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Managing Competing Interests with Off-Site Storage

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Abstract:

The University of Virginia Library has had a twenty-year history of off-site storage for its growing collections. As our need to store things off-site has grown, so have the growth of a comprehensive preservation program and the preservation goals of off-site storage.

Ivy Stacks, the Library's off-site repository, opened in 1994, with books stored in boxes. A major renovation from 2010-2012 expanded that building's capacity by installing both high density shelving and sorting the books by size. Approval for an additional (and likely final) building to augment the current facility was granted in 2015. Library staff is currently in the throes of determining an array of potentially conflicting goals and hopes for the new facility. Initially, the new facility will store our humanities and social sciences collection that will be relocated during a renovation of the building that houses them. Possibilities and challenges under consideration include: positioning Ivy Stacks to be a shared print repository given its central location within the state; creating specific housing environments for some of our specialized non-book materials; maintaining faculty desires for browsable and easily accessible collections; and creating flexible spaces that can adjust to our changing needs over the next twenty years. This paper will explore the factors that are influencing programming designs for the new facility.

Keywords: off-site storage facility, environment, preservation, collections management, faculty engagement

History of the facility

Alderman Library, the largest library at the University of Virginia (UVA), opened in 1938 and is home to the humanities and social sciences collections, along with government documents and microform materials. The collection grew throughout the decades so that additional stacks, known as the “New Stacks,” were added in 1966. Pressure on stacks space continued leading to the creation of Ivy Stacks, which opened in 1994 as one of three Harvard model high density library facilities in the United States. The purpose of Ivy Stacks was to offer cost-effective, convenient, climate-controlled space to alleviate the space crunch caused by the addition of approximately 60,000 new materials each year.

This facility, located about one mile west of the main campus, known locally as Central Grounds, filled to 85% capacity by 2002 and was projected to be at 100% capacity in 2009, according to a 2006 feasibility study.¹ This feasibility study sought to address needs for staff and stacks space by modifying the existing structure in a dramatic way. The original stacks had non-movable, double-loaded bays of shelving to accommodate 750,000 books in uniform sized boxes comprising 9800 square feet.² The 2006 plan increased book storage capacity to 2.75 million volumes and created storage for film/tape/disc media. Additionally, four library departments (Acquisitions, Cataloging, Digital Library Production Services, and a new Preservation/Conservation Lab) were projected to move to this redesigned location. The entire 2006 plan was scrapped primarily because of cost and concern about damaging the working relationship amongst library units.

Still the Library needed to address the continuing dilemma of handling the growing collections in Alderman, a challenge compounded by the University rethinking the use of space where subject-specific satellite libraries were housed (e.g., the Biology/Psychology Library was closed in May 2013). The response was a much more limited project, completed in 2011, to retrofit Ivy Stacks with movable high-density shelving capable of housing 2.1 million volumes by size. This renovated facility is now 60% full, holding 1.2 million volumes.

When our first off-site storage facility was built in 1994, there was no formal preservation program at the University of Virginia Library. There was a binding program, and staff who responded to water leaks and other incidents, but a comprehensive preservation program was not established until a decade after Ivy Stacks was built. The Preservation Administrator position was vacant when the planning for the Ivy renovation began, meaning that key infrastructure decisions had been made without the expertise of a preservation administrator. Now in 2016, with the building of a new addition to Ivy, there is a well-staffed preservation unit and a library-wide infrastructure allowing collaboration and communication across areas to ensure that we create a space that addresses the many programmatic and collections care needs of these materials.

¹ “University of Virginia, Feasibility Study: Ivy Stacks Phase II University of Virginia Library System,” Charlottesville, VA. November 3, 2006, 4.

² Ibid, p. 7.

Need for an addition to Ivy Stacks

Although Ivy Stacks still has room for growth, Alderman Library has been slated for renovation and a temporary home needs to be available for moving all or a significant portion of the 2.3 million volume collection. In addition, our other libraries, most notably the Fine Arts and Math libraries, are at maximum capacity. We have projects underway to send various parts of these collections off-site, with defined criteria tailored for these individual collections. All these considerations went into the decision to create an additional building conjoined with the current Ivy Stacks facility, thereby maximizing the property available.

Another related library space project increases the need for additional swing space. The University responded to the student request for more and improved advising by planning for a Total Advising Center to be located on the second floor of Clemons Library, right next door to Alderman. Clemons Library opened in 1982 as the undergraduate library with the purpose of providing convenient one-stop shopping for students needing undergraduate research materials across disciplines. Its purpose and collection have changed during the decades and it now houses primarily dance and drama books, along with DVDs, graphic novels, and juvenile literature. Construction for the Total Advising Center begins during the summer of 2016 and will be completed during the first half of 2017.

Given the initial planning for Alderman, the current design work for Ivy Stacks, and reallocation of a floor in Clemons, the University is prepared to add compact shelving on the ground floor in Clemons Library to address current concerns about student space and loss of stacks. A tunnel joins the ground floor of Clemons to Alderman Library which we will upgrade during the Clemons construction to add flexibility in managing the uncertain future of Alderman's renovation. Depending on what decisions are made about the Clemons and Alderman construction projects and the timing of these projects, Ivy Stacks may be used to enable the movement of books amongst the libraries.

Custom storage and environments for specialized formats

Creating specialized storage spaces and environments for different formats can improve the longevity, accessibility, and usability of our collections. For example, we have a small cold storage unit in our Special Collections space, but as we gather up the collections of the second half of the twentieth century in still and moving image, our collections will outgrow the capacity of that space to slow down deterioration of our original film negatives and print masters. Providing an additional cold storage space in Ivy would do much to keep our originals in good shape for the next generation. This will not only help preserve the items long enough for good digital capture (or better digital capture if technologies improve) but also provide scholars and citizens the opportunity to study the original object where appropriate, something of extreme importance to many in our user community.

Alderman Library has an extensive microform collection, consisting of 944,119 items, according to the fiscal year 2015 reported statistical count.³ The collection primarily includes newspapers, primary resources, and government documents, many of which have online counterparts, giving us the flexibility to re-house significant portions of microform materials. The condition of the older microfilm is particularly fragile and would benefit from improved environmental control. Alderman has inconsistent and fluctuating temperatures and poor air

³ "Size of Collections," University of Virginia Library, accessed July 12, 2016, <http://assessment.library.virginia.edu/files/2016/01/2015CollectionsRev.pdf>, 3.

quality, which has had a negative impact on the view-ability and use of these materials; therefore, moving them to the new high density facility is desirable.

In addition to providing environments tailored to specific format needs, creating specialized storage spaces can be a highly strategic and efficient means of housing formats that are not designed to fit into the standard book shelving that makes up most of our storage spaces. Maps and architectural drawings are one area where this facility could provide some creative and utilitarian housing strategies. Oversize paper objects always create a challenge for proper storage, care and handling, and adequate space for research. In addition to the large number of maps that we retain as part of our role as a federal government depository,⁴ our Special Collections houses a large number of architectural collections related both to Central Virginia and to our well-known School of Architecture. Providing proper housing and a space where these items could be easily processed, stored, and used would help prevent damage and encourage use of these research-rich materials.

Many libraries and archives end up with a variety of three dimensional objects that often do not easily fit on the shelves designed to store books or papers. These items are awkward to store, awkward to move, sometimes fragile (e.g. a painting or architectural model) or heavy (e.g. busts of a donor). Designing a space that could safely store some of these little used but hard to store items from the collection would free up shelving in our Special Collections Library for items that are more frequently requested and fit more efficiently on the shelves.

Shared print repository for the state

Many institutions have turned to shared print collection programs to ensure access to the scholarly record while combatting space constraints coming from growing collections and staff.⁵ Aligned along regional or organizational affiliations, these programs can help weave together a web of local and regional shared print programs to help ensure that the resources researchers need today and tomorrow will continue to be accessible. UVA's expanded off-site storage facility might fill a gap in the regional print book collections map. This point was driven home in a slide (below) included in a talk that Jake Nadal, Executive Director of the Research Collections and Preservation Consortium, gave at the University of Virginia earlier this year.

⁴ "Maps at the U.Va. Library," University of Virginia Library, accessed June 8, 2016, <http://web.archive.org/web/20160608231649/http://guides.lib.virginia.edu/maps>.

⁵ Rebecca Crist and Emily Stambaugh, *Shared Print Programs*, SPEC Kit 345 (Washington, DC: Association of Research Libraries, 2014), 15.

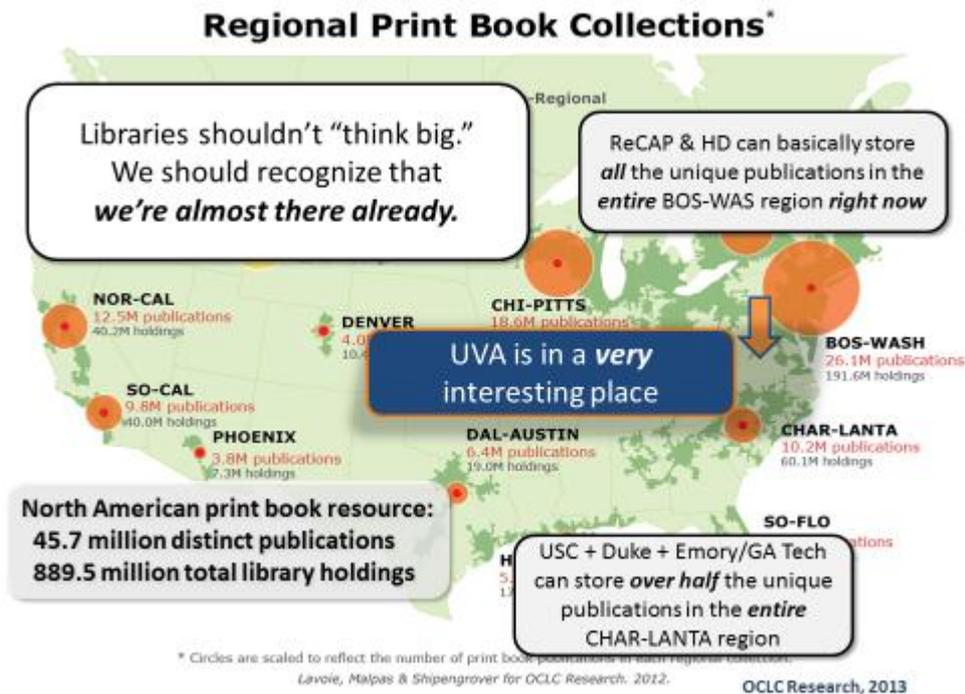


Figure 1. Slide created by Jake Nadal, "Shared Collections and Cooperative Print Archives: Lessons from ReCAP's Work to Date and Emerging Opportunities" Talk given at the University of Virginia Library, Charlottesville, VA, February 25, 2016. Used by permission.

Given the strong bibliographic interest in the physical book at UVA and the co-location of Rare Book School within Alderman Library, it makes sense to locate such a facility here where the scholars who are interested in the physical artifact can gain access. VIVA, a consortium of non-profit academic libraries within the Commonwealth of Virginia, has already begun to explore some cooperative collection development strategies, including a shared print repository. If regional depository discussions do not pan out (or even if they do), our facility might serve as a part of HathiTrust's Distributed Print Monographs Archive.⁶ As a first step in creating this archive, HathiTrust hired a Program Officer for Shared Print Initiatives who began in May 2016. It is too early to know how this initiative will play out but a first step is identifying partners and their level of commitment. UVA will be closely involved to see what role we can play. Once the Alderman renovation is complete and books have returned to Alderman stacks, the addition to Ivy Stacks might best serve our community by housing an expanded collection that will allow researchers to access and study books and journals beyond UVA's holdings.

Create an optimal preservation environment

One of the most exciting areas where the project has an opportunity (and challenge) is in the area of improving environmental conditions while reducing energy costs. As noted earlier, this building is the first significant opportunity in which Preservation Services has been an active part of the program design. A significant goal of this project is to create an environment that is a radical improvement over any collection spaces currently under the

⁶ "HathiTrust Print Monograph Archive Planning Task Force Final Report," HathiTrust Digital Library (March 20, 2015), accessed June 9, 2016, <https://www.hathitrust.org/files/sharedprintreport.pdf>.

Library's purview. According to the Image Permanence Institute's *Guide to Sustainable Preservation Practices for Managing Storage Environments*, an "optimal preservation environment is one that achieves the best possible preservation of collections with the least possible consumption of energy, and is sustainable over time."⁷ This is exactly what the various stakeholders working on this project hope to do.

Controlling temperature and relative humidity can dramatically slow the rate of deterioration for our valuable collections. Monitoring and adjusting our storage environment is the single most effective thing we can do to comprehensively preserve our cultural heritage. The challenge in most of our spaces is twofold: 1) staff spaces and collection spaces are intertwined (and these two groups have very different environmental needs) and 2) the HVAC systems are not designed to maintain ideal year round storage environments for the collections. The Ivy project offers a chance to analyze these challenges and explore solutions.

For decades, year-round near-constant temperature and relative humidity has been the standard preservation practice to promote longevity of materials. According to ASHRAE Guidelines for "Temperature and Relative Humidity Specifications for Collections," libraries and archives should store books and paper in cool storage conditions of 50 degrees Fahrenheit and 30 to 50% Relative Humidity with fluctuations of no more than +/-4 ° F and +/- 10% RH.⁸ Maintaining this constant conditioning of the air in collection spaces 24/7, 365 days a year comes with a cost in energy consumption. In central Virginia, we are especially challenged by high temperatures and extreme humidity in the summer that are well above the recommended guidelines.

Engineers typically design HVAC systems for 25 or 30 years, but libraries typically get HVAC renovations well past that expiration date. In addition to trying to maintain outdated equipment, climate change will result in increased temperatures and relative humidity levels—outdoor loads will most likely increase. If we can design our systems up front with the knowledge that we will lose some capacity in the future, we can plan for these changes and help ensure that our collections will be protected for decades to come. Putting a bit more money into the system upfront will better serve the collections long-term.⁹

In addition to spending some money upfront on HVAC capacity, we can also examine what our tolerances are for letting the building's temperature and relative humidity drift seasonally between minimal and maximum settings that prevent risk of mold or embrittlement. We can use environmental management tools like the Dew Point Calculator¹⁰ and eClimate Notebook®¹¹ to understand the effects of specific environmental conditions on collection longevity. By pairing the results of those tools with energy modelling that looks at the energy requirements to maintain these environmental conditions, all stakeholders can engage in a dialog that has the potential to improve the longevity of our collections by three-fold over current conditions in Alderman Library while reducing energy costs.

⁷ Image Permanence Institute, *IPI's Guide to Sustainable Preservation Practices for Managing Storage Environments* (Rochester, NY: Image Permanence Institute, 2012), 1.

⁸ "Temperature and Relative Humidity Specifications for Collections," *2011 ASHRAE Handbook - Heating, Ventilating, and Air-Conditioning Applications (I-P Edition)*, (Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 2011), 23.13.

⁹ Jeremy Linden (Preservation Environment Specialist, Image Permanence Institute), in discussion with the authors, June 1, 2016.

¹⁰ For more information on Dew Point Calculator, see <https://www.imagepermanenceinstitute.org/environmental/dew-point-calculator>.

¹¹ For more information on eClimateNotebook, see <https://www.eclimatenotebook.com/>.

Ivy Stacks as a collections management partner

In addition to providing a better environment for the collections, Ivy Stacks needs to be considered as a potential permanent home for some of the items currently shelved at the Alderman Library. The stacks in Alderman Library cannot be brought up to code without spending more money than it would cost to replace them. The current thinking is that these stacks will be removed and the books may all need to be temporarily housed at Ivy Stacks. Whether the stacks are actually removed or whether they are removed and rebuilt in phases is undecided at this point. As a consequence, planning for the addition to Ivy Stacks includes enough space to house the entire Alderman collection, if necessary. The extra wrinkle in this plan is that we need to make decisions beforehand about what materials should remain permanently at Ivy Stacks and which ones we would return to Alderman. Any books that will or may return to Alderman should stay in call number order and not be accessioned into the Ivy Stacks inventory system in order to save time for the Ivy Stacks staff and the shelvers when the books return to Alderman.

One logical candidate for permanent transfer to Ivy Stacks is the government documents collections, including the U.S. Federal regional depository collection. These less used materials occupy about 10-15% of the stacks space, making them a good option to be moved off-site permanently. However, many of these materials are not currently represented in VIRGO. Cataloging these collections in anticipation of a renovation and move has not, to this point, been a priority. Determining a way to easily catalog these vast holdings in such a way that they could be found and retrieved from off-site would be necessary to provide access during the renovation and, if they remain in Ivy, into the future.

Even without a renovation, the incoming flow of new books into the UVA Library is about 30,000 volumes/year, half the estimate in the 2006 report mentioned earlier. Although fewer books are arriving, this is still a significant number of materials that need to be housed in one of the libraries on Central Grounds. All of these libraries have already sent older journals and monographs to Ivy Stacks. Criteria for making additional transfers vary by library and call number range, influencing expectations for how large to make the new Ivy facility. UVA's Academic Facility Planner, Richard Minturn, estimates that Ivy Stacks should be able to accommodate incoming materials, at the rate of 30,000 items per year until 2049, which includes the flux of incoming materials and reduced stacks space on Central Grounds.

Our practice for the past two decades has been that books transferred to Ivy Stacks must be carefully evaluated beforehand since they are very unlikely to be returned to our circulating collection. The rationale was to minimize the time-consuming transfer process and, most importantly, because of the difficulty in keeping track of and reusing vacant space created by books returned to Central Grounds. We would like to improve our flexibility to accommodate changing research and curriculum needs that may necessitate returning books from Ivy Stacks to the circulating collection and transferring another, lesser used, collection in its place. This will require that we consider Ivy Stacks to be a true collections management partner, rather than a place to store little-used materials.

Improvements in print book browsing and use

Ivy Stacks has been treated as a warehouse in the past, which has had a negative impact on our ability to convey to patrons the ease of transporting materials from Ivy Stacks to Central

Grounds with our delivery service and the benefits of closed stacks for preservation and theft of materials. UVA has a history of valuing the physical book as demonstrated by the presence of the nationally renowned Rare Book School, the Bibliographical Society of the University of Virginia, and an influential English Department – all dedicated to the printed text. Faculty especially, but also pockets of students, are concerned about losing the opportunity to browse the collection in open stacks and worry that the collection will lose its coherence.

In response, Library staff has intentionally changed the way we describe the collection located at Ivy Stacks to indicate that the facility itself and the materials located there are an integral part of the library system. In order to reinforce that message, we are considering more frequent deliveries, virtual browsing, and an on-site reading room that will provide enough space for researchers to use individually or in small groups.

Work is currently underway to add a virtual browsing feature to VIRGO, the Library's online catalog, which should allow users to see books, regardless of library location (including Special Collections), as they would appear if actually shelved in one location. We subscribe to a service which provides online access to dust jackets, summaries, table of contents, and reviews which will be included in virtual browsing to enhance the experience. Adding this capability is critical in addressing faculty and student concerns about the loss of accidental and serendipitous discoveries made by physical browsing.

The Library is also participating in a CLIR (Council on Library and Information Resources) Hidden Collections grant exploring how to identify and describe marginalia and other reader interventions from pre-1923 materials, the majority of which are located in Ivy. By increasing the metadata describing the unique elements of our circulating collections, we hope to increase interest in these volumes as well as mitigate some of the loss of serendipitous browsing.¹²

Limitations of price and legislative reality

Part of the challenge in discussing changes to Alderman Library, the value of Ivy Stacks, and space modifications in other libraries is stakeholders' lack of understanding about how the approval and funding process works at UVA and at the state level. UVA has a culture of cherishing the past, which sometimes creates competing interests in implementing necessary changes with a limited budget and staff. The amount of money currently allocated for the Ivy Stacks addition is coming from the Alderman Renovation budget, since this was the impetus to build the addition now. More money spent on the Ivy addition means less money is available for the Alderman Renovation, the largest, most iconic, and most recognizable library at UVA. Meeting the hopes of all affected parties is likely not possible, but acknowledging everyone's desires, understanding the needs of our various stakeholders and the needs of our collections, and effectively communicating what is possible and how we make our decisions are vital steps in managing users' expectations. We will need to think not only about today's users, but tomorrow's. We will have to consider not only what is best for the collections, but what is best for the environment. We will have to prioritize. Carefully balancing all of these conflicting interests will ensure that both Ivy, our off-site storage facility, and the iconic Alderman Library (opened eighty years ago), will serve our users for another eighty years.

¹² "Book Traces @ UVA," University of Virginia Library, accessed June 30, 2016, <http://booktraces.library.virginia.edu/about-2/>.

Acknowledgments

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References

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. *2011 ASHRAE Handbook - Heating, Ventilating, and Air-Conditioning Applications (I-P Edition)*. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 2011.

Crist, Rebecca, and Emily Stambaugh. *Shared Print Programs*. SPEC Kit 345. Washington, DC: Association of Research Libraries, 2014.

HathiTrust Digital Library. *HathiTrust Print Monograph Archive Planning Task Force Final Report*. March 20, 2015. Accessed June 9, 2016.

<https://www.hathitrust.org/files/sharedprintreport.pdf>.

Image Permanence Institute. *IPI's Guide to Sustainable Preservation Practices for Managing Storage Environments*. Rochester, NY: Image Permanence Institute, 2012.

University of Virginia Library. *Feasibility Study: Ivy Stacks Phase II University of Virginia Library System*. Charlottesville, VA: November 3, 2006.

University of Virginia Library. *Size of Collections*. Accessed July 12, 2016.

<http://assessment.library.virginia.edu/files/2016/01/2015CollectionsRev.pdf>.

University of Virginia Library. *Book Traces @ UVA*. Accessed July 12, 2016.

<https://web.archive.org/web/20160712202737/http://booktraces.library.virginia>.

University of Virginia Library. *Maps at the U.Va. Library*. Accessed June 8, 2016.

<http://web.archive.org/web/20160608231649/http://guides.lib.virginia.edu/maps>.