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Archival Products NEWS

The Davis & Associates Architectural Drawing Collection #5034

A Case Study for Processing Oversize Materials

By Julia Merkel and Cecelia Parks

THE GREEK PHILOSOPHER, Aristotle, is attributed with the phrase, "Nature abhors a vacuum" (Aristotle *Physics* Book IV, section 8), but the concept of horror vacui may be even more aptly applied to collections storage spaces whether museum, library stacks or archival storage. It was to my great dismay that a sizeable collection (five pallets of oversize architectural drawings and project records from the firm Davis & Associates, AIA) was transferred to James Madison University's Special Collections from Massanutten Regional Library in downtown Harrisonburg last spring and deposited in the aisles of Special Collections' newly acquired storage space, Carrier Library Stack 5A, for want of a better place to put them.

Stack 5A had been vacated by Government Documents only days before and its empty shelves with wide end aisle were luxurious accommodations previously unknown to Special Collections. While the prospect of acquiring an architectural collection from a prominent local firm was welcome and exciting new territory for us, the challenge of staging Special Collections' main storage move into this new space, while working around piles of unprocessed and odiferous blueprints, was not.

Transferring the gift from Massanutten Regional Library was a feat. The shrink-wrapped pallets were moved from a truck on the loading dock into the basement freight elevator, broken into smaller sections (to fit through a standard door), wheeled via rolling bins around to the much smaller stacks elevator and ridden up to the 5th level stacks where they were elevated and draped with plastic sheeting. Needless to say, "original order" was lost. The pallets ate up most of the aisle. Fortunately, just enough access remained for a library cart to navigate around the shelving and for the electricians to continue with renovations on the eastern wall of the room.

Associate Library Dean, Sharon Gasser, approved the hiring of a summer intern who would participate in daily activities of the Preservation Unit and attempt to gain intellectual and physical control over the Davis Collection.

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Cecelia Parks, a rising junior history major home from Hollins University for the summer, was up for the challenge. Her assignment: 1) identify material types, sizes and basic condition; 2) segregate items with signs of mold or insect infestation for either immediate treatment or disposition; 3) separate duplicates with retention preference for original drawings over photomechanical processes; 4) establish an inventory sorted by geographic location and date range. And if time allowed, 5) develop a finding aid to include: series, arrangement and description, and scope and content.

A spare office and extra tables were requisitioned and Cecelia was off and running! (Figure 1)

A methodology for controlling the daunting piles of drawings developed in fits and starts. Drawings were wheeled down from 5A one short stack at a time and sorted into color-coded piles based on the locale of each project. Keeping

Figure 1: Cecelia Parks, preservation intern, with stacks of unprocessed architectural drawings and blueprints. A desk and a large table were pushed together to facilitate moving and stacking oversize materials. Most of the drawings were 36 x 48".

materials up off the floor is important, and all available work surfaces in that spare office rapidly reached capacity. Rolling the papers and storing them upright in buckets was considered, but the weight could have crushed the ends of the rolls. Instead, when stacks became unwieldy they were divided, rolled, wrapped with colored cardstock, tied, assigned a number and sent to temporary storage. (Colored cardstock is definitely not a material worthy of long term preservation—we employed it temporarily for its strength and color.) (Figure 2) In a nod to the current archival practice, "More Product, Less Process," drawings were organized only geographically and not chronologically though the container list does provide date, commission number, item count and location for ease of identification within each series.

Figure 2: Color-coded stacks were crucial to access during manuscript processing—but temporary. Note the bottom rolls crushed under the heavy weight.

As part of the internship, research on best practices for storing and serving architectural drawings was conducted. Excursions to two local repositories with extensive architectural holdings were arranged. The first trip was made to JMU Facilities' Engineering Department where we met with Dennis Kiracofe, the Drafting Supervisor who oversees 50,000+ campus drawings. The second was to the City of Harrisonburg's Community Development Office where Sam Hottinger, GIS Coordinator, graciously toured digital records and multiple storage solutions. Input from the Library of Virginia, Virginia Tech and the Athenaeum of Philadelphia was also helpful for developing procedure—most notably, the security of public buildings. Access restrictions for plans to currently occupied government buildings require written permission from the occupying agency. (Approximately 80 sets of plans in the Davis & Associates collection are government buildings and many of those are public schools.)

While flat storage is the preferred method for oversize drawings, it comes with a high price. An estimate for housing the entire

Figure 3: Labeled boxes in Stack 1A are set at an angle and two feet off the floor for easier handling. (It's dark in the basement and the boxes are heavy!)Temperature is a fairly constant at 67ºF while humidity fluctuates seasonally between 35-50%RH.

Figure 4: Loose metal book shelves were used to elevate materials off the floor when table space in the spare office was exhausted.

Approximately 13,500 drawings were culled down to 9,580 and re-housed into 45 flat folders in a five-drawer cabinet.

Figure 5: A pallet's worth of discard material.

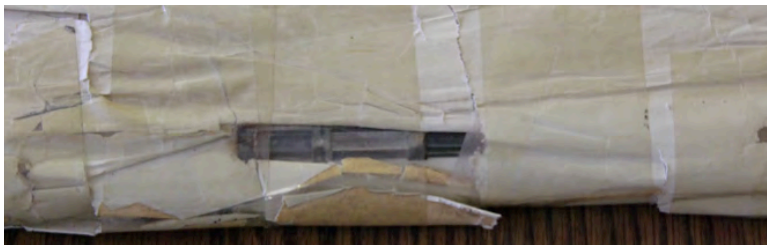

Figure 6: Working sets of architectural drawings are used and abused as illustrated by this heavy use of packing tape. For this set, we trimmed the tape to ease tension on the pages and removed metal fasteners before flattening and folding.

Davis collection in folders and flat files was over $14,000. Polyester encapsulation is ideal for mitigating exposure to off-gassing chemicals and facilitates handling of fragile documents but would have added even more weight and expense—perhaps even requiring an engineering study on the load-bearing capacity of an upper level floor. A fiscal compromise was reached: one five-drawer metal flat file for materials with the highest anticipated use was obtained and four empty drawers from an existing cabinet were allocated. The rest of the collection was rolled in pH neutral cardstock (blueprints are acidic and sensitive to alkaline agents), tied with cotton twill tape and stored in 6" x 6" x 43" corrugated boxes with 3% calcium carbonate buffering. The "gallery" size was chosen for economy and physical considerations. The boxes ship flat and open on the long edge so a heavy roll can be lifted from both ends rather than pulled out from the short end. The 43" length also allows for the drawings to be rolled less tightly —especially since they were not rolled around a tube (acid-free tubes with photo safe wraps would have been a bonus). Finally, the length allowed the boxes to span existing metal shelves in Special Collections' overflow storage, Stack 1A in the basement level of the original Madison Memorial Library. This hybrid solution cost $2,730 or >80% less than obtaining a bank of flat files and oversize folders. (Figure 3)

Accepting such a large collection with so many constraints on time and space may have been an audacious undertaking but the end result is the following manuscript collection: "Davis & Associates Architectural Drawing Collection, 1925-1985." http://www.lib.jmu.edu/special/manuscripts/5034DavisandAssociates.aspx. Approximately 13,500 drawings were culled down to 9,580 and re-housed into 45 flat folders in a five-drawer cabinet, four drawers in an existing cabinet (25 sheets per folder), 44 rolled storage boxes, and one flat archival storage box for film negatives and photographs. Following the guidelines provided by *Describing Archives: A Content Standard*, drawings were arranged topically

The intention was to make the overwhelming number of drawings easy for both the researcher to navigate online and for staff to locate, transport and safely serve in the Special Collections' reading room on the second floor.

Figure 7: Sorting—one short stack at a time. The sheet count would grow to a total over 13,500.

into seven series. The intention was to make the overwhelming number of drawings easy for both the researcher to navigate online and for staff to locate, transport and safely serve in the Special Collections' reading room on the second floor.

The architecture firm established in 1955 by D'Earcy P. Davis Jr. and later joined by Clyde McClintock (both members emeritus of the American Institute of Architects) was responsible for much of the mid-Twentieth Century modern architecture built in the western part of the Commonwealth of Virginia. The 695 separate construction projects in the collection span JMU Special Collections' acquisitions parameters of Harrisonburg, Virginia, and the four surrounding counties of Augusta, Page, Rockingham and Shenandoah. The collection also contains a rich variety of media: pencil, inks, tracing paper, diazo, sepia, synthetic vellum, drafting film, blueprints, photographs and negative films.

The Davis & Associates Architectural Drawing Collection was completed in August 2012 and made available to the public in October. The finding aid may be found on the Virginia Heritage website (http://ead.lib.virginia.edu/vivaxtf/view?docId=jmu/vihart00141.xml;query=The%20Davis%20&%20Associates%20Architectural%20Drawing%20Collection%20;brand=default) hosted by the Library of Virginia and also via WorldCat/OCLC. Our hope is that this experience processing a sizable collection of oversize materials will be beneficial to other institutions considering a similar project.

Figure 8: Full conservation would be saved for a later date. This badly damaged set from 1949 was treated with only minimal repairs.

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Reorganization of Remote Storage and Renovation for Creation of a Research Collections Library

By Jessica Phillips

AS WITH MOST ANY UNIVERSITY library that has been around for many years, space is at a premium in the University of North Texas Libraries. UNT has multiple open-stack facilities including Willis Library, Discovery Park Library, the Media Library and Eagle Commons Library. The university also has two closed-stack facilities: the older Remote Storage and the newly acquired Research Collections Library which will serve as remote storage for the libraries' special collections.

We currently have two major projects involving our remote storage facilities at the UNT Libraries. The projects depend upon each other to some extent. The driving force behind them is a need for increased space to house the UNT Library collections.While planning for these ventures began much earlier, actual work for each started during the summer of 2012. The first involves the reorganization of Remote Storage and the second comprises the renovation of a warehouse for creation of the Research Collections Library. Out of necessity, the UNT Libraries had temporarily stored some of the lesser-used materials and large donations in non-library locations across the university; however, pressure from university space planners to relinquish those storage spaces resulted in the library reevaluating existing facilities and in acquiring and renovating a new storage facility.

Remote Storage

Current shelving used in Remote Storage is best suited for books and journals; however, in addition to these materials, the facility also houses music, film reels, archival collections and items from the university's museum collection. As a result, this facility holds everything from books to LPs to a taxidermic bison head. After the shifting of materials is complete, Remote Storage will be used

Figure 1: Before the restack of Remote Storage

The most daunting of the space creating activities, however, is the restack.

primarily for housing books with low circulation statistics from UNT's libraries. The majority of the non-book materials currently housed in Remote Storage will move to the Research Collections Library.

Remote Storage is a 21,000-square-foot facility housing 600,000 items in two large rooms. Prior to the start of the reorganization, this facility was down to its last 1500 linear feet of available shelving. Several space-saving and space-creating measures are underway in Remote Storage. The Collection Development department began by targeting specific collections within the facility for evaluation and weeding. Also, with the creation of the new Research Collections Library, much space will be gained in this facility through shifting out the non-book collections. These activities will save space simply by moving and removing materials. The most daunting of the space creating activities, however, is the restack.

When the Libraries' Remote Storage was first created over 15 years ago, materials were shelved in call number order. (Figure 1) As the number of volumes being sent to Remote Storage increased, the process of shifting volumes to maintain correct order became cumbersome. The decision was made to organize the space with a simple method of next in, next on the shelf. A database tracks each volume by correlating the book's barcode with a barcode on the shelves. To find a specific book, you look it up in the database by barcode and it gives you a three-part code which translates into row-column-shelf. This same basic finding method will still be used, but the entire collection of books remaining in the facility is undergoing reorganization by size. This restack of the books is being done by one full-time staff member leading a team of nine student assistants. (Figure 2)

Figure 2: After the restack of Remote Storage

Because most of the special collections materials have not yet moved to the Research Collections Library, there is no large space available as a holding area for books being restacked. To do this, student workers focus on only a few columns of shelving at a time. The result of this will mean, for example, that there will be many shelves scattered throughout the facility holding seven-inch-tall books. This should not cause a problem because the materials will still be located using the row-column-shelf method. An important consideration in this procedure is to maintain control over where each book is during the shifting process. To this end, each item is scanned and information entered into an online in-house- created database three times: first as it is removed from the shelf, next as it is put into a sorting area with similarly sized volumes and finally as it moves to its new home. The huge benefit of sorting and shelving the books by size will be that we can fit more shelves into the same space. The Remote Storage restack is anticipated to reach completion by December 2013 and to increase shelving capacity in the facility by a minimum of 30%.

Research Collections Library

With the creation of the Research Collections Library comes the chance to design a facility that can maximize available space while optimizing environmental controls to the best of our abilities. The library was able to move into this building in June 2012. As currently configured, the 30,000-square-foot storage room holds 44 rows of 15-foot-tall shelves, which should hold an estimated 36,000 record boxes. The facility does have room for expansion with the addition of more shelving as needed.

A significant factor in the design and maintenance of this storage facility is the integrity of the building, which includes security, climate control, pest prevention and inventory control. Because the facility will house materials from Archives, Rare Books, Music Special Collections, the former museum collection and potentially items external to the UNT Libraries, security is key. The building has no windows in the storage area and all visitors to the facility, including librarians and facilities staff, must sign in and out with each visit.

Prevention of infestations is also a high priority for a facility of this type. The facility director monitors 19 sites throughout the storage area weekly for signs of pest activity. This monitoring is primarily done through the use of rodent and sticky traps. There are an additional seven sticky traps in the 400-square-foot quarantine room where newly acquired collections are held for a minimum of one week before they can be processed and moved into the main storage room. Any rodents or insects found during the weekly monitoring are noted and this information is recorded in a database detailing type and number of pests discovered. The database generates a monthly total of incidents for each site, allows the facility director to easily see any developing trends and problem areas to enable handling issues before they have an opportunity to balloon out of control. A second pest prevention practice is an enforced policy of building cleanliness and maintenance. In order to prevent dust and dirt build-up and to destroy any pest habitats, the entire storage facility is swept and mopped once every four days with a different student assigned responsibility for cleaning a quarter of the facility every day.

Figure 3: Shelving in the new Research Collections Library

A significant factor in the design and maintenance of this storage facility is the integrity of the building.

Another important consideration in the design of this facility is climate control. Being one large room, we cannot reasonably provide the ideal storage for each of the various media that will be housed within this facility. The goal, instead, will be to provide a stable environment. The facility director and the Library Facilities office are working together to determine how to most effectively reach and maintain the desired 68° temperature and 45% relative humidity. One method they are experimenting with to control the relative humidity in the building while ensuring adequate air flow is the moderation of three fans each with a diameter of approximately 22 feet. The fans are set to rotate at a percentage of their maximum capacity and at least one fan will always run at a slightly different speed than the other two. Once we determine the best

As at Remote Storage, accuracy in processing materials into this special collections facility is of utmost importance.

balance for this storage area, the facility director will create a schedule for alternating which fan runs at each speed and this rotation of fan speed will take place on a weekly basis. Finding the best balance for this space will prove an ongoing challenge and will evolve over time as the space changes and fills with materials.

Organizing, Processing and Optimizing Space

Because we started with an empty warehouse, we have the wonderful opportunity of organizing the incoming materials in a way to optimize storage space. To this end, the library facilities staff has decided to follow the plan enacted in Remote Storage and shelve materials in the order they arrive by size. Working with materials in the Research Collections Library proves a constant learning experience. Things like fan speed and shelving engineering are in constant flux. All items stored in this facility will be housed in barcoded boxes. Standard sized archival or record boxes are preferred but other boxes will be utilized for oddly sized materials as needed. Still being examined is how high boxes can safely be stacked on each shelf. As of this writing, record boxes are stacked anywhere from one to three high, depending on the weight of materials in each section. The shelves are wide enough to stack boxes two deep. (Figure 3) This space is utilized and a detailed spreadsheet kept documenting the exact locations of boxes stored behind in order to facilitate quick and accurate storage and retrieval of materials.

As at Remote Storage, accuracy in processing materials into this special collections facility is of utmost importance. Each item is scanned three times during physical processing into the online database in order to ensure that no materials are misplaced between entering the building and being boxed for shelving. Quality checks are performed daily by the facility directors at both locations to ensure all materials are being stored properly and in the correct location. The directors can check the database to see not only where a specific item should be in the process but also who was last to scan it. This monitoring allows staff to address any training needs as soon as they arise.

Author's Note

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