

## **Appendix G: Storage of Museum Property Collections**

Section A of this appendix provides illustrations of standard cabinetry, shelving, and specialty racks appropriate for storage of museum property. Section B provides guidance on developing floor plans for museum property storage areas. Illustrations of sample floor plans are also provided.

### **A. MUSEUM CABINETRY, SHELVING, AND SPECIALTY RACKS**

Probably the single most effective action to preserve a collection is to store it in specialized museum storage equipment. Specialized museum cabinets have synthetic gaskets that create an interior microenvironment that buffers temperature and relative humidity fluctuations, prevents insect and vermin infestations, and prevents damage caused by light, dust, and pollutants. A locked cabinet will provide the contents a degree of security. Shelving units are used to store objects too large or heavy to fit within museum storage cabinets. Special racks will accommodate hard-to-store objects. The first three cabinets listed here are the primary cabinets of the Department and form a modular system that allows easy and efficient organization of storage space.

#### **Standard Museum Cabinet**

36-7/8" high, 29" wide, 32" deep

The standard is a steel, heavy-duty, general-purpose artifact storage cabinet. May be equipped with a lift-off or swing type door. The swing door has a keyed lock in the handle. A synthetic gasket creates a protective microenvironment within the interior. Its maximum capacity is 16 drawers (measuring 1-7/8" high, 24-15/16" wide, 30" deep). Maximum weight capacity per drawer is 50 pounds. Cabinets can be stacked two high.

#### **Doublewide Museum Cabinet**

36-7/8" high, 58" wide, 32" deep

An all-metal cabinet twice the width of a standard cabinet is designed for flat storage of lighter, larger artifacts such as garments, textiles, study skins, and ethnographic materials. It has double doors and a locking mechanism in the handle. The gasket is the same as in the standard cabinet. It has a capacity of 16 drawers (measuring 30" deep, 52-3/4" wide, 1-7/8" high). The weight limit per drawer is 50 pounds. Cabinets can be stacked two high. Do not stack two standard cabinets on a doublewide cabinet because weight of standard cabinets can deform the doublewide.

### **Wardrobe Museum Cabinet**

73-3/4" high, 58" wide, 32" deep

This cabinet is the size of four standard cabinets stacked two on two. It is designed to store garments having enough structural strength to be hung on a padded hanger. It creates a microenvironment using a synthetic gasket. It comes with a hat shelf and closet rod. The large open interior can be adapted using racks for storing rolled textiles. Some manufacturers make these cabinets with stock racks, shelves, and drawers for fully utilizing the interior.

### **Visual Storage Cabinet (3 sizes)**

84" high, 36-3/8" wide, 16-1/4" deep

84" high, 36-3/8" wide, 22-1/4" deep

84" high, 48-3/8" wide, 22-1/2" deep

This cabinet is used to store inorganic objects when visual storage is justified. Objects can be exhibited and stored safely at the same time. The cabinet has lift-off swing double doors with locking handles. It has six adjustable shelves. The four viewing panels in the doors may be made of either UV light filtering Plexiglas or safety glass. A cabinet with UV-filtering Plexiglas can be used as a rare book container.

### **Entomology Cabinet (2 sizes)**

42-3/4" high, 23-3/16" wide, 20-1/3" deep

84-1/8" high, 23-3/16" wide, 20-1/3" deep

The 42-3/4" high steel unit has 12 drawers on glides. The 84-1/8" high steel unit has 24 drawers on glides. Both have a gasket, a locking door handle and label holder on the door. Both use Cornell style drawers, which holds insect pinning trays in a system of modular sizes.

### **Herbarium Cabinet (2 sizes)**

40" high, 25-5/32" wide, 18-25/32" deep

84-1/8" high, 25-5/32" wide, 28-25/32" deep

The 40" high cabinet has 12 openings. The 84-1/8" high cabinet has 26 openings. This steel single door cabinet has a gasket, a locking door handle, and a label holder on the door.



### **Map Cabinet**

53-3/4" wide, 41-7/16" deep (Height according to number of 5 drawer units)

A steel cabinet with large, flat storage drawers may be obtained through the Federal Supply Schedule or through commercial vendors. It comes in three sizes, but the largest size is generally recommended. The height varies with the number of units that are stacked. Each five-drawer unit measures 15-3/8" high. The cabinet comes in multiples of five drawer units, a base, and a top, and can be used for storing large historic maps, prints, and documents. For proper protection, the items are placed in acid-free map folders before placement in the cabinet. Blueprints should be stored separately from other collection objects because of off gassing.

### **Large Flat Storage Cabinet**

Custom built counter-height cabinets with drawer sizes up to 5' x 10' to accommodate oversized historic maps and blueprints are available from some cabinet manufacturers.

### **GSA Utility Cabinet**

78" high, 36" wide, 18" deep

This is a metal cabinet with six adjustable shelves for storing museum supplies.

### **Gun Vault**

80" high, 30" wide, 24-1/2" deep

A heavy-duty metal gun cabinet with a vault door provides high security for valuable firearm collections. The cabinet holds up to 30 long-arms on Plexiglas museum gun assemblies.

### **Insulated File Cabinet (2 sizes)**

28-7/8" high, 20-3/4" wide, 32-15/16" deep  
55-1/4" high, 20-3/4" wide, 32-15/16" deep

The 28-7/8" high cabinet has two drawers; the 55-1/4" high cabinet has four drawers. This is an Underwriters Laboratory (UL) Class C (350F-1 hour) rated insulated metal cabinet with a high security combination or keyed lock. This cabinet is required to house Departmental museum records. Highly valuable documents and photograph collections can be stored within.

### **Art Storage Racks**

There are a number of racks for storing framed artwork that vary in cost, capacity, and complexity. See COG 12/1.

### **Federal Prison Industries (UNICOR) Steel Shelving Units**

Available in a variety of sizes ranging up to 9'3" high, 48" wide, 36" deep

These units can hold up to 1200 pounds per shelf. This type of shelving is used for storing artifacts too large to fit within specimen cabinets.

### **UNICOR Pallet Racks**

A heavy-duty rack with depths of 36" and 48", widths of 4' to 16', and heights up to 14'.

Used to store extremely large and heavy objects, these shelves can support weights up to 20,000 pounds.

### **Wire Shelving**

A heavy-gauge, carbon or stainless steel wire rack ranging in size from 14" x 24" up to 24" x 72". Rack heights vary from 14-1/2" up to 86-5/8".

This versatile shelving system can be used to house archival materials in document and print boxes.

### **Slotted Angle Shelving**

These racks utilize a special slotted angle that can be custom sized. This angle allows special configurations and construction of racks for extra large artifacts or where racks have to fit within specific space requirements. Shelves are made with metal panels from the manufacturers, or with plywood coated with a two-component epoxy paint.

### **Compactor (Movable-Aisle) System**

Movable hand-operated or mechanical-assisted carriages for museum cabinets or shelving units can be compressed to eliminate aisles between carriages. Space for one aisle only is needed to access any carriage.

### **Specialized Storage Structure**

Prefabricated building systems of superinsulated, foam core, metal sheathed panels can be assembled inside of a building or on the exterior to create a collection storage facility that is economical to build, efficient to operate, and effective in creating the appropriate environmental conditions. The systems uses components as illustrated to quickly create a storage area. The manufacturer has been on federal supply contract for a number of years and offers a GSA price that is approximately half of the retail price.

### **Special Racks**

The DOI Museum Services Branch has designed racks to meet specific storage needs and can provide drawings to illustrate solutions for problem storage situations such as boat cradles, beds, and doors.

### **Flammable Liquid Storage Cabinet**

Available in a variety of sizes from 22" high x 17" wide x 17" deep to 67" high x 34" wide x 34" deep.

This specialty cabinet is designed to comply with Occupation Safety and Health Administration 29 CFR 1910.106d and National Fire Protection Association specifications for safety of staff and property. Recommended for storage of curatorial cleaning supplies and conservation solvents outside collection storage areas. The cabinet should be vented to the outside according to instructions provided with the cabinet.

**NOTE:** The preceding equipment is in general use throughout the Department of the Interior. Many manufacturers will build specialized equipment to your specifications. If a unit has special storage needs, contact the manufacturers to determine what custom services may be available.

## **B. FLOOR PLANS FOR MUSEUM PROPERTY STORAGE**

- A floor plan is a useful tool for planning efficient museum property storage. At a minimum, floor plans for existing storage areas should indicate the following information:
- The dimensions and arrangement of storage areas, including structural features that may restrict arrangements of equipment and should be worked around (e.g., structural posts, beams, conduit, drains)
- The location of doors, stairs, and windows



- The dimensions and existing location of museum specimen cabinets and shelving, including aisle widths
- The location of electrical service (e.g., conduit, outlets, switches, fixtures, and panel boxes) and plumbing (e.g., pipes, valves, and drains)
- The location of fire detectors, suppression nozzles, and fire extinguishers
- The location of environmental monitoring and control equipment
- Include, as appropriate, the floor plan of adjacent office(s) and workspace. Indicate location of desk(s), tables(s), computer(s), filing cabinet(s), and equipment/supply cabinet(s).

Figures G.1a and G.1b and G.2a and G.2b illustrate sample floor plans.

**NOTE:** Published floor plans should not show security devices. The security system may be shown on a floor plan that is not reproduced or distributed. Floor plans that illustrate the location of security devices can be withheld from Freedom of Information Act requests.

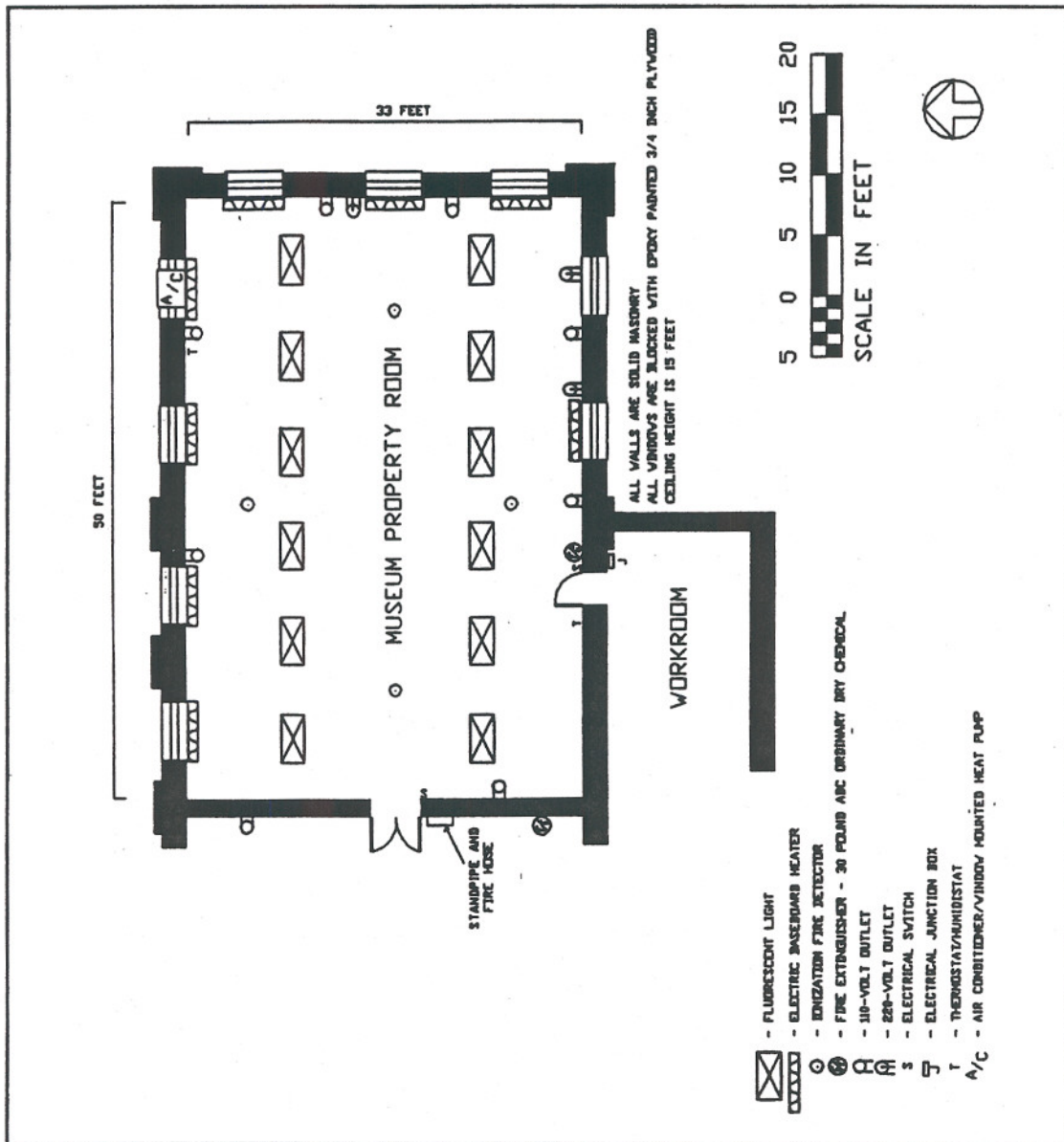


Figure G.1a. Sample Floor Plan of Museum Property Storage Space That Shows Room-Reflected Ceiling View, Scale: 5/16" = 4'0" (Drawn with AutoCAD Computer Assisted Design Program).

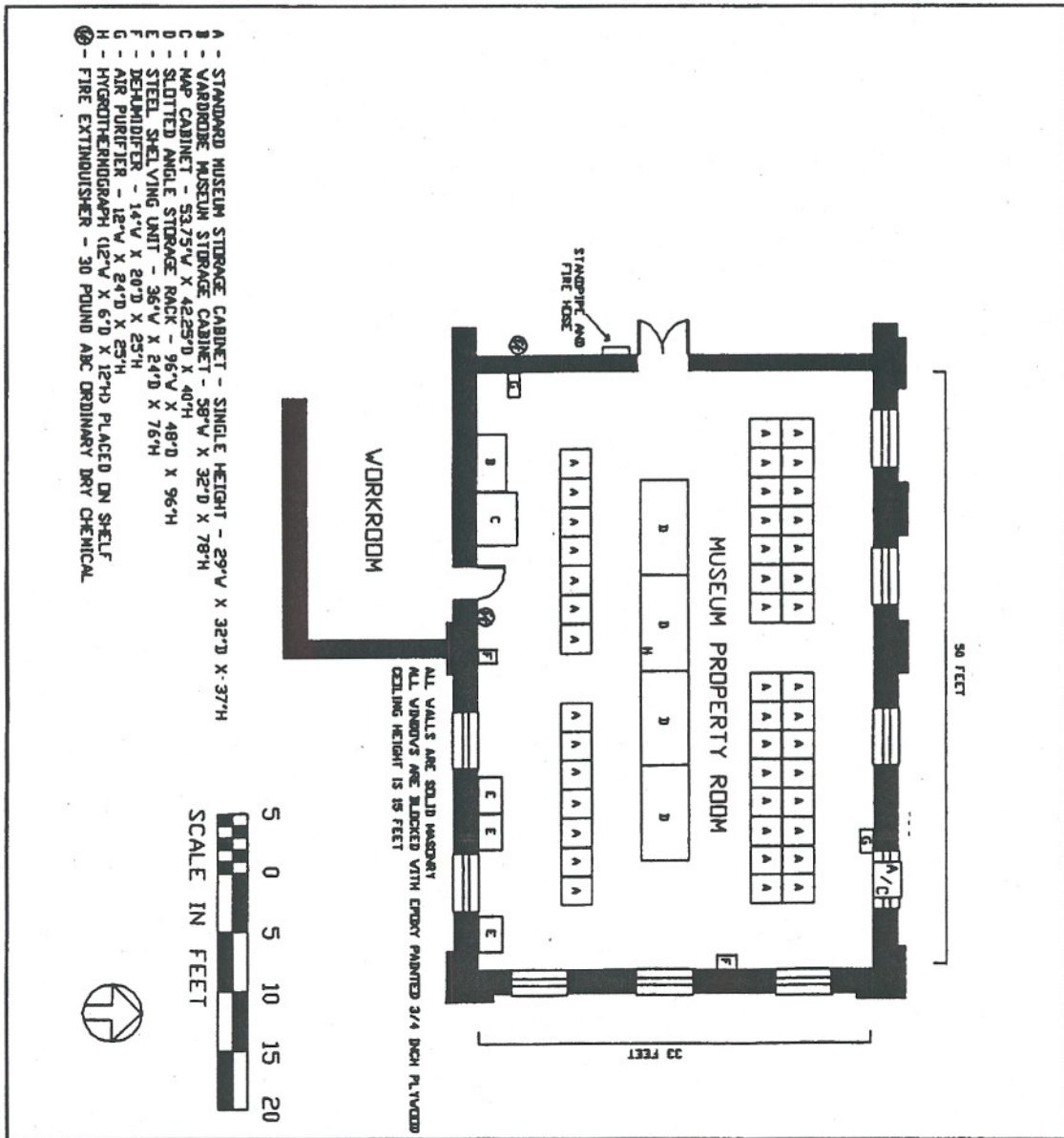


Figure G.1b. Sample Floor Plan of Museum Property Storage Space That Shows Storage Equipment Layout, Scale: 5/16" = 4'0" (Drawn with AutoCAD Computer Assisted Design Program).



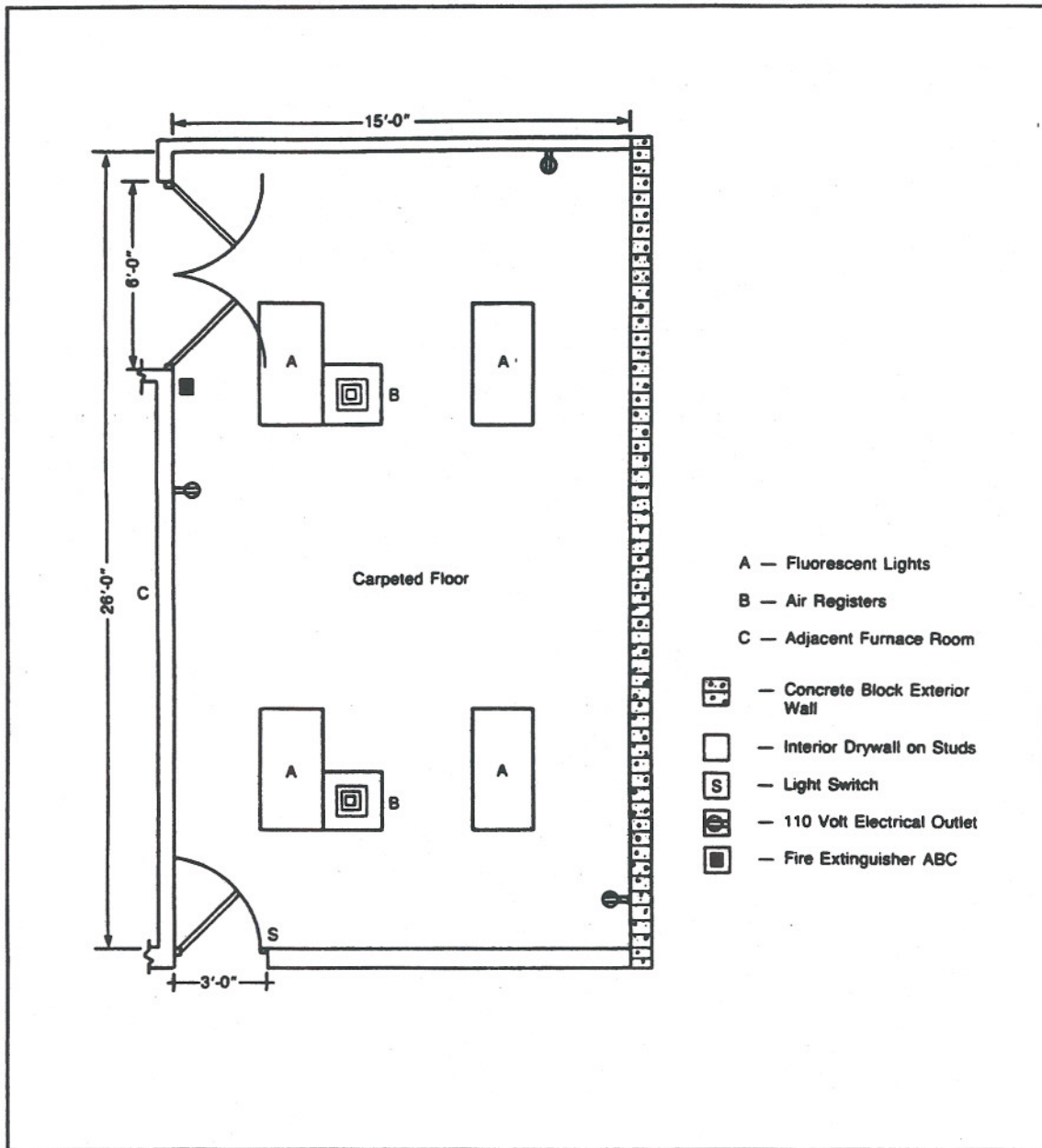


Figure G.2a. Sample Floor Plan of Museum Property Storage Space That Shows Room-Reflected Ceiling View, Scale: 1/4" = 1'0".

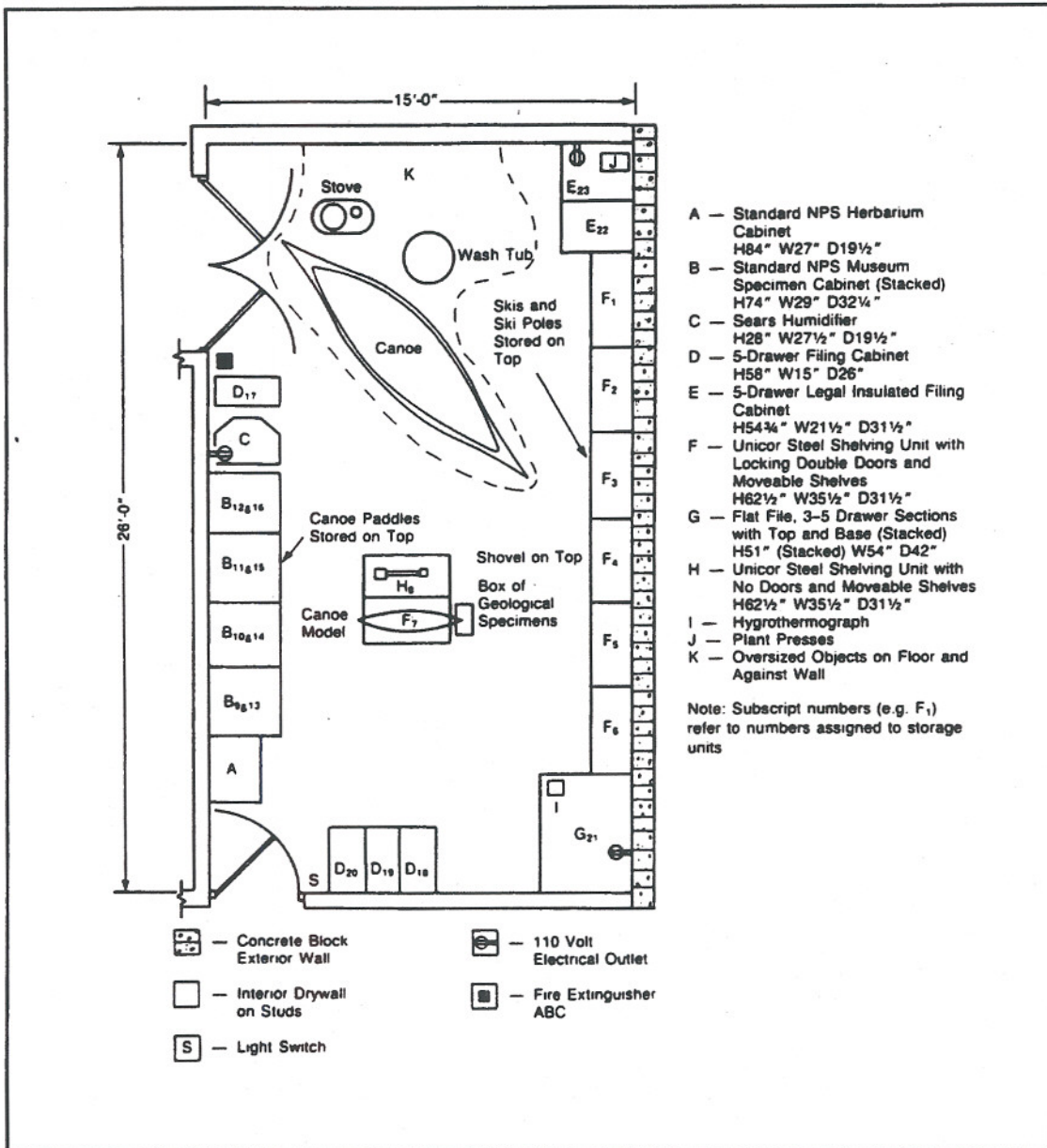


Figure G.2b. Sample Floor Plan of Museum Property Storage Space That Shows Storage Equipment and Oversized Objects, Scale: 1/4" = 1'0".