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The views, findings, conclusions or recommendations expressed in this program do not necessarily represent those of the Institute of Museum and Library Services.
Imperfect Buildings
Exhibition and Storage Solutions
in Historic Structures
Locations Within the Building

- **Attic**
  Often hot in summer, cold in winter, unventilated, uninsulated, prone to fire

- **Basement**
  Often damp, prone to flooding, cold in winter

- **Closets**
  Awkward access, not secure

- **Other**
  Ideal solution- if possible- to use dedicated space on existing finished floors
Attic

Uninsulated, unventilated, cold in winter, hot in summer
Attic

Unsafe wiring, fire hazard
Famous Museum Attic Fire

Louisiana State Museum The Cabildo, New Orleans, LA
Attic Solutions

- Insulate
- Ventilate
- Make it electrically safe
Basements

- Often damp
- Prone to flooding
- Cold in winter
Basements

Often damp
Prone to flooding and seepage because of pipes in the ceiling, “garden level” windows and unfinished and porous foundation materials...
Basements

Cold in winter and often unduly damp—much higher in RH than other areas in the building
Basements

Frost on a door hinge INSIDE basement storage
Basement Solutions

• Dehumidify
• Insulate
• Prepare for the eventuality of flooding
De-humidifier
Use water alarms to alert staff, neighbors and visitors.
Remind intuitions to raise materials up off the floor
Leak Catcher and Diverter, Sheeting in place.
Closets

• Access is often awkward
• Often located in public areas
• Often not secure
• Often obvious
Closet

There is no door on this one
Do you think this will keep people out?
Closet

This one is right in the middle of an exhibit
Closet

No doubt about what is behind this door
Closet Solutions

• Secure with doors and locks
• Disguise doors within public areas and exhibitions
• Don’t advertise to the public where your storage is
• Access these storage areas when the institution is closed to the public
Dedicated Storage on Finished Floors, a room within a room...
Exhibit Solutions

Work with the existing architecture
Often involves modular exhibit cases and large wall panels
Install completely new interior
Should be done in such a way that it can be undone without damage to existing architectural elements
Exhibit Solutions

Free standing exhibit pedestals
Wall Cases
For Exhibit or Storage Floor Loads Must be Considered

• Determine with existing documentation
• Hire a structural engineer to make these calculations
• Employ methods to spread the load on low floor load capacity spaces
• Realize that compactor storage and very heavy artifacts may not be possible
Floor Loads

Occupancy or Use Live Load (psf)

Garages
- Passenger Cars 50
- Trucks and Buses 50

Manufacturing
- Light 100
- Heavy 150

Office Buildings
- Offices 50
- Lobbies 100

Residential
- Attics 20
- Dwelling units 40
- Sleeping rooms 30
- Sidewalks 250

Storage Areas
- Light 125
- Heavy 250

Yards and terraces, pedestrians 100
Floor Loads

These will never go anywhere but the basement
Compact Shelving
Floor Loads

This platform allows the heavy weight of this printing press to be spread out over a much larger area.
Floor Loads

Compactor storage may not be possible on some floors with low floor load capacity
Other Important Considerations

- Lighting
- Windows
- Plumbing
- HVAC
- Security
- Access
- Fire Protection
- Pest Monitoring
Lighting

- Adequate
- Incandescent
- Fluorescent
  - Must be filtered for UV
- Ability to be switched off if part of another area
Lighting

Adequate? Hardly
Incandescent
Fluorescent
Windows

• Should be darkened to prevent seeing what is inside

• Should be secured
  – Sash locks
  – Wire glass
  – Security bars
Windows

Darkened to prevent seeing in
Windows

Wire embedded in glass to enhance security
Windows

Window security bars
Plumbing

• Should be relocated out of storage areas if possible—if not, look for what will be impacted and recommend moving collections if possible
  • E.g. a collection of the most rare documents from the Civil War in a map case underneath the sewer line between two bathrooms in a public library...

• May be prudent to locate catch trays and other methods of containment below pipes just in case
Plumbing

The question is not IF it will leak
The question is WHEN it will leak
Plumbing issues and roof leaks are the most common causes of damage to collections in Colorado.

A device for catching leaks and diverting the water.
HVAC

• Should maintain constant temperature and humidity
• Temperature and humidity should be monitored and corrective action taken
HVAC

A Hobo datalogger for monitoring temperature and humidity
A hygrothermograph for monitoring temperature and humidity
Security

- Doors should be made of a secure enough material
- Lock should be adequate
Doors

The most secure - a steel vault door with a combination lock
Doors

Inside the vault door- another set of steel doors with a key lock
Doors

Less secure than steel but adequate if kept locked
Ask About Access

• Who has Keys?
  – Control—only those who need keys should have them
  – Monitoring—making sure keys are returned after use
  – Documenting—knowing who goes where and when
Access

Keys and key log
Fire Protection

- Sprinklers- wet pipe vs. dry pipe
- Gas suppression- Halon, Carbon Dioxide
- Hand held extinguishers
Sprinklers
Gas Suppression
Hand Held Extinguishers
Extinguisher Types

- **A**: Common materials such as paper, wood, or most other combustibles
- **B**: Flammable liquids such as gasoline, paint remover or grease
- **C**: Electrical fires
- **D**: Combustible metals usually found in industry
Pest Monitoring

An insect sticky trap
Storage Options

• Open shelving
• Drawer Units
• Bins
• Compactor Units
• Open Storage
• Hanging Storage
  – Rolled Textiles
  – Clothing Racks
Open Shelving
Shelves With Containers
Drawer Units
Drawer Units
Compactor Units
Open Storage
Hanging Storage

Rolled textiles
Hanging Storage

Hanging clothing racks