Registrar

VOLUME 3 NO. 1 SPRING 1986

Safeguarding Your Collection in Storage

by Louis Goldich, Registrar, San Diego Museum of Art

Introduction

The San Diego Museum of Art was built during 1924–25 on the site of the 1915–1916 Panama California Exposition. Our West Wing was added in 1966 and the East Wing opened for special exhibitions in 1974. Storage facilities were pretty basic prior to the 1970s. While some of what will be discussed in this article dates from then, most is more recent, reflective of a more progressive attitude toward collection maintenance and a better understanding of the potential for disaster.

Protecting Against The Primary Effects of an Earthquake

At the San Diego Museum of Art we have a total of 8,500 square feet of storage space which is divided into four storage vaults that house approximately 10,000 objects. While the Museum may be particularly noted for its collection of Italian Renaissance and Spanish Baroque paintings, in number the decorative arts collection makes up approximately 49% of the total holdings.

Our ceramic collection is stored in cut out blocks of expanded polystyrene that have been custom-cut with a hot wire to the shape of the object. That way the objects are protected both against tumbling off of the shelves and from each other in the event of an earthquake.

Another method utilized to keep objects from tumbling off of our shelves is common garden netting with velcro hold-downs. Garden netting is available in bulk rolls or in any number of conveniently packaged pre-cut sizes: the gauge or openings may vary. A more sophisticated application of this same concept is to manufacture, preferably in-house, individually framed sections of fibreglass insect netting. In addition, our shelves are covered with microfoam sheeting, an inert material that is often used for packing. It is available in any number of densities on rolls in any number of varying widths.

To store objects in our glass collection, cardboard cartons used by paint store retailers to package four one-gallon paint cans have been divided with individually cut interlocking spacers of expanded polyethelene and lined with microfoam sheeting. The cartons were donated to the museum by a volunteer who also designed and assembled them. On the shelves where the boxes do not fit snugly together, we use garden netting to protect them from vibrating off during an earthquake.

A blueprint or map drawer unit can be utilized to store ceramic tiles. Our old wooden unit had previously been used to house over-sized prints but proved to be archivally unsafe. Nevertheless, it has proven to be most adequate for the storage of relatively indestructible heavily glazed tiles. It is currently lined with thick microfoam to protect the tiles from sliding into each other when the drawer is opened or during an earthquake.

Similarly, shallow drawered jewelery store cabinets are utilized for the storage of smaller artifacts such as snuff bottles, netsuke, lacquerware, etc. Tiny wood partitions and laboratory-tested colourfast felt are used to divide and line the drawers.

Many of our storage units, shelves, bins and drawers have been in use for quite some time. For the most part the older cases are in the process of being replaced by a new compact storage system. The new system will be used exclusively to house our collection of decorative arts. The unit will occupy approximately 760 square feet or half the amount of space previously utilized for storing the same amount of material. The system utilizes a Tab-Trac™ and will have both custom made storage elements and pre-fabricated modularized cabinets. When completed, the unit should be able to house just about everything we have been storing in wood cabinets, including all of our ceramics, glass, tiles, netsuke, snuff bottles, swords, commemorative medallions, shadow puppets, lacquerware, smaller wood and metal sculpture, pewter, silver and the majority of our textile collection.

It is an extremely secure system. Initially the track supports are attached to the concrete floor by heavy gauge rivets that are shot into the concrete. The tracks are then levelled by means of a laser light beam. Cement is then grouted between the tracks and the floor and the floorboards laid and the carriage installed. The system includes adjustable anti-tip hardware, which in the event of an earthquake, transfers the centre of gravity from the centre line of the wheel to the overall width of the carriage. The capacity of each of the carriages is 25,000 pounds, which makes this compact storage system physically suitable for all types of collections.

We store moderately sized sculpture in bins with tie downs and padding so that in the event of an earthquake, they will not bang themselves to pieces. Our furniture storage unit sports a removable front brace so that the furniture will not vibrate off the shelving during an earthquake but nevertheless can be easily removed by museum personnel. The furniture storage unit itself is secured to the walls and floor of the storage vault by brackets and footings that have been bolted directly into the surrounding architecture.

Textiles make up approximately 25% of our decorative arts collection. Our storage unit for rolled rugs and tapestries is securely bolted to the concrete floor and to the walls of the storage vault. In addition, the entire unit is cross-braced from above. The lengths of pipe for this project were donated to the Museum by a local plumbing supply firm.

Works of art on paper comprise about 40% of our overall holdings. Unframed and matted works are stored in Solander boxes. Storing the objects out of their frames is not only smart from an archival point of view but also economical from a storage point of view. This way the works are protected from potential damage by broken glass should they fall during an earthquake and require less storage space. The Solander box shelving unit is bolted to the wall behind it. The larger unframed works on paper are stored in enamel baked metal map drawers.

Paintings make up about 7% of the collection but are by far the most valuable objects in the collection. Those paintings which are not on exhibit are almost exclusively stored on screens. Our paintings used to be stored in bins but we found that stacking them against each other was both hazardous to the works and the frames. Every time we went looking for a

(Continued on p. 3)

Notes On This Issue

The production costs for this issue of REGISTRAR have been underwritten by Crystalizations Systems, Inc. We extend our thanks to them for their support.

Review
Gifts of Property: A Guide for Donors and Museums
A.A.M. and A.A.M.D.

by Renee S. Montgomery, Registrar
Los Angeles County Museum of Art

When a donor makes charitable gifts of similar property with an aggregate value of $5,000 or more within the same tax year, he is now required to obtain an appraisal from a qualified appraiser. So says the Federal Tax Reform Act of 1984 which generally went into effect on January 1, 1985. The appraisal must be summarized on an IRS form called an "appraisal summary" and this form must be attached to the donor's tax return. No appraisal summary, no deduction. Before it is submitted, the summary must be signed by a museum official, such as the registrar, acknowledging a) that the museum has indeed received the gift property, and b) that the museum understands it must file a report with the I.R.S. should it dispose of the object within two years time.

What information must be included in the appraisal and appraisal summary, who can and cannot act as an appraiser with respect to the gift, and what are the deadlines, and penalties for failure to comply with the new regulations are thoroughly described in *Gifts of Property: A Guide for Donors and Museums.* This excellent new booklet, a recent publication of the A.A.M. and A.A.M.D., provides a point-by-point explanation of the appraisal procedure and also includes a copy of the pertinent I.R.S. regulations and copies of the two I.R.S. forms you and your donors will need to complete. It can be ordered for $3 by writing to the A.A.M., 1055 Thomas Jefferson St., N.W. Washington, D.C. 20007.

I suggest that you order a few copies to have on hand to ensure that your donors receive an accurate and consistent explanation of their new obligations should they have any questions.

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Notes from the Editor

Many thanks to our contributors to this issue of REGISTRAR: Louis Goldich, John E. Hunter and Renee S. Montgomery.

For his production assistance, thanks to David Wright.

This publication has as its goal the establishment of a network for the exchange of ideas and information relevant to our profession. It can only exist through your support. Any articles, news and other information which you feel should be shared with the community are strongly requested.

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piece it was like subjecting them to a mini-earthquake. We have both aluminum and steel screens for a total of 6,000 square feet of screen storage. We utilize S-hooks to hang the works on the screens although some institutions prefer to use double-end bolt snaps.

One way we protect our three-dimensional objects that are placed on exhibit is to insure that they are displayed on a secure pedestal. When feasible, our pedestals are actually mounted to the gallery walls. Each pedestal has its own "Z" bar mount that rests on top of a matching "Z" bar mount on the wall. During installation the pedestal must be literally lifted and placed onto the wall mount and then the base of the pedestal is nailed to the baseboard of the wall. In some cases, objects are exhibited on backboards that are bolted to a wall. Finally, the object is secured to the pedestal or backboard with custom made non-abrasive brackets. The resulting display system cannot possibly topple during an earthquake or as the result of a clumsy visitor. Most of our three-dimensional objects on public display are covered by acrylic boxes which serve to protect them from both visitors and falling debris in the event of an earthquake.

You must also protect your collection while it is in temporary storage during periods of transfer from one system to another. For example, the majority of our boxed and compartmentalized glass and ceramic collections have been lashed with twine to the tops of handy in-house eight foot tables.

Secondary Effects of an Earthquake

Safeguarding against the secondary effects of an earthquake are just as important as preparing for the earthquake itself. The shakeup of your building and its contents may be only the beginning of your problems. At the Corning Glass Museum in 1972, flood waters rose more than five feet above the second floor level, serving as a reminder to what the San Diego Museum of Art's hazard analysis shows to be our most potential problem, that of flooding.

The floor plan of the San Diego Museum of Art's West Wing basement storage facility illustrates the juxtaposition of machine rooms and storage rooms. The architects who designed our West Wing unfortunately interspersed storage with machine rooms. The major problem with the design, most likely, is the close proximity of our plant support systems and the storage facilities. Misery loves company and surely we are not alone when it comes to this predicament. A quick tour reveals water and chemical stains on the walls of our decorative arts vault where seepage has occurred as a result of equipment failure compounded by drainage problems in the machine room on the opposite side of the wall.

We have experienced a variety of damage from leakage, carelessness and poor planning. This type of damage and leakage can be minimized or eliminated by sealing exterior walls, curbing machine rooms, installing sump pumps and by carefully planning exterior landscaping and drainage. Water detectors and alarms can also be very useful as early warning devices, most of the sophisticated ones can be tied directly into your present alarm system. A portable de-humidifier can be quite handy. Smaller models can hold up to 40 pints, or with a hose attachment, can run continuously. Ours are equipped with humidistats and automatic shut-off switches. Another handy tool is a portable sump or swimming pool pump. We have two.

One of the most practical ways to protect your collection from water damage is to get it off the ground. Our new compact storage system is a full eleven inches from the vault floor. Prior to 1983, our furniture collection was stored directly on the floor, just one inch of water could have devastated that entire collection. Now our furniture is stored up off the floor on an adjustable warehouse shelving system. The system was designed to fit a specific space in our decorative arts storage vault. We utilized 16 moveable pallets and 12 adjustable shelves. In addition, because everything is now shelved, we are now using half the amount of space to store the same amount of material. The heaviest objects are stored on pallets which are a good four inches off the ground. The pallet skids are made of 2 × 4's which have been treated with chromated copper arsenate to resist both insects and rot in the event of an infestation or flooding. They support a solid plywood base which is covered with a lab-tested carpeting made from a synthetic inert fibre. By the way, funds for that project were obtained through a local granting agency.

One need not spend a great deal of money to protect your larger three dimensional pieces from water damage—in fact you do not need to spend hardly any. Placing artifacts on top of 2 × 4's may not be the most secure means of support during an earthquake, but could serve to protect some of your larger objects from possible water damage.

Smaller matted works of art on paper are all stored at least 13 inches off the ground in Solander boxes on enamel baked metal shelves. Our entire Solander box shelving unit was installed by a Museum volunteer. Larger unframed works of art on paper are stored 7 inches off the ground in enamel baked metal drawers. I stress metal shelving units because they do not absorb water or moisture should there be a leak or flood in the room. Once you have mopped up the water from the floor you do not have to worry about the shelving units having absorbed moisture which could then adversely affect the environment in your store room. Paintings are as low or as high as we wish to hang them on our screens. Our largest paintings in storage are raised on a shelf that surrounds the inside perimeter of our painting vault and is 4 inches off the ground. Tapestries and rugs are at least 11 inches from the ground.

Even after you think you have anticipated every possible problem that might arise, beware. Recently we experienced some "minor" flooding, the result of a faucet left dripping into a stopped up sink that went undetected and ultimately overflowed sometime during the night. Fortunately as a result of preventative measures, no art objects were damaged. Everything in the adjacent storage room had been moved up off the floor as a matter of standard storage procedure.

In most museums, collection security is dependent upon electricity to power the alarms and systems that protect against intrusion and fire, both during hours of operation and when everyone has gone home. In the event of an earthquake, disruption of electrical power is a very real possibility. At the San Diego Museum of Art we have a standby emergency generator. In addition, we also have battery powered emergency lights in our vaults and corridors which go on when the power goes out. In addition to the emergency lights, we also have dry cell flashlights located inside each vault doorway. Exterior doors are equipped with battery operated alarms and are tested every day by the Security Department as part of their lockup procedure. Vault access is controlled by mechanical combination locks. These locks are particularly handy as the Security Department can alter the combination in a few moments, thereby assuring continual control over access. As the locks do not require any type of power assist, they are not affected by electrical outages.

Probably the most devastating consequence of an earthquake is the potential for fire. In 1978, the San Diego Aerospace Museum in Balboa Park, suffered a loss of its entire collection. The structure was located directly across a plaza from the San Diego Museum of Art. During the same summer, the Old Globe

Theatre also suffered complete destruction as a result of fire. The Old Globe Theatre is located directly to the west of our Museum and is separated only by a small picnic area and our Sculpture Garden.

At the San Diego Museum of Art we store all of our flammable liquids in an approved fire-proof cabinet. The locations of all fire extinguishers are clearly marked. Each has a permanent numbered location and all are routinely monitored by the Museum Security and Building Maintenance staff. They are halon-filled, which is neither hazardous to humans or art objects, and can be used on all types of fires. Periodically, the Security Department will arrange for presentations to demonstrate the proper use of this equipment.

Storage areas are protected by a Cardox or CO_2 fire suppression system. While it is not as safe for humans as a Halon system, it is, nevertheless, quite effective. The system can be discharged both manually and automatically. In the event of a power failure it is tied in with our emergency generator. Electromagnetic doorstops are part of the same system. In the event of a possible fire they automatically release, sealing the space being protected. The fire alarm and suppression system is tested monthly. The entire system can be monitored from the security and building maintenance office so that at any given time, when an alarm goes off, they will know the location of the problem. We are currently in the process of changing over to Halon and with some forethought and planning we hope to avoid many of the problems experienced by other institutions that have had difficulties with the nozzle discharge pressure of the Halon.

In conclusion, the information presented in this article may seem a bit overwhelming, particularly if you have not taken any precautions either in the way of preparing a disaster plan or in safeguarding your collection in storage, but there is no need to worry. You do not have to do everything at once, but can phase your projects. Financial concerns? I have indicated in a number of instances where materials have been donated and volunteers utilized to complete projects. Federal funds are available for many projects. But don't forget the private sector. Money, materials and services can be donated to non-profit organizations in exchange for attractive tax advantages.

Nevertheless, before you seek funds you must first have a plan and a notion of how much money will be needed. You can make your own lists for your own needs. For the most part, firms will be more than happy to come out to your institution to talk with you, work with you, design a system for storage and supply you with a cost estimate—all this at no charge. Do not put it off. Planning is the best disaster insurance you can invest in.

This paper was presented as part of a program for *Emergency Planning for Museums, Galleries and Archives,* hosted by the British Columbia Provincial Museum in Victoria, B.C., October 16–19, 1984.

Proceedings from this conference will be published by the British Columbia Provincial Museum. Contact Greg Evans, Training Coordinator, British Columbia Provincial Museum, Ministry of the Provincial Secretary and Government Services, 675 Belleville Street, Victoria, B.C. V8V 1X4

Selected Bibliography on Emergency Preparedness Planning and Recovery

John E. Hunter, Staff Curator
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Omaha, Nebraska

The following titles are among those providing basic, essential information on the subjects of emergency preparedness planning and recovery. Included are works on emergency stabilization of damaged museum objects and works on how to protect buildings against certain natural disasters. For a much more detailed listing, see the bibliography in the book *Museum, Archive, and Library Security* by Lawrence J. Fennelly (Boston: Butterworths. 1983). The bibliography is on pages 807-876; that portion dealing with disaster planning is on pages 860-867.

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CALL FOR ARTICLES

Microcomputers are becoming more and more a part of office technology and their uses are quite varied. Articles describing how these computers are utilized in the Registrars office, not only for collection management, but other areas as well, are requested.

Guide to Emergency Supplies and Equipment

by John E. Hunter

Suggested here are the types of supplies and equipment that may be needed to cope with a natural disaster or other event that causes damage to the museum or to its contents. Few museums will need the full range of supplies and equipment listed. Each museum should acquire only those items that will be of benefit depending on the kinds of emergencies that have been anticipated. On the other hand, this list does not pretend to be all inclusive. Almost certainly the museum will find that it will need items that have not been listed. This list is intended only as a guide.

Items listed here do not necessarily have to be stockpiled exclusively for use in an emergency. Some of these items will be found in all museums as a matter of course. They can be diverted for use in cleanup and repair operations when they are needed. However, keep in mind that the items you may count on using in an emergency may be critical to the survival of the museum and that connot be procured promptly from elsewhere after the disaster should be set aside or stockpiled in a safe place so they will be available if they ever are needed.

Remember, too, that some items—such as dry cell batteries, film, and certain chemicals—have a limited shelf life. Plan on replacing such items periodically so that fresh stock is always on hand in your stockpile.

Finally, remember always to include operating manuals or instructions with items of mechanical and electrical equipment in case someone not experienced with their operation is required to use them.

Supplies and Equipment for Debris Removal and Cleanup

- Low sudsing detergents
- Bleaches
- Sanitizers (such as chloride of lime or high-test hypochlorite)
- Fungicides
- Disinfectants
- Ammonia
- Scouring Powders or other cleaners
- Brooms
- Dust pans
- Mops, mop buckets, and wringers
- Paper towels
- Scoops and shovels
- Scrub brushes
- Sponges and rags or cloths
- Buckets
- Wash Tubs
- Water hoses and nozzles
- Throw-away containers for garbage
- Wet/dry vacuum cleaner with accessories

Tools and Equipment for Demolition, Repairs, and Rescue

- Hammers (both claw and machinists)
- Wrenches (pipe, channel lock and Vise Grips in various sizes)
- Pliers (adjustable, lineman's and needle nose in various sizes)
- Screwdrivers (straight blade and Phillips in various sizes)
- Special tools for tamper-resistant screws and bolts (if needed)
- Wood saws
- Metal saw with blades
- Utility knife with blades
- Wire cutters with insulated handles
- Tin Snips
- Pipe cutter and threaders
- Bolt cutter
- Hand drill with bits
- Pry bar or crowbar
- Axes, including fireman's axe
- Dollies or handcarts
- Sledgehammer
- Pit cover hook (if applicable)
- Folding rule or retractable tape measure
- Hydrant and post indicator valve wrenches (if there is a sprinkler or standpipe system)
- Rope
- 3-ton hydraulic jack
- Block and Tackle

NOTE: Power tools, such as saws and drills, may be appropriate for use if a source of electricity can be ensured.

- Staple gun and staples
- Ladders and stools

Construction Materials

- Plywood for covering or replacing broken windows
- Dimensional lumber
- Nails, screws and assorted fasteners
- Tapes of various kinds (masking, duct, electrician's, etc.)
- Glue
- Twine and rope
- Plastic sheeting for protection against leaks and splashes
- Binding wire

Emergency Equipment

- Emergency gasoline powered electrical generator
- Portable lights (if a generator or electric power will be available)
- Emergency lights with extra batteries
- Flashlights or lanterns with extra batteries
- Fire Extinguishers (ABC type recommended)
- Battery-operated radio(s) with extra batteries
- Walkie-talkie radios with extra batteries
- CB radio with extra batteries (if thought to be useful)
- Portable public address system or bullhorn
- Geiger counter and dosimeters
- Gas masks with extra canisters
- Air breathers with extra oxygen tanks
- Resuscitation equipment
- Gasoline powered water pump (or pump to be powered by generator) with appropriate hoses and fittings
- Heavy duty extension cords, preferably equipped with ground fault interruptors

Personal Equipment and Supplies

(some of which may be provided by the individual employees and volunteers who are to use them)

- Necessary protective clothing
- Rubber boots or waders
- Rubber gloves
- Hard hats
- Rubber lab aprons
- Protective masks and goggles or safety glasses
- First aid kits
- Food and food preparation equipment
- Potable water
- Sanitation facilities
- Changes of clothing
- Sleeping bags, blankets and pillows

Miscellaneous Supplies

- Boxes for packing and moving artifacts, records and equipment. Record transfer boxes are easiest to use, carry and store. They come flat for storage and are set up as needed; they may be re-flattened for storage and re-use. Also useful are plastic crates of the type used to transport milk cartons.
- Box sealing and strapping tapes
- Tissue paper, clean newsprint, plastic "bubble pack", foam "noodles" and other such materials for packing artifacts for relocation
- Marking pens, preferably indelible
- Insecticides and rodenticides
- Hand or compressed air sprayers (for applying disinfectants, etc.)

Miscellaneous Equipment

- Portable fans
- Space heaters
- Portable dehumidifiers
- Hygrometers and moisture meters
- Photographic equipment (35mm camera, lenses, accessories, flash, etc.)
- Photographic film
- Essential office equipment (manual typewriter, pocket calculator, pencil sharpener, stapler, rulers, etc.)
- Essential stationery and blank forms and other such supplies to ensure capability of minimal administrative operations.

Conservation Supplies and Equipment

(suited to nature of collections)

- Polyester (Mylar) and Polyethelene film
- Newsprint (unprinted)
- Polyethylene bags, various sizes (such as zip-lock or produce bags)
- Plastic garbage bags
- Thymol
- Ethanol
- Acetone
- Industrial denatured alcohol
- Dry ice
- White blotter paper
- Various sizes or thick glass of smooth Masonite
- Weights, such as shot bags
- Japanese tissue
- Freezer or wax paper
- Towels or clean rags
- Clothes pins, preferably plastic
- Scissors
- Sharp knives, such as X-Acto
- Water displacement compound, such as WD-40
- Waxes and dressings, as appropriate to the collection

This bibliography and guide is excerpted from *Preparing a Museum Disaster Plan* by John E. Hunter. In it, Mr. Hunter presents a detailed plan for preparing for a disaster, including a suggested chain of command. It was presented at the *Seminar on Emergency Planning for Museums, Galleries and Archives* held at the British Columbia Provincial Museum in Victoria, B.C., October 16-19, 1984.

Regarding Gift Restrictions:

A new IRS ruling published recently provides that donor-imposed gift restrictions will affect the donor's tax deduction. Revenue ruling 85-99 relating to Section 170 states: "When a donor places a restriction on the use of property, the amount of the charitable contribution deduction is the far market value of the property at the time of the contribution determined in light of the restriction."

The case which is cited in the ruling concerns a gift of some land to an agricultural college. The college had been seeking to acquire this parcel of land to utilize in connection with its farming research and development of new farming techniques. The owner of the land did deed a part of this land to the college but with the restriction that it be used only for agricultural purposes, not for research purposes as the college wished. Owning the property *soley* for agricultural uses was not of special benefit to the college; the highest and best use of the land was for a more valuable purpose. Therefore, as the property was encumbered by a restriction limiting its marketability or use, its fair market value had to be determined in light of this restriction.

Obviously, this regulation would generally apply to historical societies, museums or other charitable institutions which receive gifts with restrictions that hinder the institution from utilizing the gift to its greatest advantage or that limit its marketability.

(Submitted by Renee S. Montgomery, Registrar, Los Angeles County Museum of Art)

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