



*High Density Storage*



*Rockefeller Library*



*Science Library*

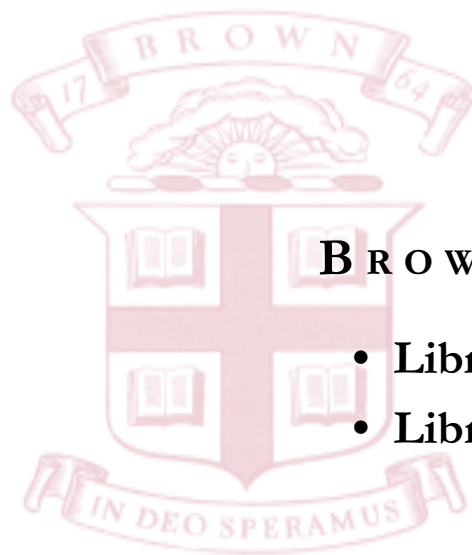


*Hay Library*

# BROWN UNIVERSITY LIBRARIES

LIBRARY OVERVIEW  
LIBRARY STORAGE ANALYSIS

SHEPLEY BULFINCH RICHARDSON AND ABBOTT  
JULY 2002



**BROWN UNIVERSITY**

- **Library Overview**
- **Library Storage Analysis**

**July, 2002**

**SHEPLEY BULFINCH RICHARDSON AND ABBOTT  
40 BROAD STREET  
BOSTON, MA**

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## **Participants**

### **Library Collections Annex Planning Group**

Sam Streit, Chair, Associate University Librarian, Special Collections

Bonnie Buzzell, Head, Circulation Department

Florence Doksansky, Associate University Librarian, Public Service/Collection Development

Michelle Ganey, Planner, Facilities Management

Matthew Jaquith, Manager, Collections, Storage and Care

William Monroe, Head, Collection Development

Barbara Schulz, Head, Business Services

Eric Shoaf, Head, Preservation Department

Carol Tatian, Library Collections Annex Information Coordinator

Merrily Taylor, University Librarian

Shepley Bulfinch Richardson Abbott, Consulting Architects/Planners

### **Consultants**

Reese Dill, Dill and Company, Inc.: Library Storage Consultant

Daedalus Projects: Cost Estimating

## **i. Introduction**

The academic research library of the 21st century remains a vital component in the scholarly life of today's leading colleges and universities. However, its strategic role has undergone intense scrutiny in recent years. As new information technologies have been more fully integrated into colleges and universities throughout the country, it has been important to assess the impact of the comprehensive networking of new information technologies on scholarly life, and to reassess the role of the academic research library within the University.

Through our experience at other institutions, it has become evident that as new patterns of teaching and learning, have emerged, the research library has been noticeably strengthened as the center of university scholarly life. University libraries that have been responsive to recent shifts in the accessing and use of information have experienced a substantial increase in both their physical usage and the demand upon their services. As a result many of the universities we are working with are endeavoring to transform their library buildings into physical places that respond to the need for new service patterns and for transparent access to physical collections and digital resources. They are recommitting themselves to the maintenance of printed collections in concert with robust development of digital information sources. Moreover, they have attempted to provide within the library a sense of "place" through the creation of environments for collaborative scholarship and research activity complementary to the aspirations of the institution.

The goals set forth in the Brown University Library's 1999 Strategic Plan describe a library system that is "well integrated with [Brown's] local and virtual communities, serving as a dynamic real and virtual extended classroom". To achieve this, Brown needs library facilities that can accommodate the dynamic range of services and uses expected from a 21st century academic research library. The existing library buildings at Brown were designed around a set of aspirations applicable to the use of libraries several decades ago. While expectations for programs and services have moved beyond these aspirations, the structures that house them have not.

In particular, the libraries housing Brown's primary general collections and services, Rockefeller Library and the Sciences Library, are inadequate to meet current University standards and goals. They need to be transformed into facilities that provide space for the services and technologies needed to access, generate and transmit knowledge, and they must incorporate spaces suitable for a wide variety of research activities, both solitary and collaborative. The libraries must be aesthetically appealing, welcoming and accessible, incorporating gathering spaces that promote interaction in a scholarly setting, and they must be flexible to adapt to continuously evolving functional requirements.

This report recommends a crucial first step in the revitalization of Brown's library facilities: the implementation of a robust, accessible off-campus collection storage and retrieval system. Like many of its sister institutions, Brown acknowledges that its central campus libraries cannot continue to function as the primary repositories for large amounts of collection materials at the expense of essential services, staff operations, and facilities that promote the advancement of scholarly pursuits. Quickly becoming a critical component of many major academic research libraries, the proposed off campus library storage facility will maintain access to all valuable components of the Brown Collections while making possible the implementation of program components and new spatial configurations that are vital to the realization of the library's strategic goals.

## **ii. Executive Overview - by Brown University**

### **Purpose**

The goals of this study are twofold. The first is to plan for an off-campus library storage facility, which will resolve the overcrowded stacks at the Rockefeller, Sciences, John Hay, and Orwig Libraries. The University's library system is currently operating at more than 90% capacity. Working capacity for a library is documented as 85%. The overcrowded conditions stem from steady growth of the University's collections, and lead to inefficient shelving operations, but more importantly, to a less navigable collection for users. Very low-use material has been sent to Harvard Depository Library over the past ten years in an attempt to free space within the libraries. However, the number of volumes that need to be stored and their frequency of use has reached a level where sending to, storing in and retrieving from Harvard would be cost prohibitive and does not serve library users. In addressing the overcrowding, it is critical to contemplate the vision for Brown's 21<sup>st</sup> century Libraries. Therefore, the second goal is to define what kind of collections, programs, public space, administrative functions and related spaces are needed for the future. This will determine how the University Libraries are used and how much material is moved off-campus. It offers an opportunity to coherently shape the library collections that remain on campus in a way that will enhance the user experience in the physical library. Understanding the long-term future of the on-campus Libraries is critical in the proper planning of a storage facility and vice versa. While the planning of the storage facility is intended to be very specific and detailed, the library visioning is intended to be conceptual and stand as a planning document for future study of specific library renovations and reprogramming.

### **Methodology**

In the Fall of 2002, the architectural firm of Shepley Bulfinch Richardson and Abbott (SBRA) was hired with sub-consultant Reese Dill, the country's premier expert in planning library storage facilities. They formed a planning group with representatives from Brown University, which met regularly during the winter months. The operational issues of off-campus storage facilities and their physical requirements were researched, and several facilities at comparable institutions were visited. Numerous past reports and studies relative to the libraries, as well as existing physical information on the facilities were transmitted to SBRA for analysis. A visioning session was held in March of 2002 with faculty, staff, students and administrators. The goal was to focus on visions of what a 21<sup>st</sup> century research library facility should look like, and on how trends in research, study, and teaching can best inform the re-design of the libraries.

Two meetings were held in April to communicate with the library staff about the planning for the storage facility.

## **Library Planning**

### **Overcrowding**

In order to resolve the overcrowding in the Rockefeller and Sciences Libraries, it was determined that the capacity should remain at a steady 80% full and 6-shelves high, which allows efficient shelving operations and a browsable collection for research and scholarship. It was also determined that books should be "interfilled" which means that books of varying heights are kept on the same shelf. Although this reduces the efficiency of the stacks, it greatly improves navigation for users.

**Program**

Future programs identified for the libraries focus primarily on user and public spaces, such as reader seating and study space (active and group). Also included is an increased program for Media Services, the Map Room (with a new Geographic Information Service center), and staff space to process material for the new storage facility. These program elements do not require a significant amount of square footage. However given that the Rock and Sciences are of an age where significant maintenance, infrastructure, code, and interior updates are due, it is recommended that a comprehensive renovation be undertaken including interior programmatic space changes.

**ADA Compliance**

Due to the need for significant renovation, code will require that all spaces be handicapped accessible (ADA). This results in the need for wider spacing between shelves, which ultimately results in loss of square footage.

**Scholarly pursuit**

It is critical to maintain a browsable collection sufficient to support the curricular and research requirements of the Brown community. While it is not possible to predict the exact size of a viable browsable collection, it is our best estimation that returning the Rockefeller Library to the 1,000,000 volumes it was originally designed to hold, will achieve this goal.

**Volume Reduction Targets**

Based on these planning parameters, it has been determined that the Rock must be reduced from approximately 1.5 million to 1 million volumes. Sciences will be reduced from 600,000 to 300,000 volumes. Orwig will be reduced by 16,000 volumes, and the John Hay will be reduced by approximately 40,000 volume equivalents. Capacity will be held at these numbers, with all future growth being accommodated by sending the same amount (as growth) from the libraries to the storage facility.

**Expansion**

In both the Rock and Sciences, space was evaluated to determine if the new program and code required spaces fit within the existing footprints or if a significant building addition is required. Additional desired program square footage is not significant, yet in the Rock the small addition of a Winter Garden at the area of the Chaffee Garden is needed if critical user needs are to be accommodated. It is also noted that a small addition to the Sciences Lobby would complete the recommended space concepts in this building. Both expansions provide environments currently missing from the facilities and greatly improve public spaces.

Since the desired program does not require a significant new building, the parking lot adjacent to the Rock's west side is reserved for future construction. The program for the building should be addressed in a University master plan process. Ideally, it will serve the entire University for teaching and learning activities, yet also complement the Library's academic mission.

**Space Needs:**

<b>Rock</b>		<b>Sciences</b>	
Reduce Stack Crowding	13,300 sf	Reduce Stack Crowding	6,600 sf
New Program	9,725 sf	New Program	10,450 sf
ADA	24,900 sf	ADA	11,900 sf
<b>subtotal</b>	<b>47,625sf</b>	<b>subtotal</b>	<b>28,950 sf</b>

**Potential Space Gain:**

<b>Rock</b>		<b>Sciences</b>	
Collections to Annex (550,000)	28,275 sf	Collec. to Annex (300,000 vol.)	26,500 sf
Level C Public Browseable	11,300 sf	Journals Electronic	1,500 sf
Compact Shelving Level C	3,000 sf	Lobby Expansion	1,000 sf
Winter Garden	4,800 sf		
<b>subtotal</b>	<b>47,825 sf</b>	<b>subtotal</b>	<b>29,000 sf</b>

**Budget: (Note: Current dollar values)**

**Rockefeller Library:**

**TOTAL PROJECT BUDGET (Renovation and Expansion):** **-\$52,237,000**  
202,100 SF

**Sciences Library:**

**TOTAL PROJECT BUDGET (Renovation and Expansion):** **\$31,453,000**  
121,740 SF

**John Hay Library:**

**TOTAL PROJECT BUDGET:** **\$336,000**

**Future Phase:**

Phase II, Rockefeller Adjacent Site Expansion (40,000 gsf)

**TOTAL PROJECT BUDGET:** **\$16,800,000**

## **Library Collections Annex**

### **Physical Facility Requirements**

The planning group visited 10 facilities and held 2 telephone conference calls to evaluate various methods of library storage, inventory and retrieval. Of the several models, high density is recommended for its efficient use of space, large volume capacity, modular capability (provides ease of expansion), and cost effective storage, processing and retrieval methods. Specific criteria for a storage facility includes:

- Protection and preservation of collections by providing an archive quality preservation environment.
- High quality service with excellent inventory and retrieval systems for quick and reliable access to materials.
- On-site reading facility for research conducted at the annex.
- Close proximity to campus (within 15 minute drive).

The storage facility must provide a high-bay storage module (30 foot high is most-desirable) of at least 9,000 square feet with approximately 10,00 square feet of lower height support space for book intake/processing, staging, staff support space, and a reading room. The high-bay module must be fully sprinklered and climate controlled with 50 degrees temperature, 30% relative humidity to achieve a preservation quality environment. The building envelope (walls, roof, floor) must also be absolutely weather tight to maintain the climate controlled conditions. A weather-protected loading dock is required for delivery of books to and from the facility. 10 Park Lane is currently being evaluated for purchase by the University. The industrial building is in Providence, and is a 10-minute drive from campus. Initial reviews indicate the space can be renovated to meet the identified program and spatial needs, and will hold approximately 1.5 million volumes. The site has expansion capability to add one or two additional storage modules adding 2-3 million volumes of capacity.

### **Operational Needs**

The planning group formed four sub-working groups to identify operational needs for a storage facility. These groups will continue to meet until the Library Collections Annex is fully operational.

**Selection** focuses on what material will go to the annex from campus libraries. Selection will be a collaborative, consultative effort with staff, faculty, and interested constituents. The selection of materials must start well in advance (at least one year) of the storage facility opening.

**Transfer** focuses on processing material at the campus libraries that will go to the annex, transporting to the annex, and intake of material into the annex. Processing material that is selected to go to the annex must start well in advance of the facility opening, and should be simultaneous to the selection of materials.

**Service** focuses on quick, reliable delivery of materials from the annex upon request. It is also important to provide reader space at the facility for patrons who wish to conduct research at the annex.

**Public Relations** focuses on communication and consulting with library staff and the campus community via meetings, presentations, forums, articles, website, etc.

### **Implementation**

The campus libraries are in critical need of space. Continued collection growth, and the use of collections will be severely hampered unless a library annex is opened. Because of the significant overcrowding in the libraries, it is desirable to implement a “push” project which will move materials from the Rock, Sciences, Hay and Orwig and reduce collection storage in these facilities to 80% capacity. While a “push” project is in place, it is also desirable to relocate the necessary number of volumes for ADA code upgrades and interior renovations.

This means that at the end of the “push” project, the Rock and Sciences will be ready for complete renovations. A push project will require a significant increase in library staff. During the 5 year period, an average of 15 employees per year will be needed to select and process material at the library and then transfer it to the annex.

Lastly, annual growth of the collections must be accounted for at the Rock, Sciences, and Orwig. Predicting growth of the John Hay library is difficult due to the nature of special collections acquisitions. It is assumed that all future growth will be accommodated at the Library Collections Annex by sending the same amount from libraries to the facility. The additional staff needed to process annual growth on a permanent basis is 5 employees.

	<b>80% capacity</b>	<b>ADA &amp; New Program</b>	<b>Subtotal</b>
<b>Rock</b>	400,000 volumes	150,000 volumes	550,000 volumes
<b>Sciences</b>	40,000 volumes	280,000 volumes	328,000 volumes
<b>Hay</b>	41,000 volumes	N/A	40,800 volumes
<b>Orwig</b>	16,000 volumes	N/A	16,400 volumes
		<b>SUBTOTAL</b>	<b>925,200 volumes</b>
		<b>Harvard Depository</b>	<b><u>246,430 volumes</u></b>
		<b>TOTAL</b>	<b>1,171,630 volumes</b>
		<b>Annual Growth</b>	<b>37,000 volumes/year</b>

This is a very large volume of materials to move, and a “push” project will require adequate staff to process the material at the libraries and the annex. Following is the preferred scenario for the “push” project:

<b>Task</b>	<b>Complete</b>
Design and Renovate 10 Park Lane	May 2003
246,430 Harvard materials into Annex	August 2003
340,000 volumes into Annex	June 2004
360,000 volumes into Annex	June 2005
240,000 volumes into Annex	June 2006
170,000 volumes into Annex	June 2007
(37,000 volumes annual growth to Annex Yearly, after 2007)	
<b>1,356,630 volume + volume equivalents. (Includes 5 years growth @ 185,000 volume equivalents)</b>	

The annex is estimated to hold approximately 1.5M volume equivalent and is predicted to be full by mid 2011.

**Budget**

**Construction and Physical Costs:** \$4,600,000  
(Construction, FF&E + Project Costs)

**Staffing & Operational Costs \***

Base Budget Staff Costs: \$ 215,000 annual  
 Base Budget Operational Costs \$ 32,000 annual  
 Push Project Staff Costs: \$ 2,620,000 TOTAL for 5 years (2003-2007), and in addition to annual base budget  
 Push Project Operational Costs: \$1,100,000 one-time costs, includes moving

\* Does not include records management costs – see report for details.

## **Conclusion**

With the steady growth of the Brown University Library's collections, space for shelving books and other materials has been at a premium for a number of years. Research libraries across the country are having similar space problems, and a survey of research libraries in the United States shows that 82% already have their own storage facility either on campus or close by. A storage facility at Brown will allow improvements at the campus libraries that will greatly enhance the user experience. At the same time, it will allow us to protect vulnerable materials from excess handling, further our commitment to responsive tracking and delivery of materials, and provide maximum preservation and prolonged life of the collection through an archive-quality environment.

The significant number of volumes targeted for transfer to the new facility is proposed to eliminate overcrowding and provide more on-campus flexibility for services, that requires a different configuration of existing space. In order to achieve these goals, an implementation plan must be adopted, including an increase in staff to process books at the campus libraries and at the storage facility. With an aggressive approach it will take approximately five years before enough material is transferred from the campus libraries making them ready for renovation and reconfiguration. Anything less than the recommended "push" project will prolong the opportunity to significantly improve existing library programs, spaces, and services.

Long term planning should consider expansion of the storage facility through the addition of storage modules (as needed), as well as the construction of a new addition adjacent to the Rockefeller Library. This addition is important in supporting the library's academic mission, as well as the goals of Brown University for moving into the 21<sup>st</sup> century. It should provide state-of-the-art multi-media technology spaces for teaching and research. It must also be closely coordinated with the ever-evolving services of the library to ensure the ongoing high quality of research and scholarship conducted at Brown.