A MINIMUM 14 GAUGE STEEL SKIN PLATE, OR (3) A CLASS 5 STEEL VAULT DOOR WITH BUILT-IN THREE POSITION DIAL TYPE CHANGABLE COMBINATION LOCK.
- DOOR FRAMES SHALL BE RIGIDLY ANCHORED AND FILLED WITH GROUT, MORTAR, OR CONCRETE TO PREVENT DISENGAGEMENT OF THE LOCK BOLT BY PRYING OR JACKING OF THE DOOR FRAME. THE FRAMES AND LOCKS FOR BOTH INTERNAL & EXTERNAL DOORS SHALL BE SO DESIGNED & INSTALLED TO PREVENT REMOVAL OF THE FRAME FACING OR THE BUILT-IN LOCKING MECHANISM TO ALLOW DISENGAGEMENT OF THE LOCK BOLT FROM OUTSIDE AN ARMS ROOM WHEN DOOR IS CLOSED & LOCKED.
- DOOR HINGES SHALL BE OF FIXED PIN SECURITY HINGE TYPE OR EQUIVALENT; EXPOSED HINGE PINS SHALL BE PEENED, SPOT WELDED, OR OTHERWISE SECURED TO PREVENT REMOVAL; AND HINGE MOUNTING SCREWS MAY NOT BE EXPOSED TO THE OUTSIDE OF THE ARMS ROOM.
- WINDOWS, DUCTS, VENTS OR SIMILAR OPENINGS OF 96 SQ. IN. OR MORE WITH THE LEAST DIMENSION GREATER THAN 6 INCHES SHALL BE COVERED WITH BARS OR STEEL MESH EMBEDDED IN THE STRUCTURE OF THE BUILDING OR WELDED TO A STEEL FRAME THAT SHALL BE SECURELY ATTACHED TO THE WALL WITH FASTENERS INACCESSIBLE FROM THE EXTERIOR OF THE ARMS STORAGE FACILITY.
- PROVIDE 3-6" X 6" WALLMOUNTED BOXES. BOXES SHALL BE FOR (1) INTRUSION DETECTION SYSTEM (IDS) COMMUNICATIONS TO TELEPHONE BACKBOARD, (2) TELEPHONE COMMUNICATIONS TO TELEPHONE BACKBOARD, AND (3) DEDICATED IDS POWER PANEL. CABLE SHALL BE SIZED ACCORDING TO REQUIRED LENGTH OF RUN.
- PROVIDE 20A, 2P, FUSIBLE SAFETY SWITCH, WEATHER PROOF WITH LOCKING POSITION, ONE LIGHT SWITCH, 1 P, 20A IN WEATHER PROOF ENCLOSURE WITH LOCKING POSITION, ONE LIGHT SWITCH, 1 P, 20A, IN GENERAL PURPOSE BOX, ONE WALL MOUNTED LIGHT VAPORTIGHT WITH 75W INCANDESCENT BULB (A), ONE CEILING MOUNTED LIGHT VAPORTIGHT WITH 100W INCANDESCENT BULB (B), BOTH LIGHTS TO BE IN TAMPERPROOF CAGE.
- EXCEPT FOR THE VAULT DOORS WITH BUILT-IN COMBINATION LOCKS, ARMS ROOM DOORS SHALL BE LOCKED WITH DA OR DOD APPROVED HIGH SECURITY LOCKING DEVICES OR HIGH SECURITY PADLOCKS AND HASPS PROVIDING COMPARABLE PROTECTION TO THE LOCKS IN ACCORDANCE WITH AR 190-11.

**MAJOR MATERIAL SPECIFICATIONS**

- CONCRETE SHALL DEVELOP NOT LESS THAN 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.
- THE DESIGN AND CONSTRUCTION OF ALL REINFORCED CONCRETE SHALL CONFORM TO THE BUILDING CODE REQUIREMENTS FOR REINFORCING CONCRETE (ACI 318).
- LOAD BEARING CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90, TYPE 1, GRADE N-1.
- BRICK MASONRY SHALL COMPLY WITH ASTM C216, GRADE SW, TYPE FSB.
- MORTAR SHALL BE TYPE 'S' WITH A MINIMUM F<sub>c</sub> = 1800 PSI, AS TESTED IN ACCORDANCE WITH ASTM C 270-84.
- GROUT SHALL HAVE A MINIMUM F<sub>c</sub> = 2500 PSI AS TESTED IN ACCORDANCE WITH ASTM C 476-83.



Symbol	Description	Date	Approved
Revisions			
U S ARMY ENGINEER DIVISION, HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
Site adapt A/E :		 ROOM, ARMS STORAGE (CATEGORY II ARMS) ARCHITECTURAL PLAN-DETAILS & SPEC.	
Dwn. by :	Ckd. by :		
Reviewed by :	Date :	Sheet reference number :	Design file no. :
Approved by :	Drawing code :	A-1	Sheet of