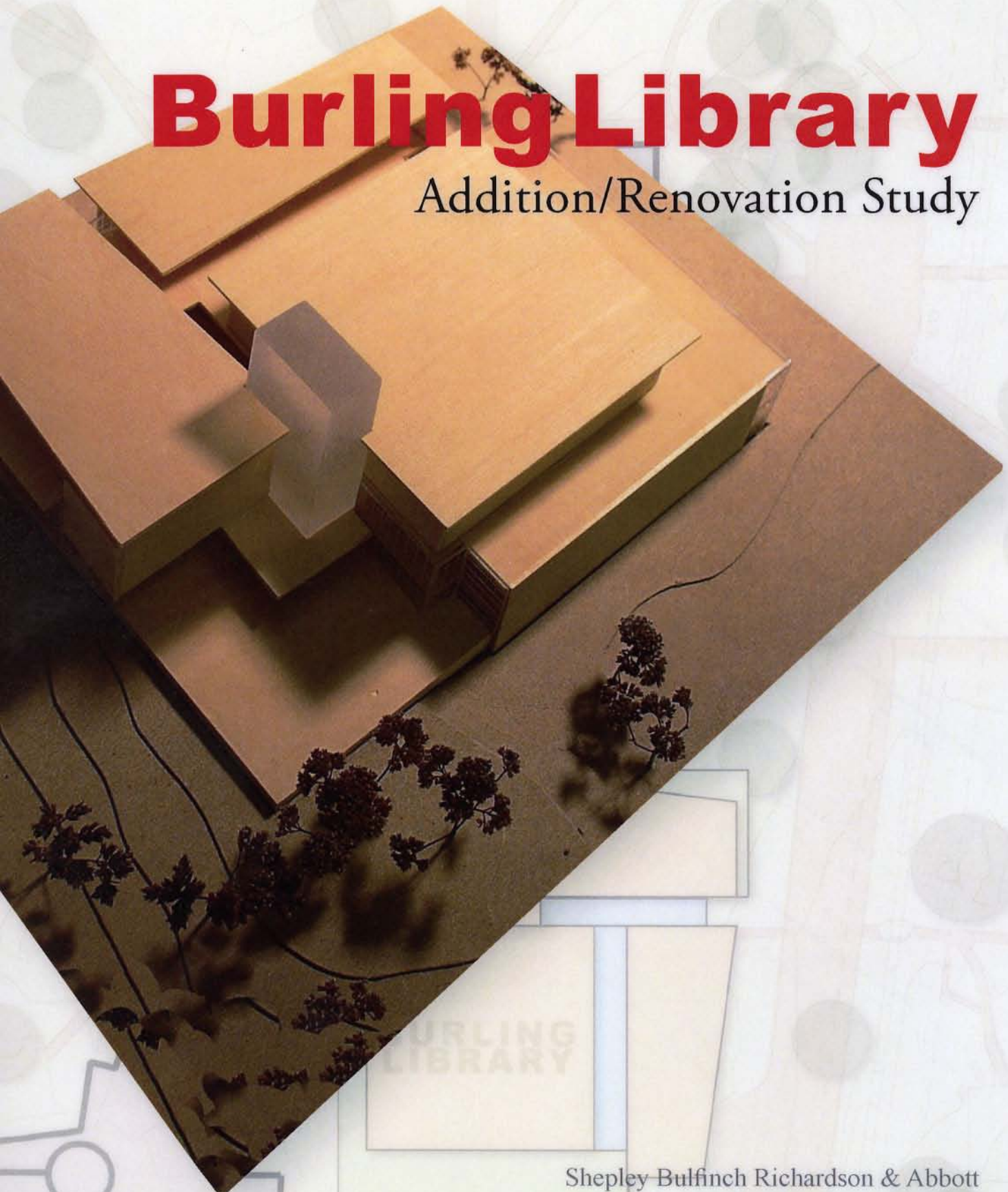


GRINNELL COLLEGE



# Burling Library

Addition/Renovation Study

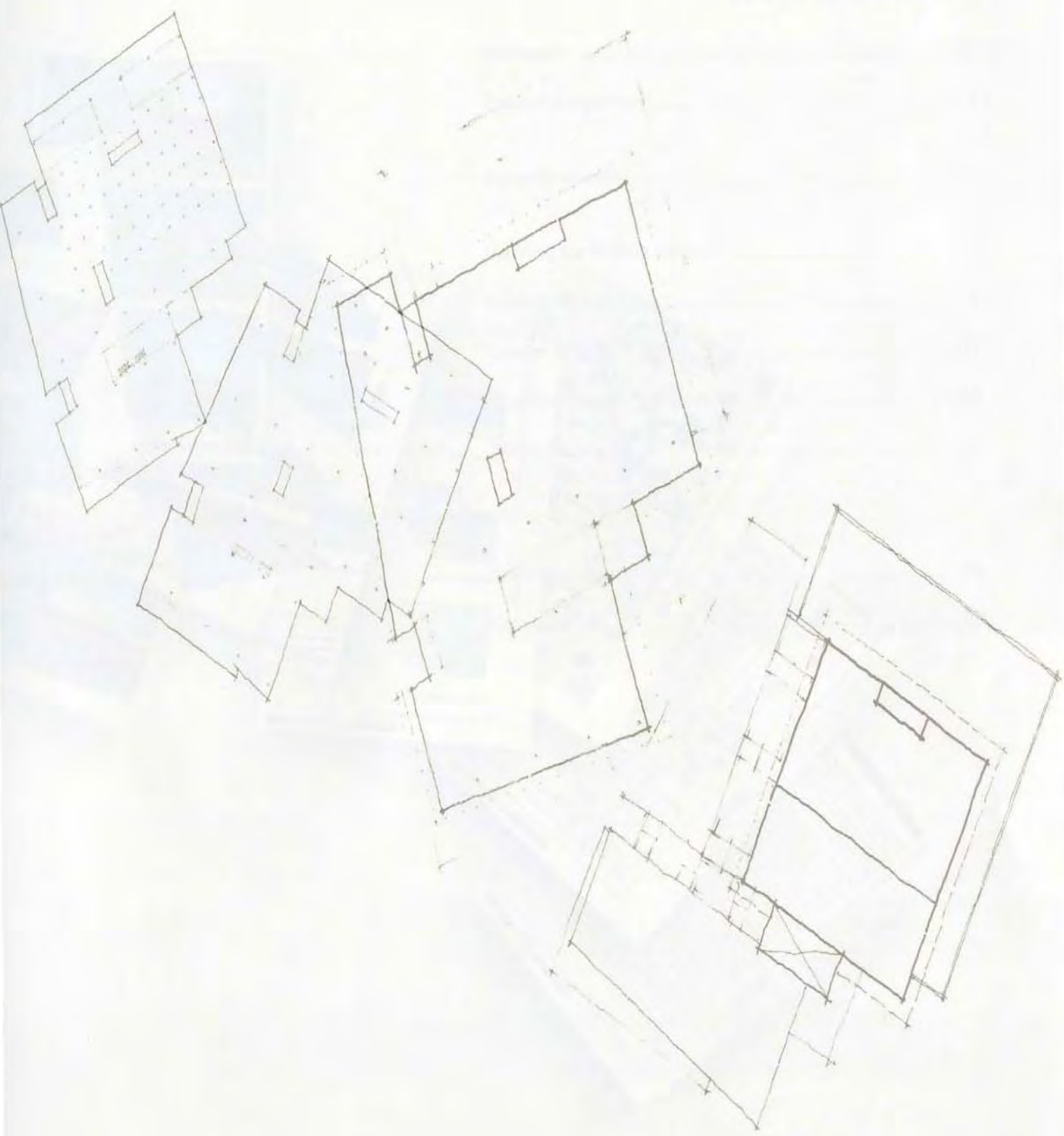


Shepley Bulfinch Richardson & Abbott

30 September 2005



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PLB 28  
2005







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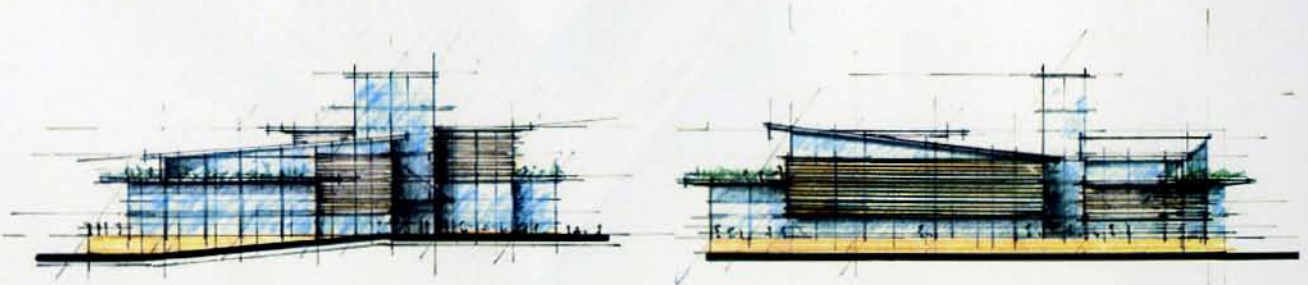
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3D Model view of Grinnell Campus Area





## Foreword

This report is the result of many contributions. In the course of this project Shepley Bullfinch Richardson & Abbott (SBRA) and the Burling Planning Committee consulted with members of the campus community in several venues: brown bag lunch discussions, formal presentations, meetings with the faculty Instructional Support Committee and the student government Joint Board, an electronic discussion board and a comment box with plenty of note paper and pencils.

What we learned was heartening: the campus community loves Burling. They love its coziness and books, and the way its windows glow in the night. They love looking out over the campus from their study spaces. Most of all, they value the people who staff the library and help them with their research projects and course work. This abiding affection makes the contemplation of change difficult, but it also is testimony to Burling's place in the intellectual life of the College now and in the future.

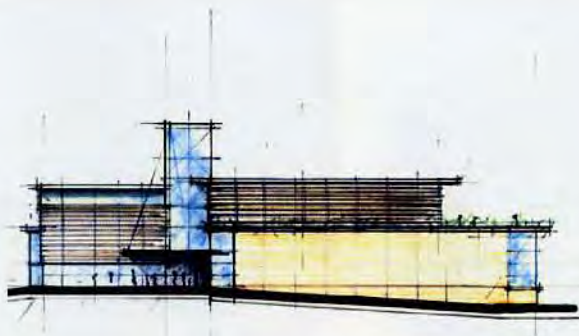
The result of the planning process is presented in this report by SBRA. It is an exciting vision of

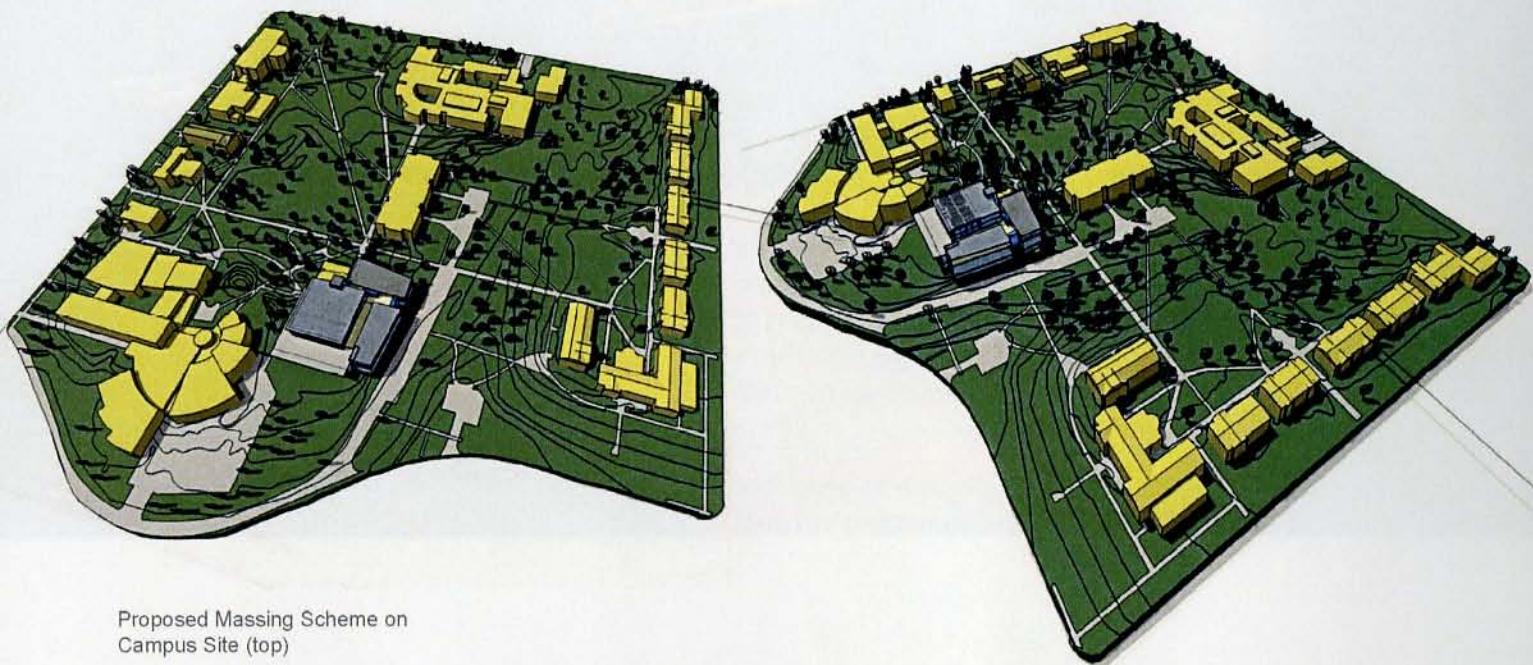
Burling's future that embraces what people love about the library and addresses the present and future needs of our learning community. This plan does not simply fit Information Technology Services (ITS) into Burling, but envisions how ITS and Library professionals will work together to support learning and research at the College.

Some of the news emerging from the master plan, however, is difficult to hear. SBRA has successfully incorporated all of the elements of the program within the plans for a renovated and enlarged Burling, but renovation and expansion will be difficult and may not result in a building capable of sustaining our teaching and learning goals sufficiently into the future. We will need to grapple with these facts as we contemplate Burling's future.

### *The Burling Planning Committee*

**Burling Planning Committee:** Gail Bonath, Jonathan Brand (2004/05), Bill Francis, Mark Godar, Christopher McKee, Rebecca Miller (2004/05), Chris Ochoa (2005/06), Mark Schneider, and Marci Sortor





Proposed Massing Scheme on  
Campus Site (top)

Perspective Views of Proposed  
Scheme (bottom)







## Executive Summary

President Osgood charged the architectural firm of Shepley Bulfinch Richardson & Abbott (SBRA) to work with Grinnell College's Burling Planning Committee to develop a master plan for Burling Library that would consider a possible expansion and renovation of the existing building and explore the feasibility of locating ITS there. The resulting conceptual design explores the feasibility of future renovations and additions to the

existing 58,400 GSF

Burling Library through the development of a vision statement, building program, space planning diagrams, conceptual design diagrams, and models.

The expanded vision of the library described in this report will propel academically progressive campus into the future. The

resulting 142,000 GSF building will move Grinnell College from the lowest rank in terms of library GSF (please see Appendix: "Library Facilities at Grinnell's Peer Colleges") to the forefront of its peer institutions in terms of space allocation and program. Positioned thus, Burling library should retain a leading role among its peers for decades to come.

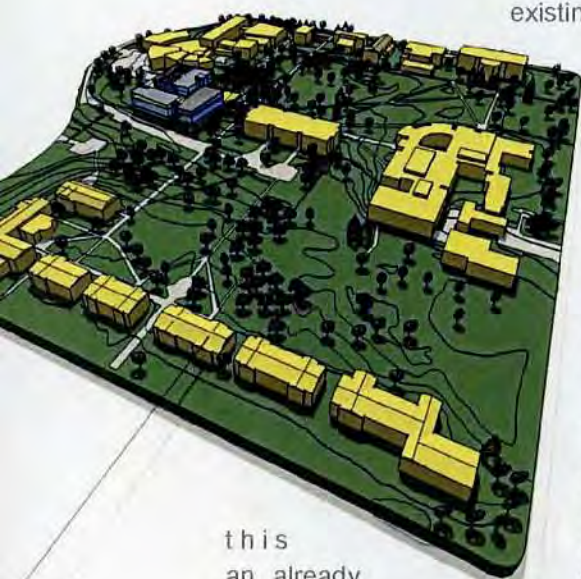
While acknowledging the widespread affection for Burling Library, SBRA viewed the idea of utilizing the existing structure in light of the tangible benefits of doing so: (1) the building contributes to the architectural legacy of the campus; (2) the existing building site reinforces the campus master plan; (3) the intimate spatial quality derived in part by

the structure has become the identity of the library; and (4) the 1982 "cap" atop the building allows the building to exceed current zoning restrictions, which in turn helps keep the building footprint to a minimum and saves valuable campus green space.

Any scheme to use the existing Burling building, however, is confronted by a number of significant issues that often limit addition/renovation options for buildings of this era: (1) low floor-to-floor heights; (2) inadequate structural, electrical, and mechanical systems (especially for Special Collections and compact shelving systems); (3) poor glazing systems; and (4) a perennially leaky roof. These issues present considerable disadvantages in programmatic compromise, a loss of flexibility, potential phasing problems, and a cost nearly equal to new construction.

Grinnell College, working with SBRA, has articulated a bold and compelling vision of integration for library services and information technology. This vision supports the College's emphasis on inquiry-based learning, highlights Burling Library's most distinctive resources, and fosters Grinnell's community of learners by envisioning spaces that invite students, faculty and staff make connections: visual, academic, professional, and social. And, addressing a central mission of the library, this program allows abundant space for books and all of the other media that comprise Burling's collections now and in the future. (See "Proposed Building Scheme" and "Scheme B: The Preferred Scheme.")

Can the existing Burling facility be expanded and renovated to provide the quality environment needed to support Grinnell's vision for this century? This report develops an architectural scheme to test this question.





## Vision Statement

Burling Library serves as the campus gateway to a rich and evolving world of texts, images, sounds, and data. Emphasizing Grinnell College's signature strengths in mentored research, collaborative learning, and interdisciplinary study, Burling seeks a fresh expression of its central role in fostering intellectual and creative communities. This is a vision of a Burling that stands at the intellectual center of the Grinnell campus, a repository of learning in its splendid variety and scope.

Burling's central role in supporting research and course work is underscored in this scheme by a substantially expanded book collection, enlarged Special Collections and Archives and Print and Drawing Study Rooms, and a new Digital Media Place where students and faculty will be able to take their research and creative work from the preliminary investigative stages to final production. Bringing together professionals from the Grinnell College Libraries and Information Technology Services in a collaborative environment, Burling will be well-equipped to accommodate the rapidly-changing needs of scholarship in the twenty-first century.

We envision Burling as a place that invites a range of scholarly activities: from lively discussion to quiet study, from instruction to creative production. A renovated and expanded Burling should retain its cozy, comfortable ambiance and wel-

come quiet study and reflection as well as lively discourse. Visitors to Burling will find quiet study spaces, carrel towers and capacious carrels. The new design for the Reference area should invite patrons to work on projects side-by-side with librarians. Similarly, the Digital Media Place should provide the setting for one-on-one and group consultation with ITS and Curricular Technology Specialist (CTS) professionals. Group study areas, a browsing area that can be converted to a book discussion space, and a café will invite academic discussions. A special teaching space connected to Special Collections and the Print and Drawing Study Room (PDSR) will encourage faculty members to integrate Burling's archival and art collections into courses.

Burling Library should be a place of inspiration. Information and technology provide the raw materials and the tools through which human beings proceed by assimilation and synthesis to gain knowledge. From knowledge one proceeds through reflection to wisdom and informed commitment. Burling—as place, collections, workshop, and gateway to a world of information—should inspire and assist members of the Grinnell College Community in this essential work of the mind and the spirit.

- *The Burling Planning Committee*





### Vision Statement

The vision statement for the new Grinnell College campus is a commitment to creating a vibrant, sustainable, and inclusive community. The design emphasizes a strong sense of place, with a focus on green spaces, pedestrian-friendly pathways, and a mix of building styles that reflect the college's rich history and forward-looking aspirations. The goal is to foster a sense of belonging and intellectual curiosity among students, faculty, and staff, while also ensuring the campus is environmentally responsible and accessible to all.

The design process involved extensive collaboration with stakeholders, including students, faculty, and community members. Through a series of workshops and public hearings, we gathered valuable input and feedback, ensuring that the final vision statement and design plans truly represent the collective voice of the Grinnell College community.





## Planning the Burling Library

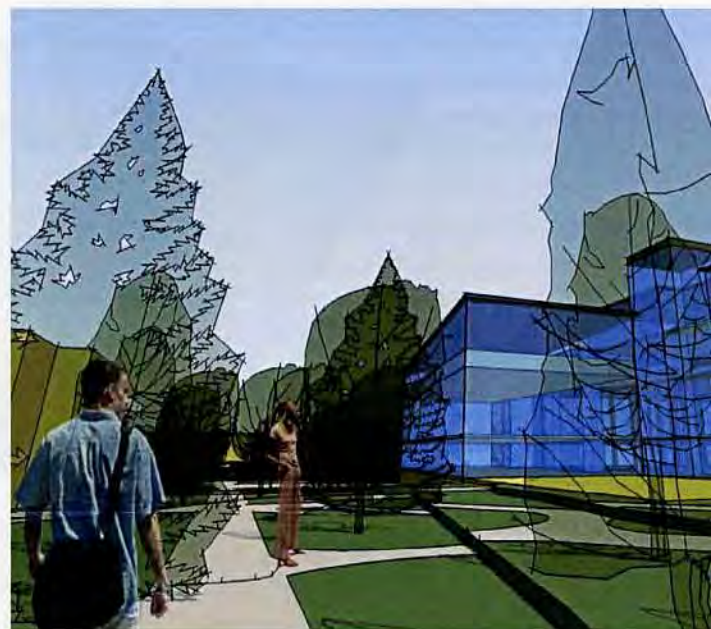
As the academic heart of a campus, the college library is a focal point for academic inquiry, research, discovery and exploration. The library has historically been important as an anchor in the plan of any college campus - usually placed at the crossroads of academic and social pathways.

SBRA was asked to undertake this Master Plan/Conceptual Design study in light of its long association and familiarity with Grinnell College through (1) the development of the *Campus Plan* in 1999, and (2) a programming study of both Library and Technology Services in 2002, with the *Library and Information Technology Planning Study*. The latter study examined a variety of schemes involving the re-use of the existing Burling Library, both with and without additions, to accommodate an expanded library program. The 2002 programming study also included the possible use of the adjacent Forum building as a home for ITS or additional library functions. The knowledge gleaned from the 2002 study led Grinnell to contemplate the incorporation of all of ITS and expanded library services under a single roof.

In a meeting held in January 2005 with Grinnell College President Osgood, it was expressed that any renovation/addition to Burling Library needs to support a variety of spaces – group study, quiet study, research and reference, social, academic and instructional spaces and a café – the latter, a regular feature in libraries on college campuses today. It was articulated to SBRA that the library should not expand using the adjacent Forum building, as had been proposed in 2002. Additionally, SBRA was instructed that the Library/ITS Outline Program, dated 10 August 2001, should be used as a base for any further building program development. Any new manifestation of a Grinnell campus library should also be considered a “unified home” for ITS, and particular attention

should be paid to investigating the vision for the integration of ITS for the library and campus life.

Planning a library that exceeds the model of many of its peer institutions, like the one described in this report, is one way to help fulfill the Strategic Plan for raising the college’s profile as a long-term mission, while still “educating students who will change things [in the world], and . . . giving the students the tools they need to do it.” The integrated proposal of library and ITS is wholly consistent with the goal of the college’s Strategic Plan to enhance interdisciplinary learning, foster a sense of adventure. The planning of a library facility to accommodate the needs of 21st century students and faculty alike is a way to help ensure that the college remains competitive with other high-caliber schools. Additionally, expanding library functions and centralizing ITS fosters Grinnell College’s expressed ambition to provide state-of-the-art facilities. As addressed in the Summer 2005 issue of *The Grinnell Magazine*, “Any college, however good, needs a strong public profile to compete for the public’s attention in an era of mass marketing and information overload .







... [to] attract top students, the best faculty, or the best donors needed to sustain it."

The study raised some important questions:

- Is the re-use of the existing building for library and ITS functions an effective use of the structure, given its limitations? Limitations make systems upgrades difficult and expensive.
- Can the existing site accommodate this much building mass? Concern was raised that the ideal program puts too much pressure on Bucksbaum Center for the Arts and the Forum and potentially limits the view corridor to east campus.
- Will the essence of the original Burling building be evident? The 1982 renovation changed the character of the building significantly, and this project will transform it as well, making the building into one integrated whole.
- How much is the program and future flexibility compromised? The result of the inflexibility can be appreciated with a single example. Increasingly, colleges and universities have come to appreciate that their archives and special collections are important in making an academic library unique; no other library has the same archival collection. Recognizing the importance of Special Collections and the archives and Print and Drawing Study Room both in supporting inquiry-based learning and in distinguishing Grinnell College, the Burling Planning Committee sought to give these spaces a highly visible place in the renovated and expanded building. Constraints created by Burling's load capacities, however, required that these special facilities remain where they are (though with more space) in the lowest level.

- How much will this scheme cost? The addition / renovation option will require the complete replacement of nearly all systems and significant surgery on the existing structure.

- Can the existing library be occupied during phased construction? If not, the task of establishing a temporary library during construction is a major concern from a library services viewpoint, is costly, and will require a major temporary site.

This study attempts to answer these questions through the development of a conceptual design model, utilizing the existing Burling Library as the project's core and expanding to both the north and east, with segmented, multi-storied additions, designed to provide the environments necessary for future library and ITS functions.

The SBRA team of Tom Kearns, Carole Wedge, and Wayde Tardif, working with the Burling Planning Committee since December 2004, developed a strong program that can be used for either a renovation/addition scenario with the existing Burling Library or an entirely new facility. Several schemes by SBRA came about through iteration and critique by the Burling Planning Committee, various user groups (including students), and public review. Structural analysis was performed by John Buhl, of Foley & Buhl Engineers, to determine if the conceptual design SBRA proposed was a viable option for the re-use of the existing Burling Library building. Additionally, Hanscomb Faithful & Gould prepared a Conceptual Design pricing package for the addition/renovation of Burling Library a package that provided a cost comparison between renovation/addition and all-new construction.



Original 1959 Design (top)



Burling with 1982 Renovations  
and Additions (bottom) ca. 2002







## Building History

Burling Library, designed by Walter Netsch of Skidmore, Owings & Merrill Architects and built in 1959, stands on the site of the former Music Building and replaced the former library, Carnegie Hall (now an academic building). The renovation and expansion of Burling, which took place in 1982 by Ben Weese, of Weese Segers Hickey Weese, Ltd. of Chicago, transformed the iconic 46,600 GSF Modernist structure, allowing the library to expand its holdings and services. Currently, the building is 58,400 GSF including the basement level.

The proposal by Walter Netsch was wonderfully simple, and a typical design for the time, with two glazed facades, facing north-south, and two opaque facades (brick), facing east-west, with a concrete superstructure, cantilevered roof and floor plates. The double height space on both the north and south sides of the building allowed light to pour into the building through a full height glazing system, making the building a transparent beacon to the campus. The making of architecture in the era when Burling was designed was often pursued as the making of a machine – clean, beautiful and efficient. That design model, like so many buildings of its time, allows limited possibility for future flexibility and growth.

The 1982 renovation/addition scheme by Ben Weese, an attempt to deal with the limitations of

the original Walter Netsch design with respect to the library's need for growth, considerably altered the building. The glazing at the north end of the building of the original SOM design was replaced and the double-height space was truncated into two distinct volumes, bisected by two entry doors with stone facing, and an area for circulation and reserves, with a tiered seating area above. At the south end of the building, Weese bisected the double height space similarly with study areas atop, and seating areas below, increasing overall floor area (for study and circulation use) on the second floor.

The two-story, 12,000 GSF "hat" addition, built in 1982 that are the third and fourth floors, primarily contain stacks and carrel seating. The addition was suspended over the existing roof by steel beams, transferring building and stack loads through Burling's existing columns and foundations. This addition loaded the existing structural columns to capacity, a fact that has significant implications for any further efforts to renovate or expand Burling.





View of South Double Height Space

Proposed Design

Design: [illegible]  
Architect: [illegible]

Proposed Design

Design: [illegible]  
Architect: [illegible]





## Current Building Program

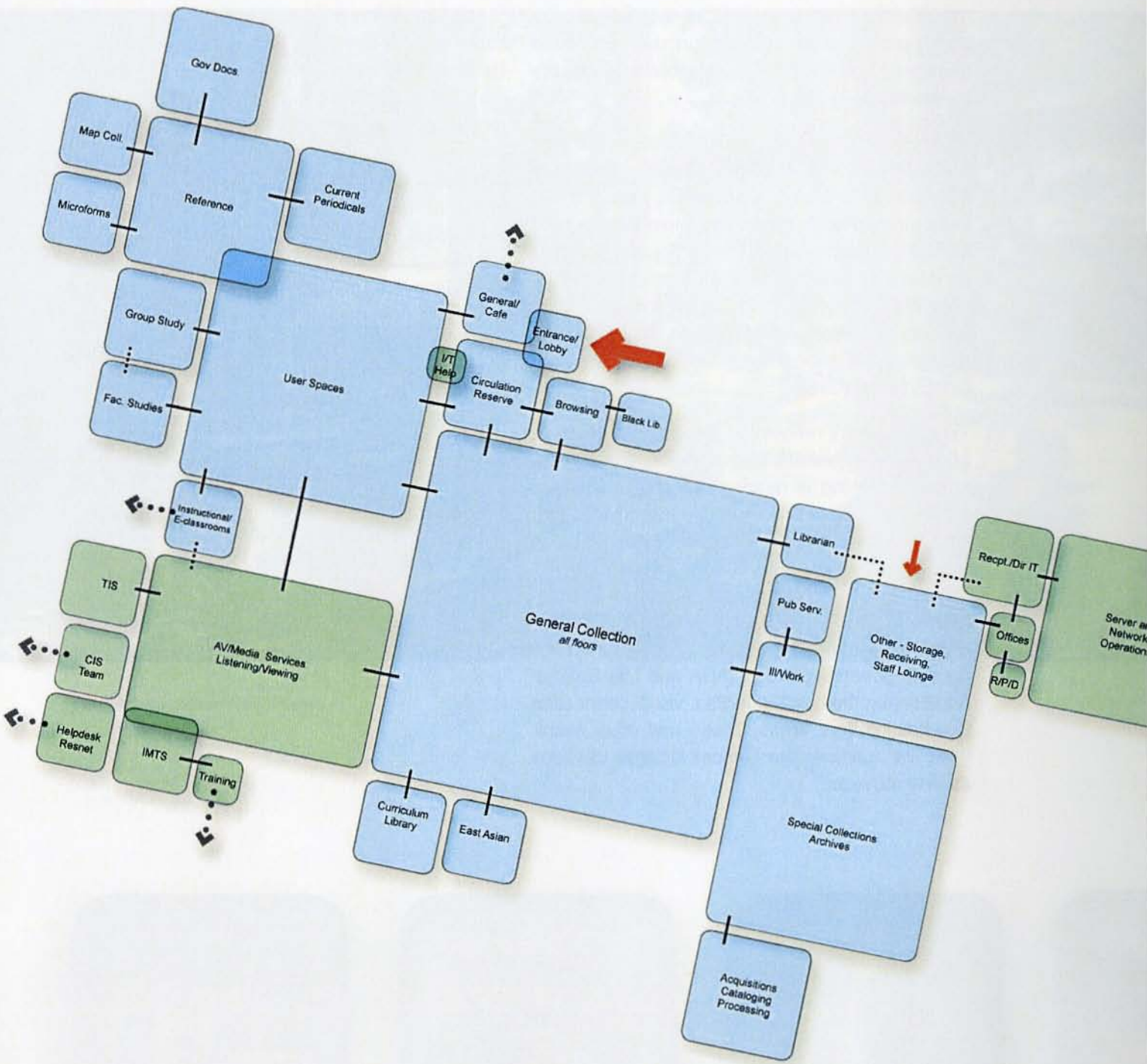
The heart of the resources at Burling are the library professionals and support staff, who have done quite well over the years evolving the facility to respond to students' needs.

The Burling Library maintains a volume of over 500,000 books and bound serials, more than 541,000 government documents, over 5,000 serials in paper, electronic and micro formats, and 30,000 audiovisual units. The library also provides access to a wide array of electronic resources, both created locally and those accessed from national and international sources. It also plays a major role in the provision of Geographic Information Systems (GIS).

Typically, library renovation projects have a 20 to 25 year projected life before another upgrade is required. Burling is nearing the 25-year horizon (1982-2007), so it is no surprise that the building is experiencing shortcomings: limited flexibility in use and programmable space, physical layout, lighting and electrical needs, structural loading issues, flexibility of infrastructure for services and technology, as well as the building's ability to comply with governing codes (ADA and Life Safety). Additionally, the building lacks a visual connection to adjoining floor areas. These and other limitations will handicap the Grinnell College Libraries as they strive to:

"Serve the instructional, research, and general information needs of the campus community. The libraries fulfill their mission through (1) on-site provision of books, periodicals, microforms, sound recordings, electronic resources, and other library materials; (2) mediated access to off-campus information sources; and (3) active programs of information literacy: teaching the concepts needed to navigate the profusion of available sources and to evaluate critically the information, texts, and images discovered therein. As depositories for federal and state government publications, the libraries make such documents available to residents of Iowa and promote the use of these resources. The libraries serve as the archives for the official and unofficial records of Grinnell College; through the Department of Special Collections and Archives they seek to collect, preserve, and make available for research, sources that document the history of Grinnell College and its cultural and natural surroundings in Iowa, including the prairie setting of which it is a part."





Early Adjacency Diagram



## Proposed Building Program

The vision of the Burling Library is a facility where the resources are prominent and library functions and activities throughout the day and evening are widely accessible. An extended-hour area with access to study space and digital media is planned, as well as a café, browsing area for recent acquisitions and special events, and ten group study areas for groups of four to eight students. There will be opportunities for greater student interactions, and the ability for increased collaborative research among students, faculty, and library professionals, with ample table seating and informal lounge areas for students to gather and study.

The detailed architectural space program, developed by the Planning Committee and SBRA proposes a facility of 142,000 GSF (58,400 existing GSF + 81,600 GSF new).

The individual program categories were carefully examined for current practice and future projections regarding collections, seats, and ITS.

For comparison, the Burling Planning Committee developed a benchmarking study examining current facilities and collections among Grinnell's peer institutions, including future projections. (See Appendix for Peer College Data.) Interestingly, Grinnell is now at the bottom of its peer group. The renovation and proposed addition to the existing facility will put the college near the top. Although not necessarily a goal, it is an outcome of the significant facility transformation that occurs every three to four decades with any institution.

Collections	Existing	Proposed
Burling	500,000	600,000
Science Library	25,000	75,000
Off-site Storage	155,000 Max.	(Monographs)
Seats		
Burling	300	600
Science Library		64

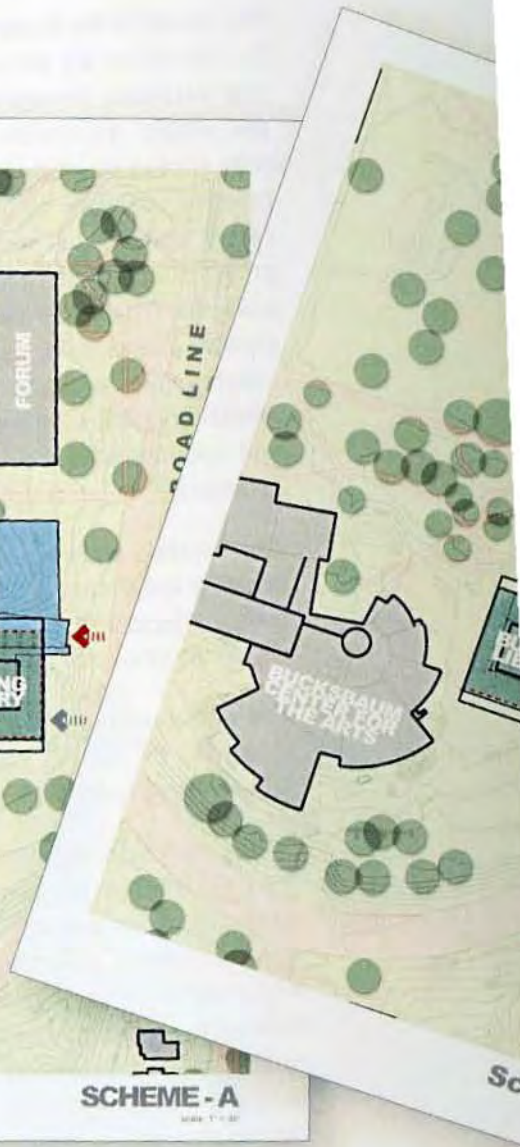
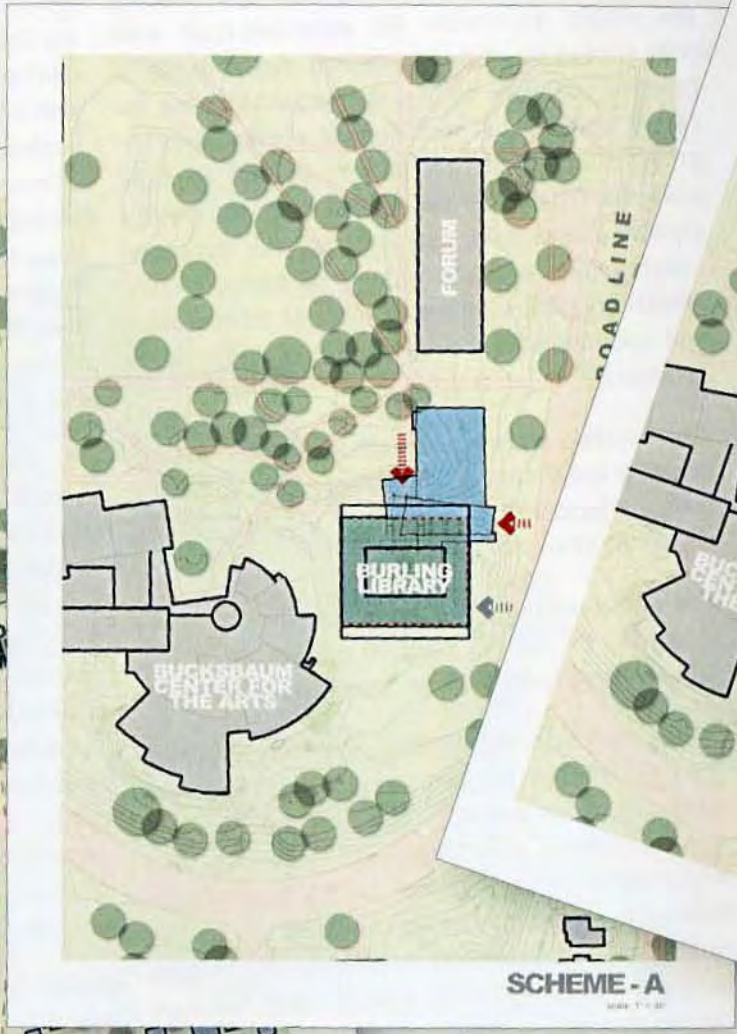
The Burling library will accommodate an increase in its holdings (books, periodicals, government

documents, media, etc.), and provide a larger home for its Special Collections. The library will include expanded facilities for the Print and Drawing Study Room, where students and researchers can review materials in a more appropriate setting, with an expanded vault and work room to accommodate growing holdings and better manage its archival materials. There will be an associated gallery space for the exhibition of the work of visiting artists and the school's impressive print and drawing collection. A teaching space proximate to both Special Collections and the PDSR will allow professors to better incorporate these valuable and distinctive resources into their teaching.

The integration of a "unified home" for ITS and its array of equipment, collected from disparate locations on campus to the proposed building, is a key component to the master plan of the facility. While ITS will only occupy a relatively small percentage of the total square footage of the new facility, its presence will be felt throughout the campus with centralized services and staff available for the services they provide. The increase in digital media resources and equipment (computers, scanners, printers, plotters, media listening and viewing facilities), especially when associated with accessible reference resources and personnel, will be a boon for the campus at large.

Student and faculty class work and research projects are continually evolving to take advantage of all the resources and technology an institution can make available. The role of the library must keep pace if the library is to remain a vital force at an institution. At the core of Grinnell's vision is the integration of the library and IT professionals, with the potential to truly redefine the way in which patrons are supported within the library and across the campus. Equally important is the potential for the integrated group to make the intellectual activity on campus more visible to the entire community.





**SITE PLAN**  
SCALE 1" = 40'

**SCHEME - A**  
SCALE 1" = 30'

**SC**



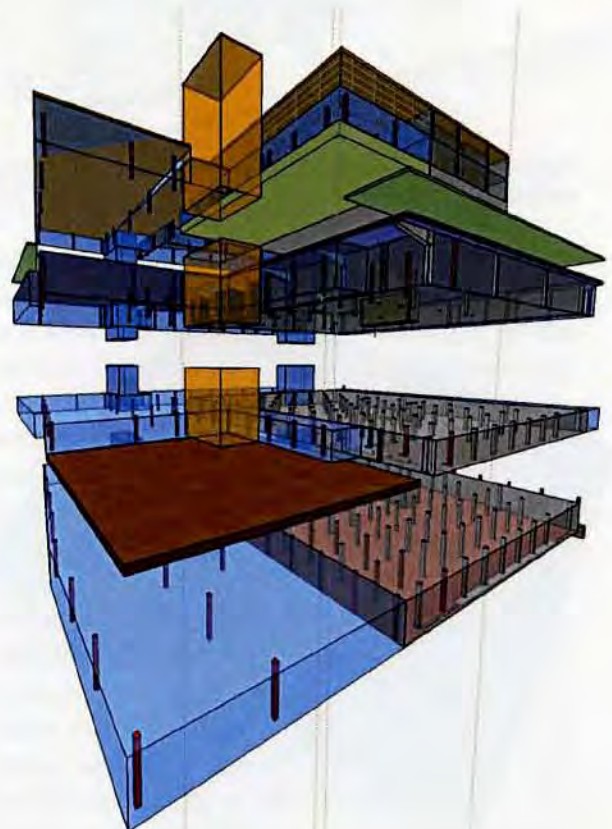
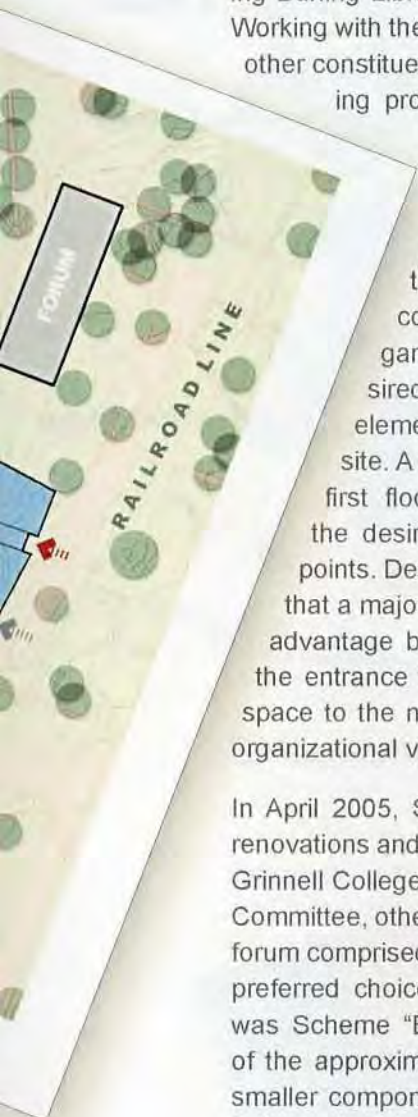
## The Schemes

The process of formally investigating the viability of and opportunities in renovating and expanding Burling Library began in December of 2004. Working with the Burling Planning Committee and other constituent groups, the review of the building program was the first and primary undertaking, establishing square footage allotments, groupings and adjacencies of various programmatic elements. Once the program was established, the committee engaged in a series of gaming exercises to establish desired relationships between program elements, and test the limitations of the site. A common theme emerged; a large first floor is required to accommodate the desired public functions and service points. Designing from the inside out told us that a major addition to the south was of little advantage because it would be too far from the entrance to be of service. Developing the space to the north and the east suggested the organizational vision of the Planning Committee.

In April 2005, SBRA presented two options for renovations and additions to Burling Library to the Grinnell College community, the Burling Planning Committee, other committee groups, and an open forum comprised of faculty, staff and students, the preferred choice by a virtually unanimous vote was Scheme "B," which broke up the massing of the approximately 140,000 GSF building into smaller components. Referred to as the "Village Scheme," Scheme "B" aligned itself with the western face of the Forum, but massed out the bulk of its program to the east, keeping a wide swath of green-space to the north of the existing Burling site between the proposed addition and the Forum, preserving the pedestrian corridor running east/west. Scheme "A" proposed an addition to Burling in a single architectonic gesture to the north of the existing library, also aligning

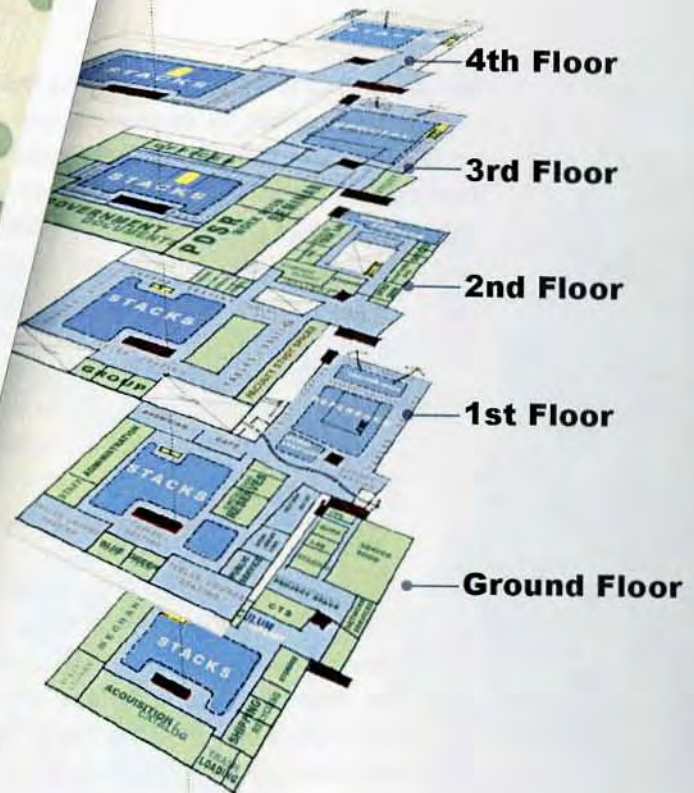
itself with the face of the College Forum and an existing walkway. SBRA has met periodically with the Burling Planning Committee and planning sub-committees for the development of specific areas. Working with these groups, SBRA has sought to streamline areas of redundant program and to think about ways in which areas of the program could be more "convertible" in nature - serving one use during part of the day and different uses during other parts of the day.

The variation of the proposed Scheme "B," which has become known as the "Preferred Scheme" of the exercise, is the culmination of a great deal of collaborative thinking and working by the various Grinnell-appointed groups, project consultants and SBRA.



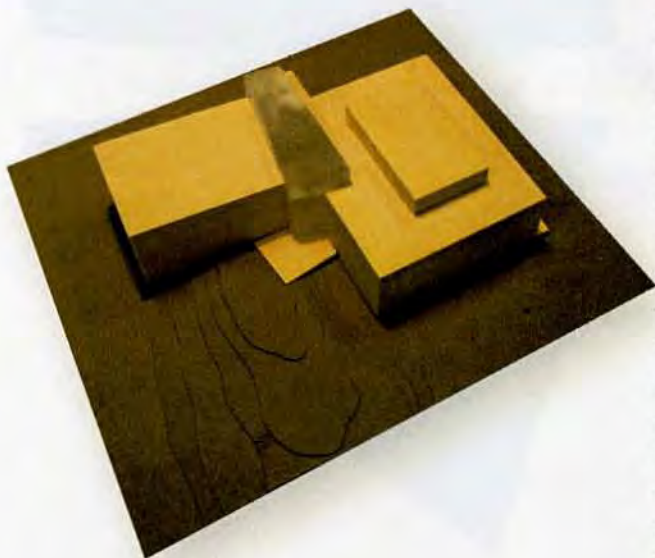


Site Plan



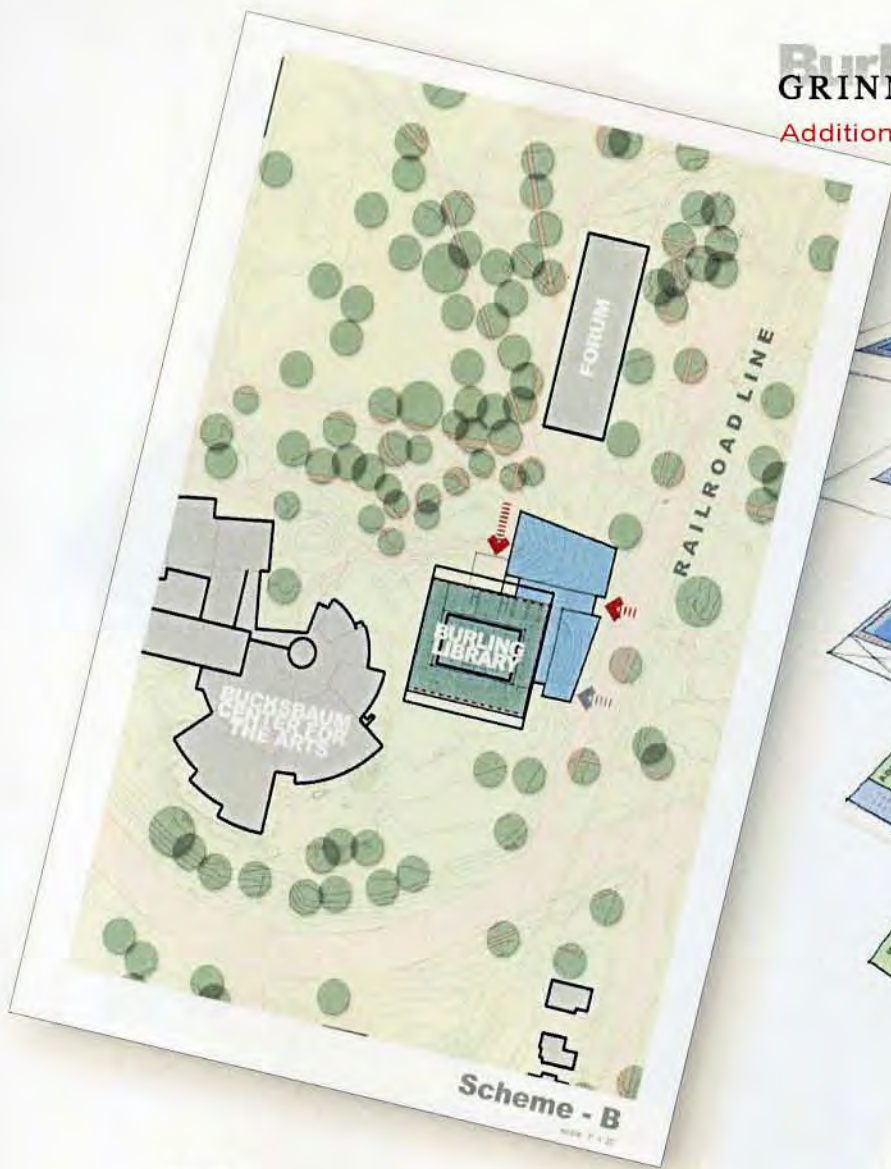
Scheme "A"

Scheme "A" proposed the entire program to be housed in the combined areas of a renovated Burling building with a third floor added to the existing building, and a four-story addition at its north-east corner. The advantages of this scheme were that very little of the existing Burling building had to be tied into the new addition, making for an efficient plan layout for the new program areas within the new construction envelope. A major reaction by reviewers was that while architecturally interesting, the addition looked like an addition to the library building, with a long, angular glazed tower connecting the east side of the building with the north, the structure lacked a sense of being an integral whole. Additionally, the four-story height at the north end of the addition was seen as an affront to the surrounding buildings and out of scale with the campus at large.

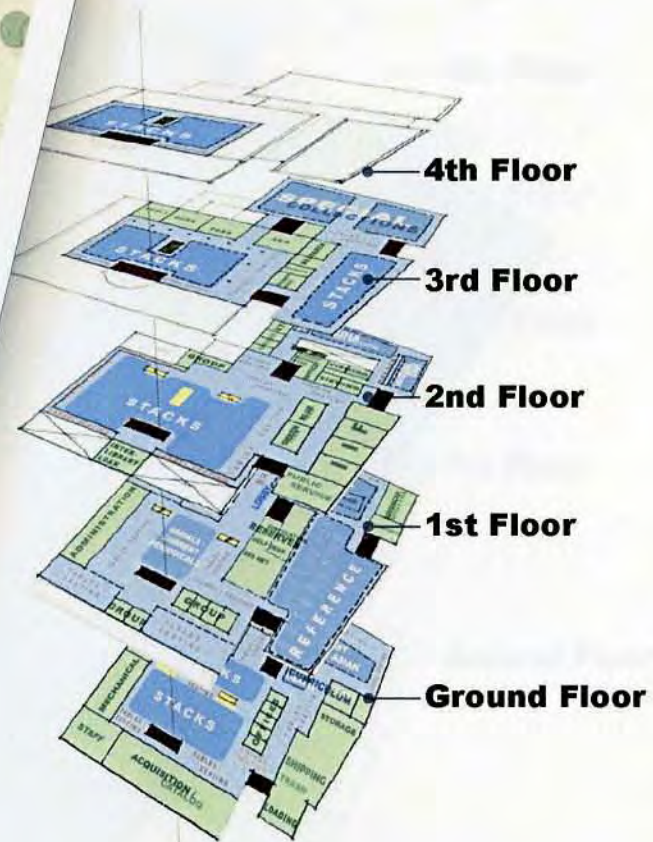


Scheme "A" Massing Model

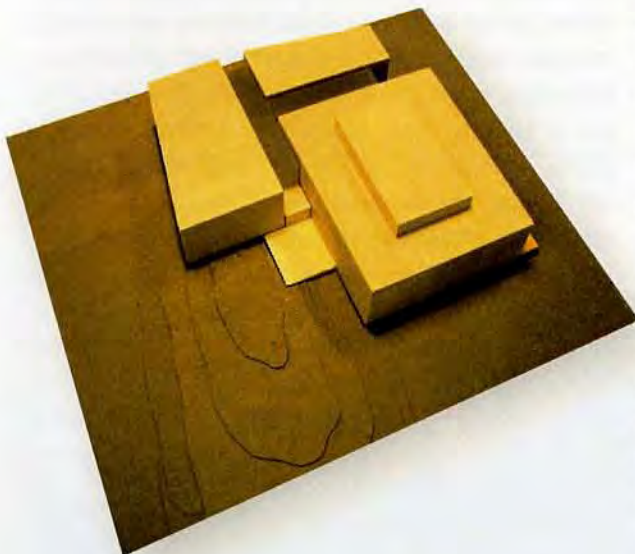




Site Plan

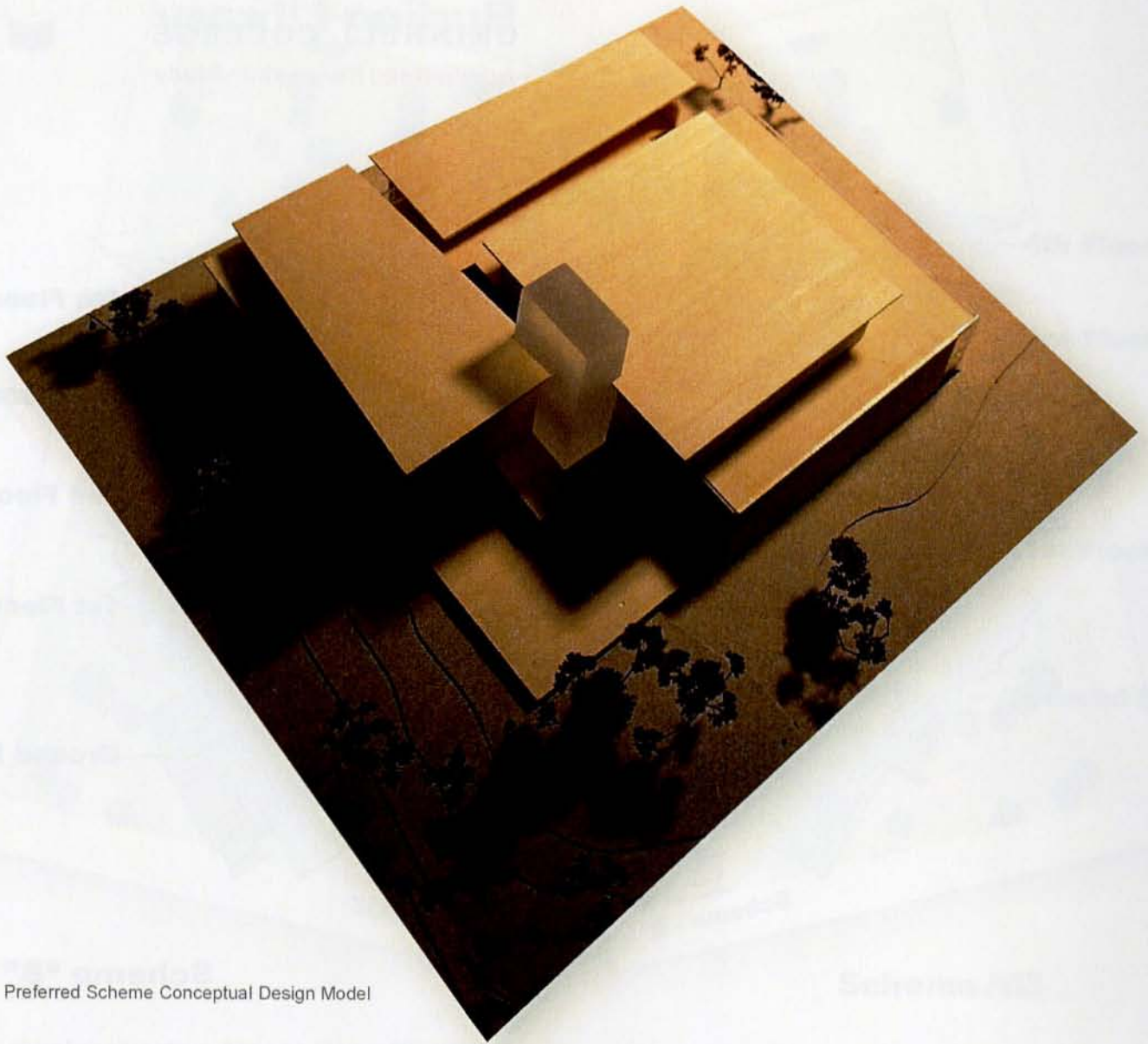


Scheme "B"



Scheme "B" Massing Model

Scheme "B" provided a good combination of scale and juxtaposition of form (both to the public forum and with constituent groups). Members of the campus community saw the building represented in Scheme "B" as a unified whole, in contrast to that in Scheme "A." Scheme B's additions were placed to the north and east of the existing Burling building. The eastern addition aligned itself to the train tracks, and the design provided generous areas of green space between the northern addition and the Forum, mitigating a concern by some about the erosion of green space on campus, and protecting a pedestrian corridor running east/west. While only three floors in height, the sloping roofs (rising to four at one of their ends), carry light into double height reading spaces, and provide architectural articulation without challenging the scale of the campus.



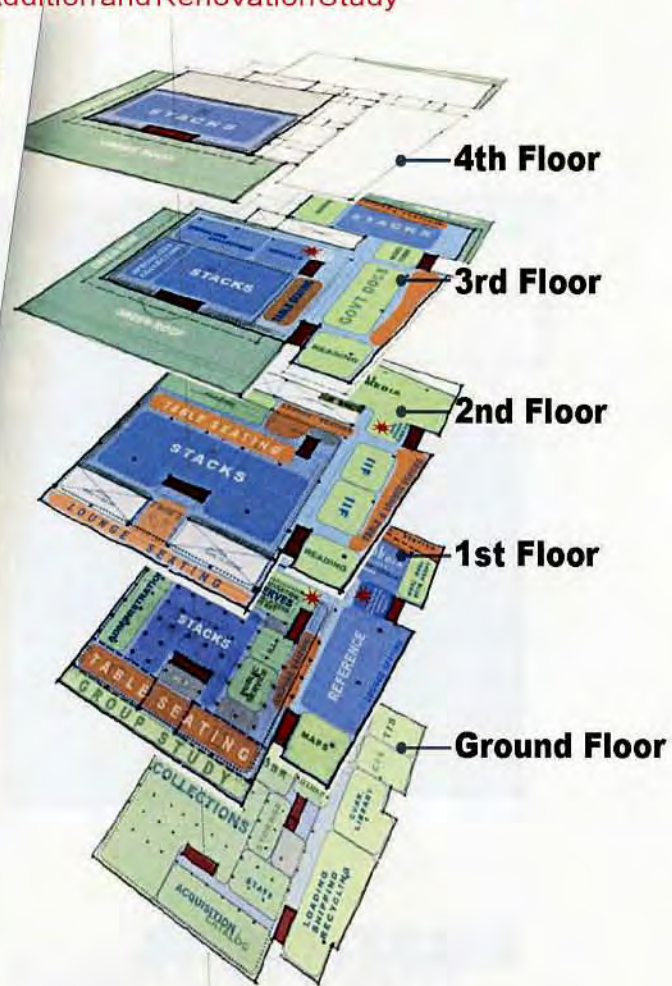
Preferred Scheme Conceptual Design Model



Preferred Scheme Conceptual Design Model - north-west at Entry



Site Plan

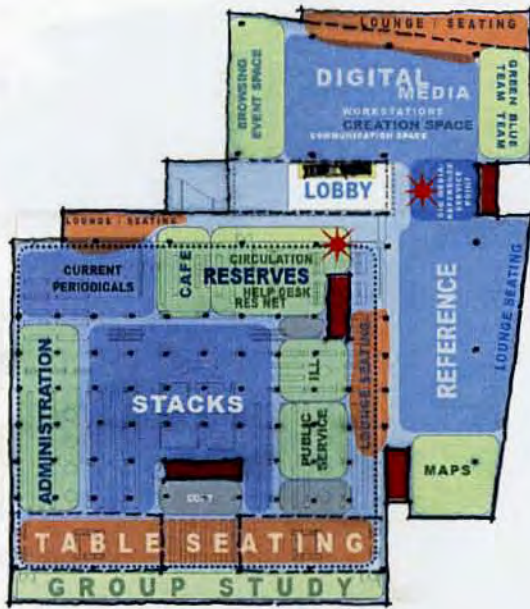


Preferred Scheme

The Preferred Scheme, an iteration of Scheme "B," pushes the conceptual design a bit further, while maintaining the familiar forms and basic diagram of Scheme "B." The Preferred Scheme organizes the plan vertically, especially with respect to the digital media, and ITS pieces of program, which are spread over three floors. Conceptually, the inside glazed edges of the building's floor-plate are areas of activity – lounge space, reading areas, digital media, group study, café, etc. The building is intended to be a display vessel, taking a lead from Burling's original concept of transparency and light but as a larger structure, with vertical circulation cores allowing people to see one another and take advantage of the opportunity for fortuitous meeting and gathering to study, collaborate and socialize. The inner areas of the plan allow for quiet study, with tables, reading

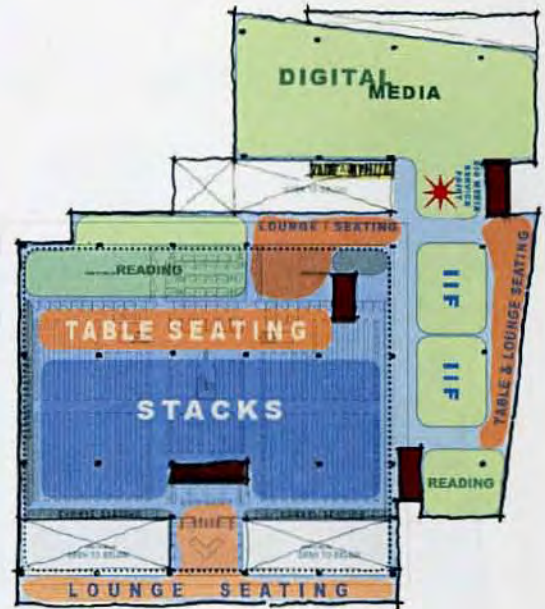
areas, and stacks. The floors are laid out with the intention of each successive floor being a quieter place the higher one travels. The quietest floor is the fourth level, where there are only stacks and carrels. The tall, glazed campanile is intended simultaneously to be a light emitter and attractor on campus, drawing students out of their dorms and classroom buildings during the evening, and providing a new landmark at the south end of the campus, which can be seen both day and night.

The plans can be described in terms of being "open" (blue), "closed" (green) – as in the pieces of program may have walls and/or a door, or may be closed off from other areas of the library program, and "flexible" (orange) – lounge seating or table seating.



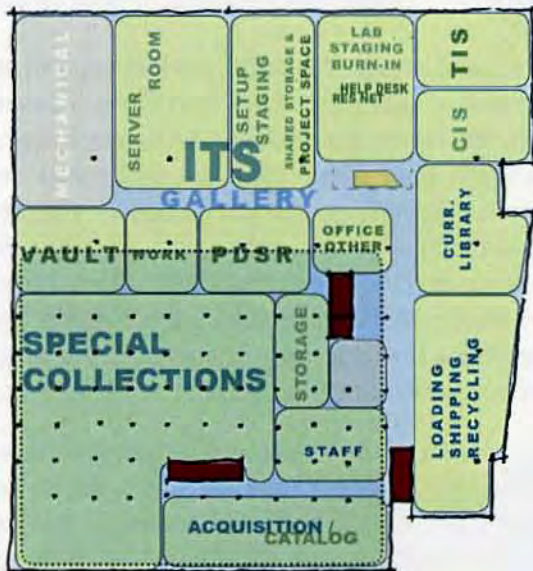
## FIRST FLOOR

Elevation: 1028'-0"



## SECOND FLOOR

Elevation: 1037'-8"



## GROUND FLOOR

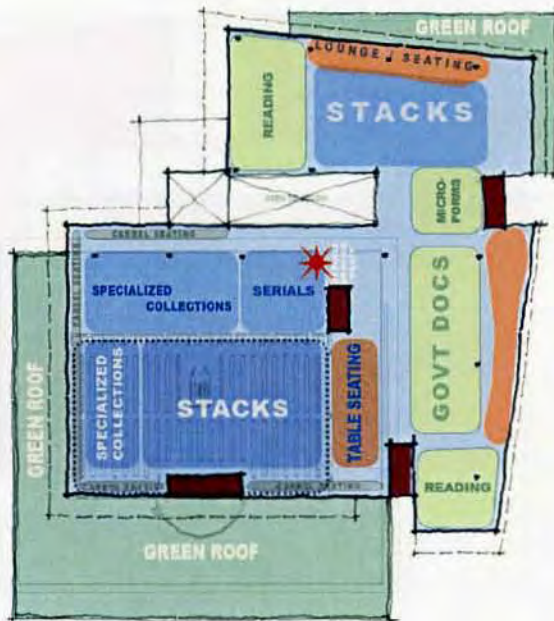
Elevation: 1015'-6"

Loan and the Public Service office are located here as well.

The Second Floor houses CTS, a combined digital media area, with collections (CD's, DVD's, LP's, Audio and Video cassettes) language bar, viewing rooms, and studio and lab space. There are two formal reading rooms, and 2 IIF classrooms, with liberal lounge space and table seating.

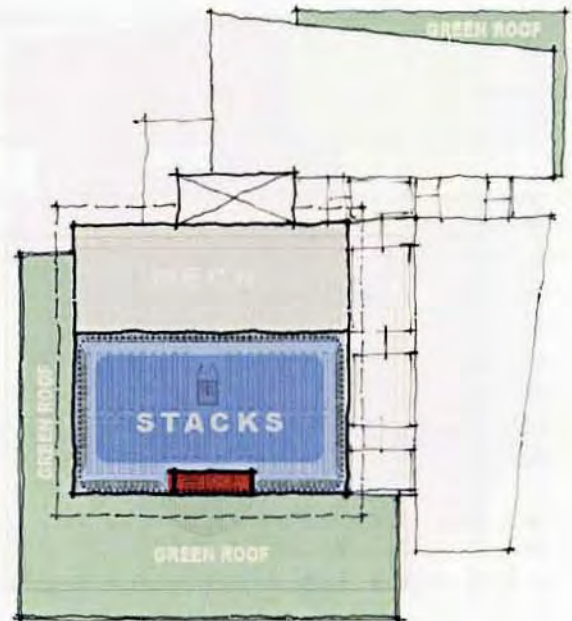
The Third Floor houses specialized collections, and serials, as well as government documents and microforms. There are two formal reading rooms on this level along with stacks and carrel seating.

The fourth Floor contains stack and carrel seating similar to those that currently exist, and locates a



### THIRD FLOOR

Elevation: 1055'-8"



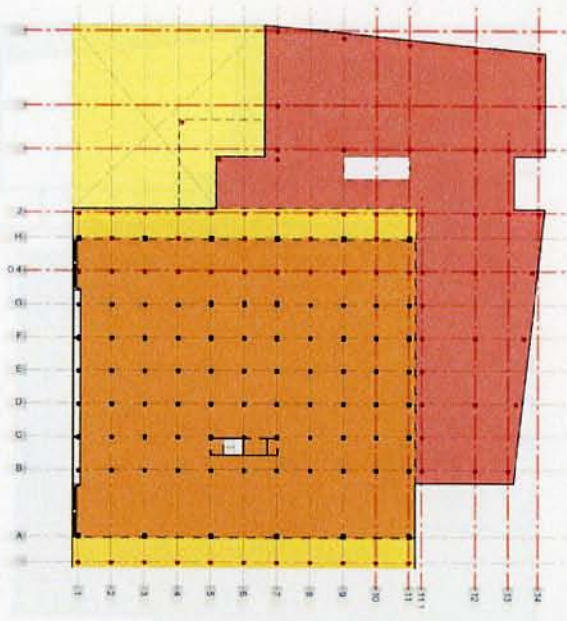
### FOURTH FLOOR

Elevation Varies

Mechanical space as an extension of the existing floor plate.

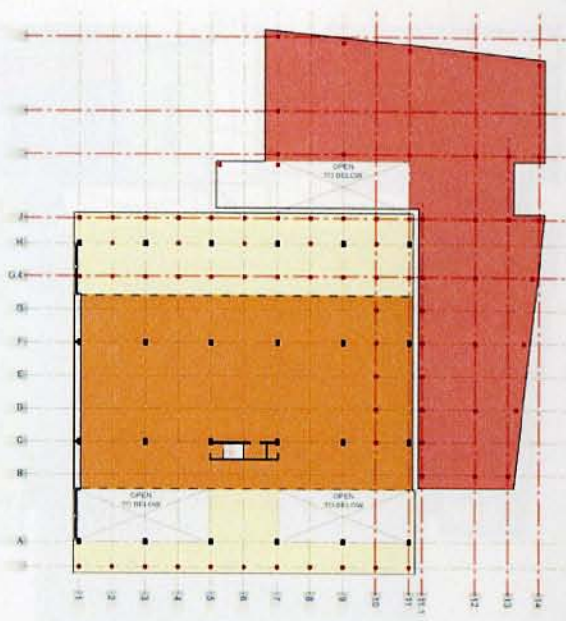
Burling's print collection is located on every floor.

The Preferred Scheme comes the closest to achieving a balance between program adjacency and accommodation, building footprint, and massing, and a respect for the original building.



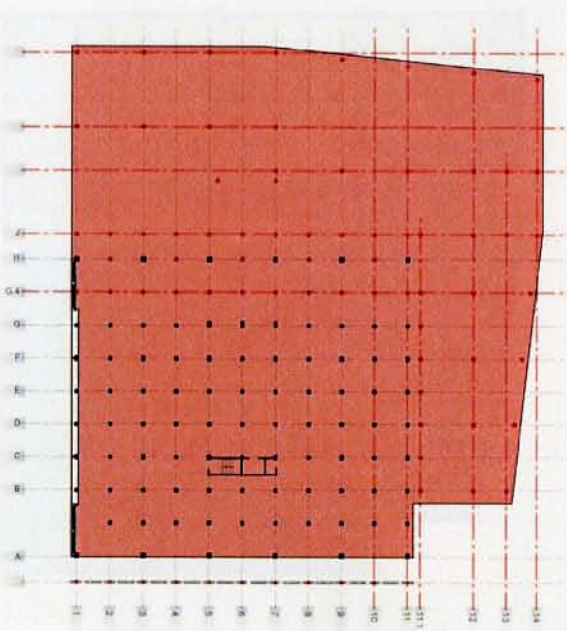
# FIRST FLOOR

Elevation: 1028'-0"



# SECOND FLOOR

Elevation: 1037'-8"



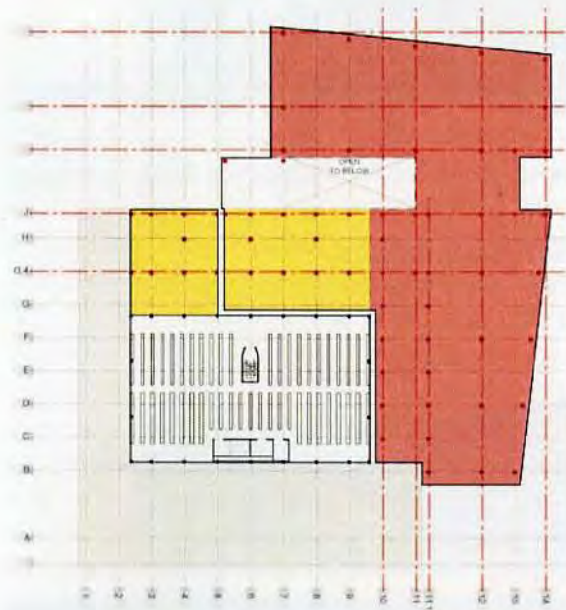
# GROUND FLOOR

Elevation: 1015'-6"

-  NEW COLUMN LINE
-  300 PSF - NEW CONSTRUCTION
-  190 PSF - AREAS OF EXISTING CONSTRUCTION
-  150 PSF - NEW AREAS OVER EXISTING BUILDING
-  100 PSF - PLAZA
-  80 PSF - NEW INFILL AREAS
-  TBD - AREAS AT 3RD/4TH FLOOR

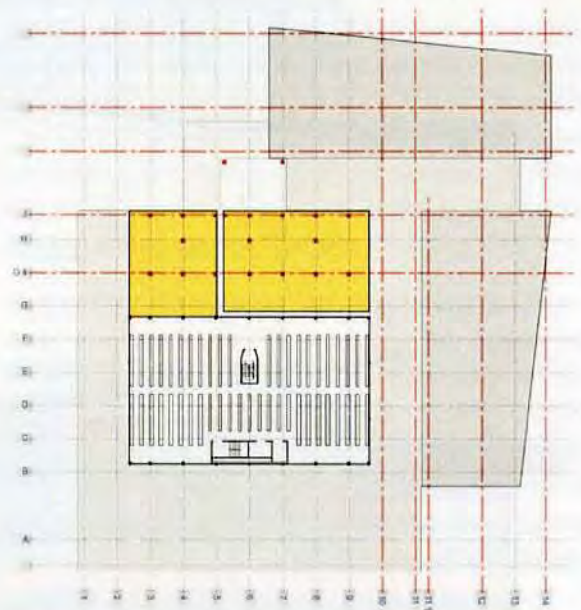


## Structural Loading Plans



### THIRD FLOOR

Elevation: 1055'-8"



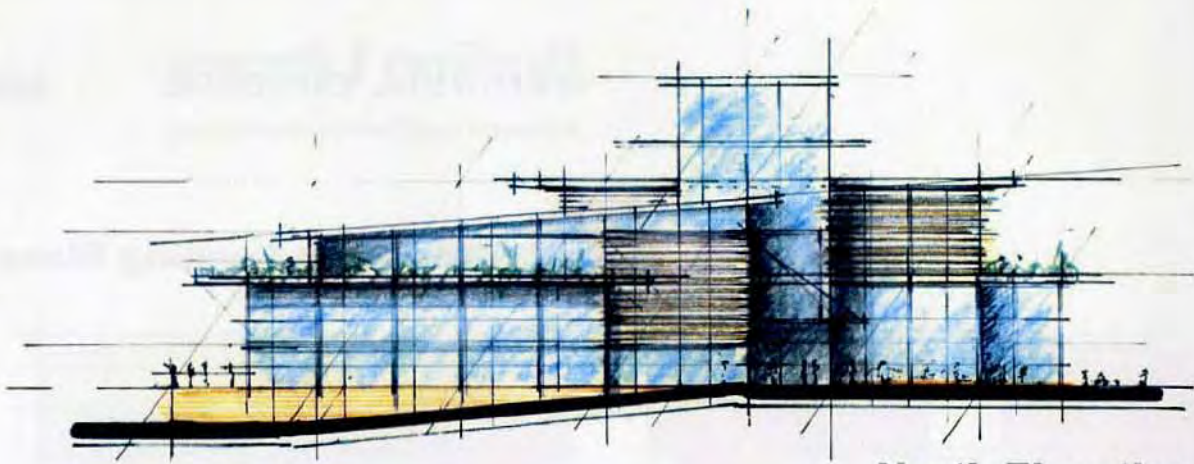
### FOURTH FLOOR

Elevation Varies

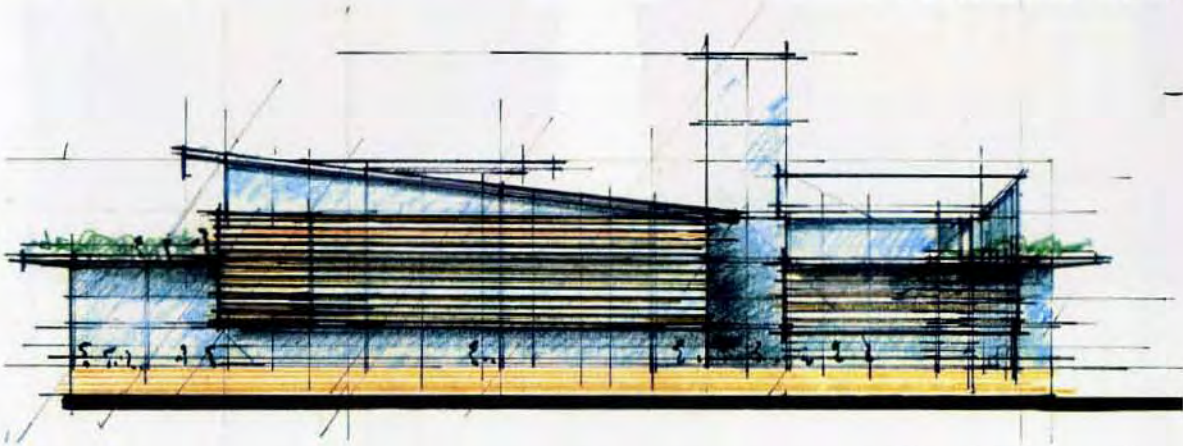
Typical library structural design requires a load bearing capacity of 50 pounds per square foot (PSF) generally, and 300 PSF for areas accommodating compact shelving. The more 300 PSF contiguous floor area, the more future flexibility is created.

The structural loading diagrams shown above reflect the opportunities and limitations of the proposed scheme. The analysis by John Buhl, of Foley & Buhl Engineers, determined that the first and second floors of the existing building have limitations of 190 PSF (orange) and will not accommodate compact shelving. They are rimmed with 150 PSF slabs at the First Floor and with slab areas unknown without testing on the second floor. The existing basement slab would be removed and replaced with a 300 PSF capable

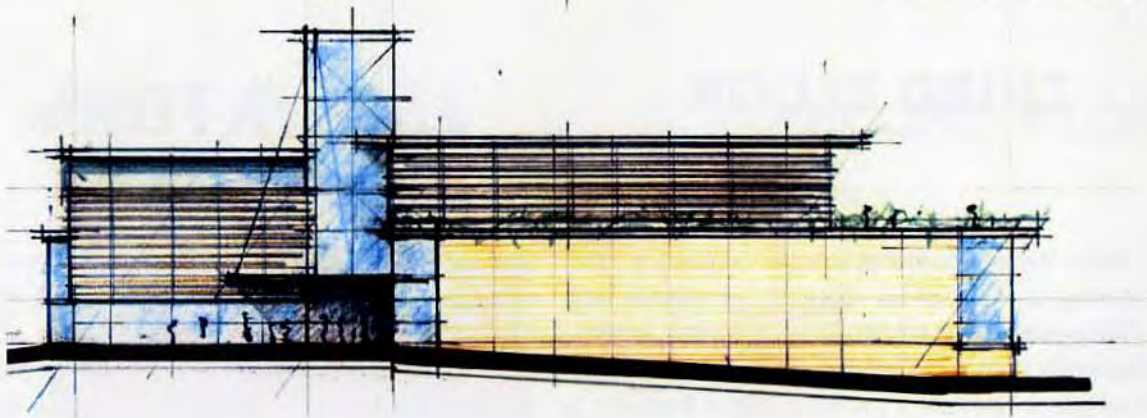
slab to accommodate compact shelving. The new construction on the first, second and part of the third floors would be 300 PSF construction, allowing for compact shelving. The remaining part of the third floor would be 150 PSF due to the limitations of the existing structure in the original Burling Building. Due to seismic regulations, the addition and the existing building would be designed as separate structures, with newly-constructed areas meeting today's seismic codes.



**North Elevation**



**East Elevation**



**West Elevation**



**South Elevation**





## Conclusions

President Osgood charged Shepley Bulfinch Richardson & Abbott and the Burling Planning Committee to explore the feasibility of an addition/renovation project to support Grinnell College's vision for the future and a unified home for library and IT services. The result is an exciting vision of the future. The resulting program emphasizes the elements that will become increasingly important in distinguishing Burling from other college libraries: Special Collections and Archives, government documents, the PDSR, a technologically-advanced learning and research environment, a cozy and welcoming setting, and highly skilled professionals committed to supporting the academic mission of Grinnell College. Furthermore, by locating certain functions next to each other, and providing additional space to others, this plan promises to strengthen these distinctive elements and make Burling a destination for scholars. Last, it envisions a building that fosters interaction, collaboration, and an academic sociability that the current overcrowded and structurally limited Burling can do little to support.

Can library and IT services be brought together within a single building? The answer to this question is a resounding yes. Not only is a unified home possible, it also facilitates a level of library and IT collaboration that will support College functions and student and faculty academic work in the future. Indeed, the program emerging from this study presents a vision of how these separate yet interconnected departments can do far more than simply occupy the same building: they can benefit from working side by side in many cases. Bringing all IT personnel under a single roof also brings efficiencies that are difficult to realize given current conditions, with ITS personnel scattered in several locations.

Can the program proposed here, with the incorporation of library and IT services, be accomplished within an enlarged and renovated Burling? Again,

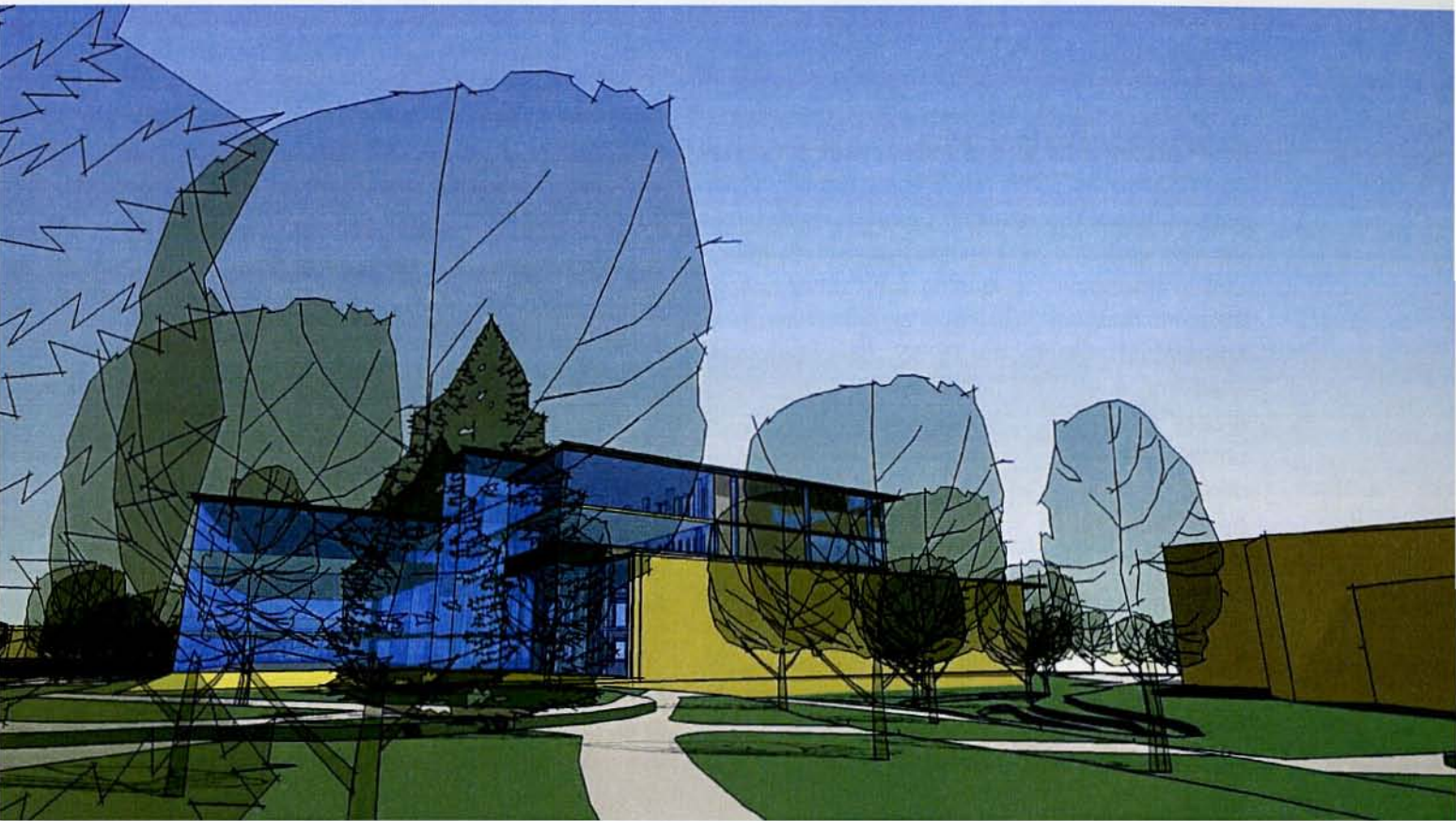
the answer is yes, although with significant qualifications. An expanded and renovated Burling can incorporate all of the elements of the program. The current site can accommodate the expansion, although some members of the campus community have expressed concern about how a larger Burling would occupy that site.

The qualifications to our affirmative answer, however, are significant. They include the age of the building and its implications for the scale of the project, structural issues that significantly impact the design of the addition/renovation, load bearing issues that limit flexibility and as a consequence will limit the life-span of the renovation, phasing issues that arise as a consequence of all of these qualifications, and cost.

### Age and Era

As mentioned above ("Building History," "Current Building Program"), Burling is reaching the end of its productive life as a library. With a second renovation (the first having taken place in 1982), we can reasonably extend that life another 20 to 25 years. Given Burling's age the next renovation will be, quite frankly, extensive and expensive.

- The existing building systems (e.g. electrical, mechanical, digital, plumbing) are at the end of their useful lives and will require replacement in whole or in large part. Only the concrete structure will remain in place.
- The era of Burling's design is as significant as its age. Burling was designed with a single vision of how the building would function, with very few options for rearranging functions and stacks.
- Coming from an era that did not take accessibility, fire safety and stringent seismic codes into account, the rigidity of Burling's design makes conforming to these standards today quite expensive. Efforts to comply with these regulations





will further limit the renovated building's near and long-term function by reducing its flexibility.

- We are limited in where particular elements of the program can go, and will be even more limited in the future, when changes in changes in teaching and learning call for a different arrangement of functions within the library.

### Structural Issues Affecting the Design of the Addition/Renovation

The design of Burling imposes considerable limitations on both the renovation and any addition attached to it. Burling is distinctive for its close grid of columns (there are rows of columns every thirteen feet, three inches) and a low floor-to-floor height between the first two floors (the low ceiling height of the first floor is quite noticeable). These two facts create obstacles to both the renovation and the successful attachment of an addition to the existing building.

- The close column grid limits the placement of stacks with the required spacing for ADA compliance.
- The close column grid breaks up the space within Burling, working against the goal of flexibility of program placement.
- The new mechanical, electrical, plumbing, and digital systems that will be installed as part of the renovation, combined with fire safety systems to bring Burling up to code, will very likely result in an even lower first floor ceiling than at present.
- The low floor-to-floor height limits how the new construction integrates with the existing floor levels. Either the new construction will be built with more appropriate and attractive floor-to-floor heights and thus be marked out clearly as an addition, or it will recreate the low first floor ceiling of the original Burling.

### Load-bearing Issues

- Burling is already at its load-bearing capacity, as explained above ("Structural Loading Plans"). Furthermore, the 1982 renovation created spaces with load bearing capacities below those needed for ordinary stacks.
- The addition of the third floor over the existing roof of the Burling library requires additional structure, which will run through the building to the basement level. More columns interspersed into the plan, of course, mean yet further rigidity of function in the existing building.
- Because the original building will become even more inflexible, the addition loses some of its flexibility too, since it alone can bear the loads of certain functions.
- In order to minimize seismic loading placed on the existing building, the new addition will likely be constructed of lightweight steel rather than cast-in-place concrete. While lessening the seismic issues caused by the addition, the difference in construction materials will underscore the difference between the existing building and the addition.

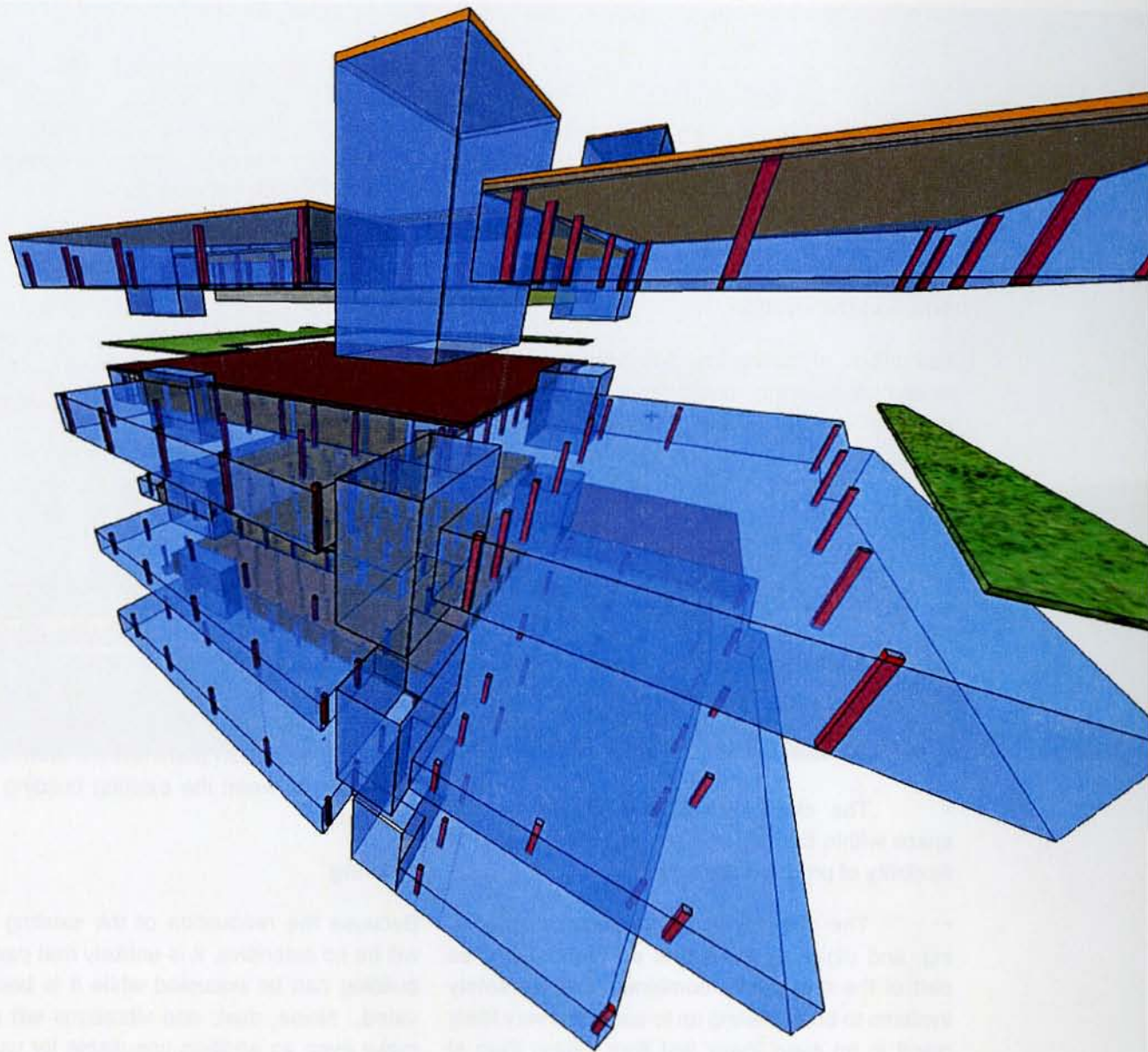
### Phasing

Because the renovation of the existing building will be so extensive, it is unlikely that parts of the building can be occupied while it is being renovated. Noise, dust, and vibrations will probably make even an addition unsuitable for use during the renovation of the original building.

- It is likely that everything will need to be removed to another location and temporary library facilities established.

### Renovation or a New Building?

The costs represented by the extensive renovation called for by the study and the limitations created





by the original building's design and load-bearing capacity led the Burling Planning Committee to request that SBRA provide some benchmarking for the cost estimate for the renovation. We found that certain cost benefits offered by the renovation scheme (such as retaining the existing caissons) were out-weighted by the premiums connected to the structural limitations. Indeed, the cost of a renovation/addition project and the construction of a completely new facility were roughly the same.

The conclusion of this study of the feasibility of a renovation/addition scheme is that it is possible to accommodate the new program on the existing site, utilizing the existing building, and meet the majority of the goals of the program. Despite the structural and design issues posed by the existing building, this renovation is likely to make Burling a compelling facility for the next ten to twenty years. The costs of the renovation/addition, however, may be as much as for a new facility designed to support the vision flexibly for fifty to seventy-five years.







