

Outta Space? An approach to space-creation and space-management planning for heritage collections

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Case-study methodology...

... can be valuable to learning and sharing approaches

Case #315-2002-046

The Thompson Library
Renovation & Expansion:
Project #315-2002-046
(2002-2010)



Value of Thompson as a case

- *Planned* during a period of dramatic changes in library services and collection management (2001-2006);
- *Completed* during a period of financial uncertainty and volatility (2006-2009);
and
- *Realized* through leadership's courage, perseverance and vision – and with a good bit of luck (2000-2009)

Planning principles for new or renovated spaces*

1. Envision
2. Plan
3. Design
4. Implement
5. Occupy and assess

*Adapted from approaches used by Academic Impressions, Inc. in its "Academic Libraries Planning and Revitalization" conferences

1. The project's vision

- a. Assess the situation's needs
- b. Set goals for the completed effort
- c. Generate options
- d. Evaluate options
- e. Articulate the vision effectively to stakeholders, constituencies, funding sources

Joe Branin, Library Director



image: WB

Vision (in brief): fix an eyesore (2000)

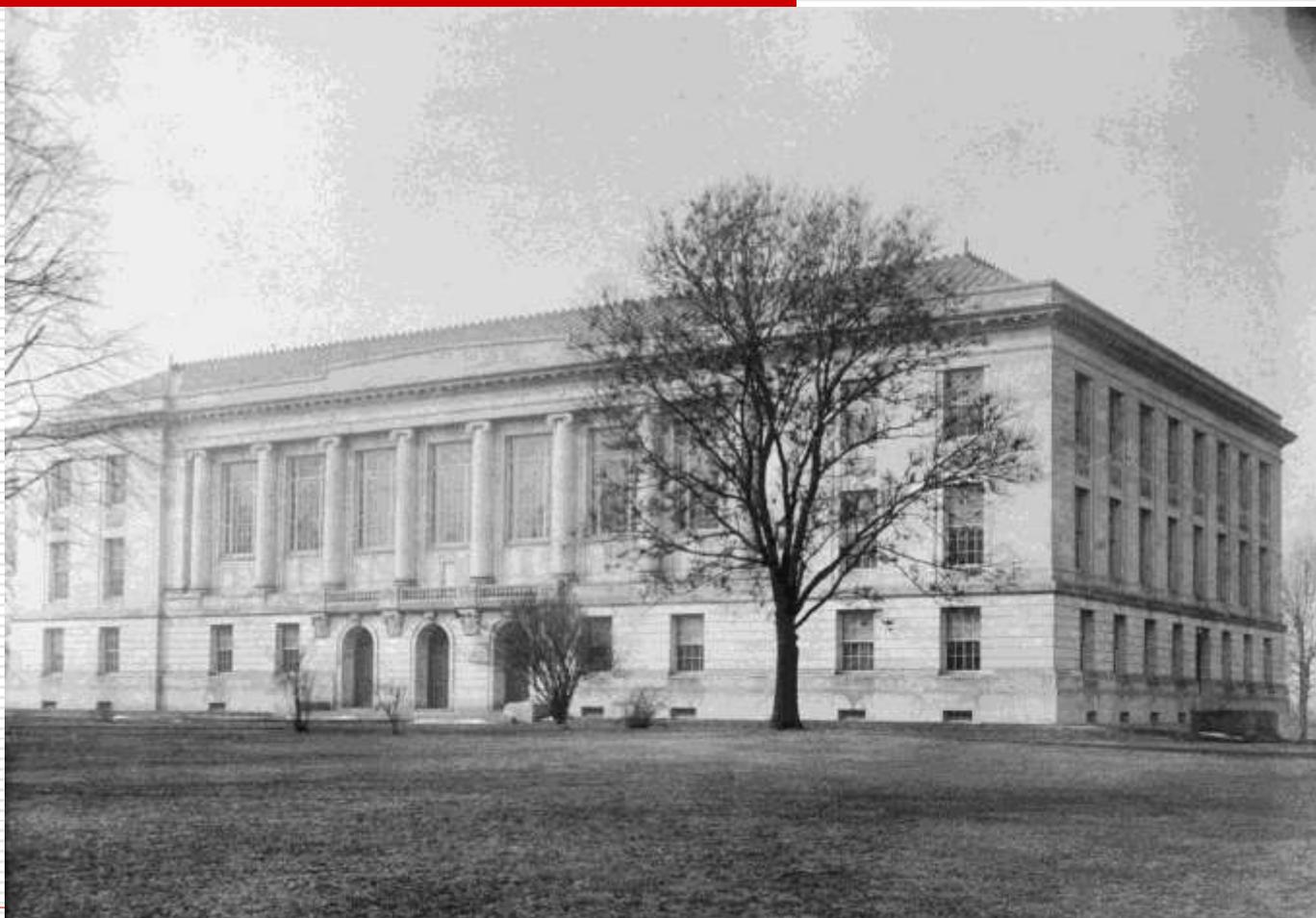


Our case:

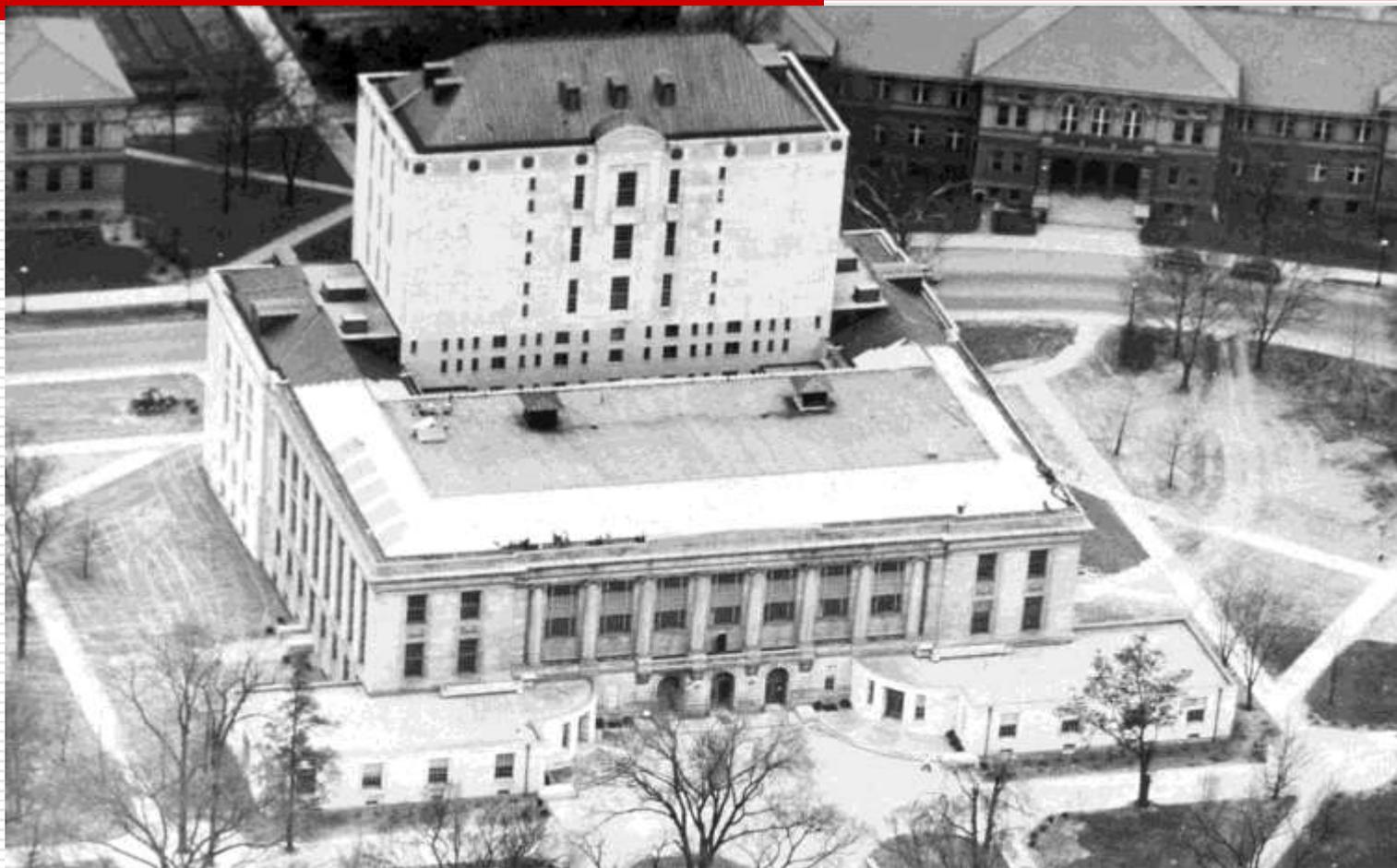
Vision statement for Thompson

- 1. Modernize* the infrastructure: life safety, MEP, network, learning spaces, ADA.
- 2. Transform* the building to be a model 21st-century facility to best serve teaching, learning and research, and with flexibility for future demands.
- 3. Convert* the facility to be a “point of pride” for the university, to be both beautiful and functional.

Original 1913 “Main” building



Stacks tower and pavilions (1951)



Western addition 1977



Challenge: match our *University Administration's* vision

- All of the above ...
- Plus ... a facility with *higher-quality* space, not one with *more* space
 - Budget model provides incentives for all units to manage their physical spaces wisely and with an eye to their long-term budgetary impact.
 - "P.O.M" (plant operations & management) fees are assessed to each unit on campus, covering the partial cost of energy, custodial, repairs, etc. (~\$15.50/asf /year in fy2012)
- Involve all the stakeholders
- Respect the site
- Follow the University's "building design standards"

Vision: spaces for learning (2002-2006)

- ❑ Scott Bennett's study, *Libraries Designed for Learning* (CLIR, 2003) was influential.
- ❑ Interactions with and observations of graduate and undergraduate students were helpful.
- ❑ Combining collection and reading areas was sensible.
- ❑ Acknowledging that people work in groups in many disciplines was not difficult.
- ❑ Assuming ubiquitous usage of the internet was easy.
- ❑ Accepting the casual (e.g., food & beverages) was inevitable.

Vision ...

“If you can dream it, you can do it.”
attributed to Walt Disney

2. Plan

- a. Assemble a project team
- b. Develop a program
 - i. Articulate objectives
 - ii. Write the PoR
- c. Determine feasibility
- d. Select the site
- e. Secure the funding



image: WB

2.a. The project team

- CEO of library, archive, museum...
- Institutional project leader (campus facilities)
- Project architect(s)
- Fund raiser
- Others as added, to include CM, MEP specialists, engineers, FF&E consultants, etc.
- Advisory groups with liaisons

2.b.i. Articulate the objectives

- What are you trying to accomplish?
- Who can participate?
- Of what specific nature (specifications)?
- What costs are acceptable to consider?
- Is LEED™ certification desirable / essential to your parent institution?

2.b.ii. Program of Requirements (PoR)

- ❑ How many?
- ❑ How big?
- ❑ Where? Next to what?
- ❑ What specific nature, specifications?
- ❑ What cost is acceptable to consider?
- ❑ Architects are trained to seek information about where there are “excesses” and “deficiencies”

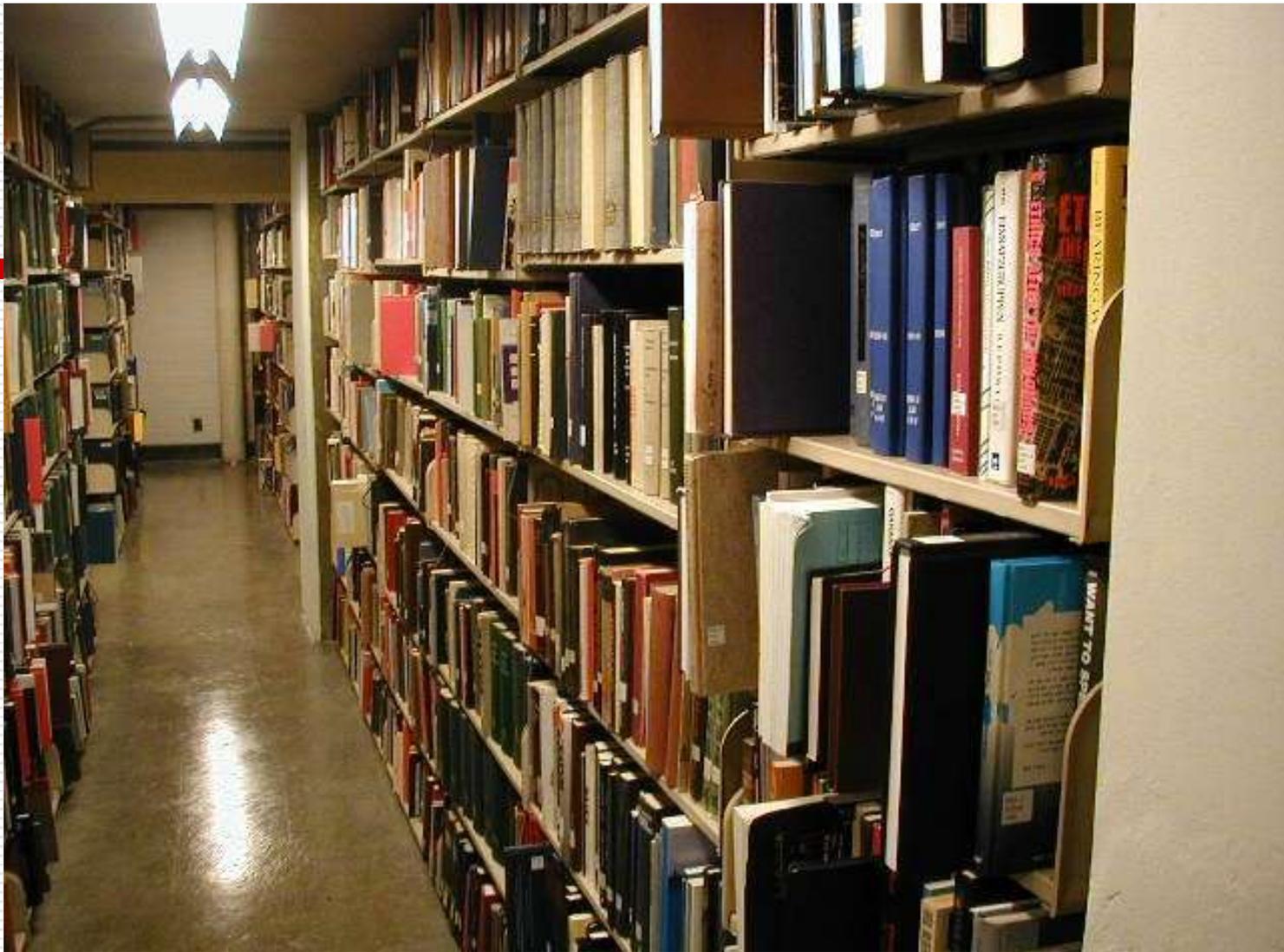
2.b.ii. Program of Requirements (PoR)

- Series of priority-setting exercises
 - Priority 1: gotta have it
 - Priority 2: would be nice
 - Priority 3: purely blue sky
- This follows the *vision* for the new or renovated space

2.b.ii. Program of Requirements (PoR) – Specifics -1

□ How big?

- What size in ASF vs. GSF can you afford?
- What percentage mix of collections, service, staff, etc. will be acceptable?
- What size for general collections? special?
- Can compact shelving be accommodated? If so, of what type?
- What other types of storage systems?



Conventional shelving (general collections)

image: WB



Compact shelving installations general (left) and special collections (right)



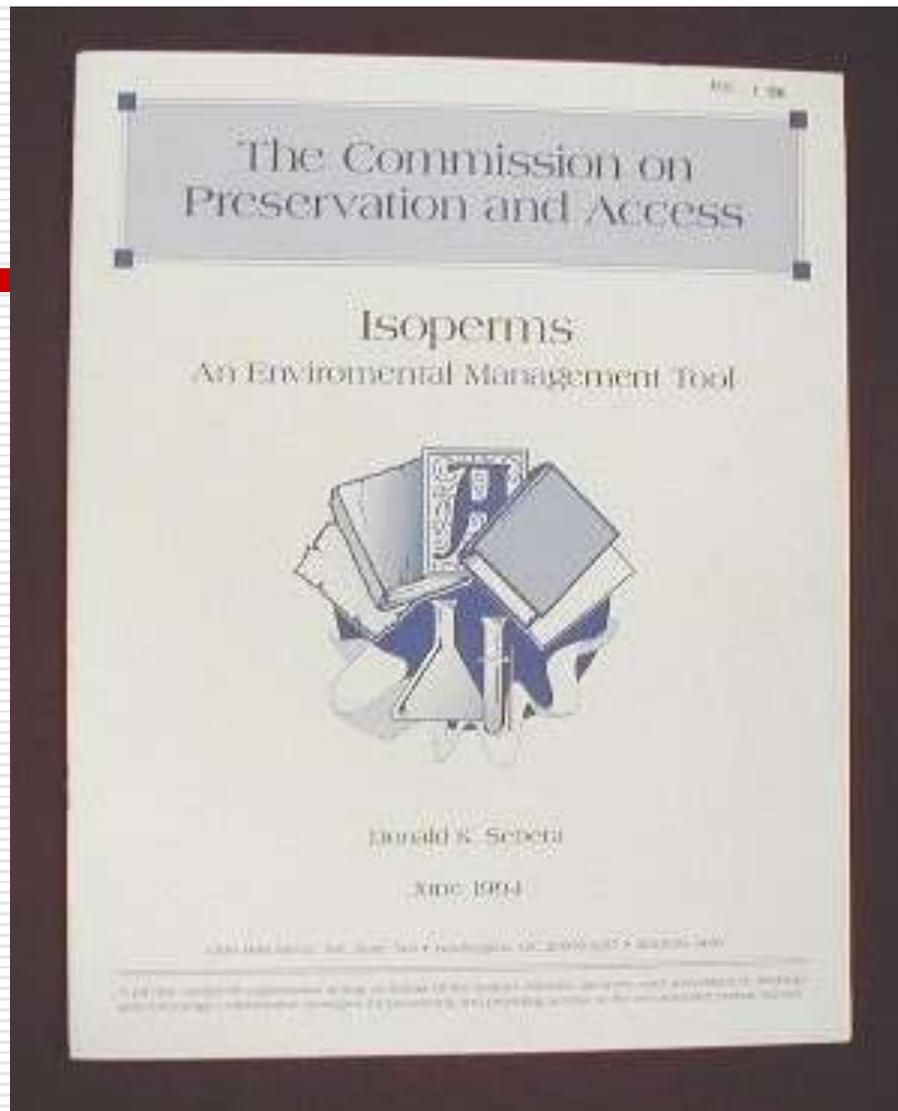
Storage of flat paper and media

2.b.ii. Program of Requirements (PoR) – Specifics -2

- What specific nature, specifications?
 - What T & RH set points will you require for collections storage?
 - Should you require refrigerant or desiccant systems for optimal dehumidification?
 - Can the set points move with the seasons? Or is 12-month “flat-line” required?
 - How might this relate to ongoing energy costs or LEED™ consideration?

Supporting the PoR: conservation research

- A fuller understanding of conservation science:
 - Isoperm research studies (LoC)



Isoperms (Don Sebera, 1994)

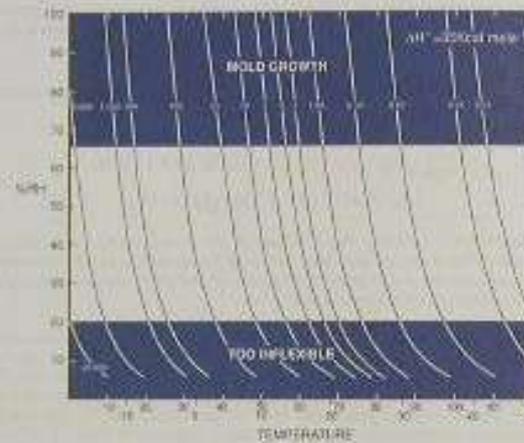


Fig. 3. Present relative humidity versus temperature isoperm diagram, displaying environmental conditions associated for paper. Relative humidities greater than 65% subject paper to hazards of mold growth and storage values less than 20% RH render paper inflexible to potentially hazardous levels.

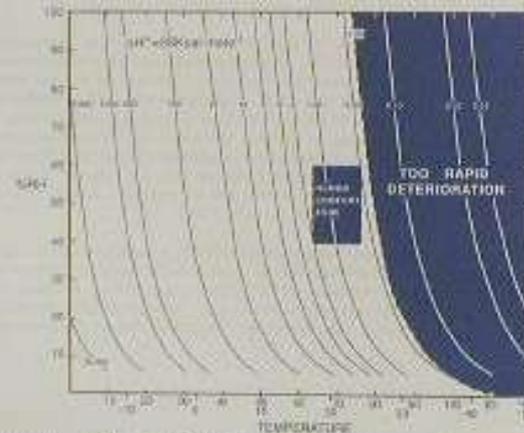


Fig. 4. Isoperm diagram displaying environmental conditions for which deterioration is so rapid that paper permeability is one-quarter or less than conditions of 60°F and 50% RH. Also shown are relative permeance values associated with environmental conditions associated with hazard curves.

The “Arrhenius relationship”(T / RH) plotted in

Sebera's Isoperm modeling
 Connecting to Collections
 Ottawa Space 2012

Monitoring T/RH

- Work of the Image Permanence Institute*
 - PEM2 dataloggers
 - Work is underway by IPI on the “green” sustainable front

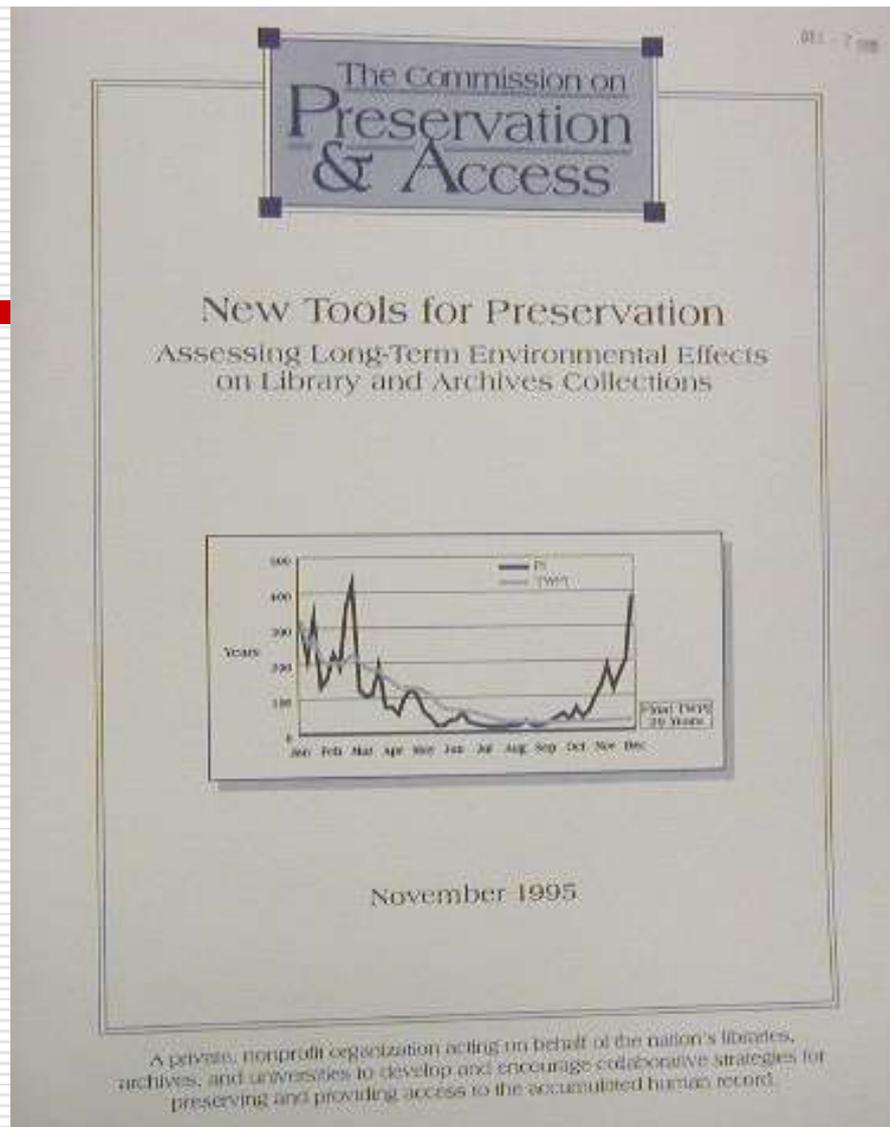
*<https://www.imagepermanenceinstitute.org/>

The "PEM₂"



The "PEM₂" – with USB download





Time-Weighted Preservation Index (1995)

Supporting the PoR:

- Effective HVAC systems
 - Impact of Leadership in Energy & Environmental Design (LEED™) and the Green Building effort



2.b.ii. Program of Requirements (PoR) – Specifics -3

- What specific nature, specifications?
 - What life safety and collections safety components are essential, at any cost?
 - Dry-pipe, pre-action systems?
 - Clean-agent system replacing Halon®?



Connecting to Collections
Outta Space 2012



image: WB

2.b.ii. Program of Requirements (PoR) – Specifics - 4

- What specific nature, specifications?
 - What types of lighting are required?
 - Exhibit cases?
 - Millwork or
 - ordered from a specific vendor?



2.b.ii. Program of Requirements (PoR) – Specifics - 5

- What specific nature, specifications?
 - What level of security is sought?
 - Card reader (door contacts) or brass key?
 - Card reader with keypads?
 - Motion detection?
 - Glass break?
 - Water ingress detection? ('water bugs')
 - Level of 24-hour monitoring by off-site service?



images: Lenel



2.c. Determine feasibility

- Construction cost per gross square foot (gsf)
 - Case: ~\$262 / gsf construction
- Site constraints: to what extent can you “build on” to your building?
- Cost of that space in future ...

2.c. Annual charges for space (asf) **over time** (fy2012 rates)

<input type="checkbox"/> Utilities	\$8.07
<input type="checkbox"/> Maintenance	\$3.50
<input type="checkbox"/> Custodial	\$2.67
<input type="checkbox"/> Maintenance & renewal	\$0.35
<input type="checkbox"/> Preventive maintenance	\$0.30
<input type="checkbox"/> Priority deferred maintenance	<u>\$0.39</u>
Total annual cost per assigned per square foot (OSU)	\$15.48

2.d. Select the site

- Renovation vs. new construction
 - An institutional decision based upon availability, cost, heritage, other factors
 - Cost differentials (per gsf) for new construction to renovation are specific to each instance

2.e. Secure funding

- Institutional factor, based upon private / public nature of institution
 - What funds may come from institutional sources? What from that raised from private donations?
 - What percentage must be raised before the project may go forward?



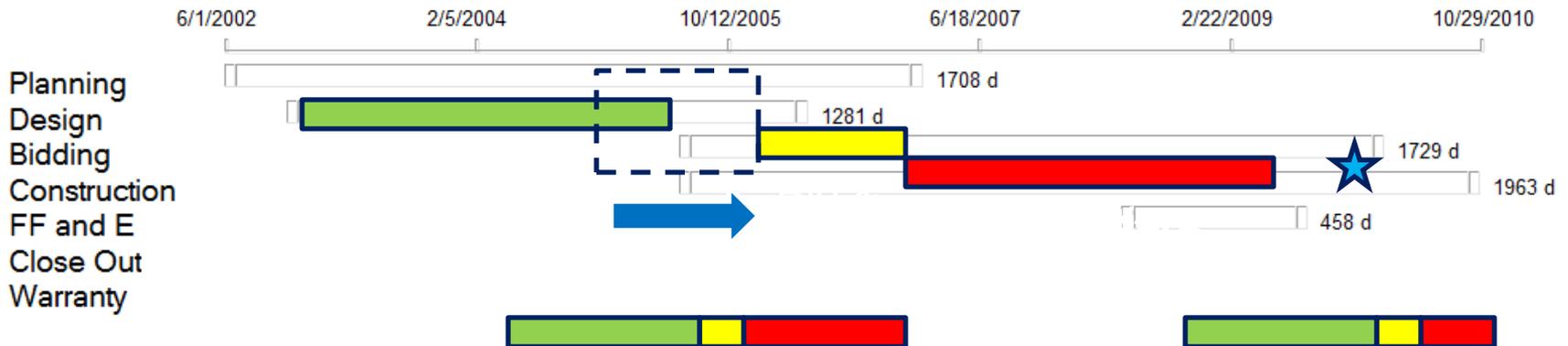
Project Gantt Chart(s)

Scott Conlon

3/6/2011

Thompson Library Renovation (315-2002-046)

Project Manager: Kristin Poldemann Status: Post Construction

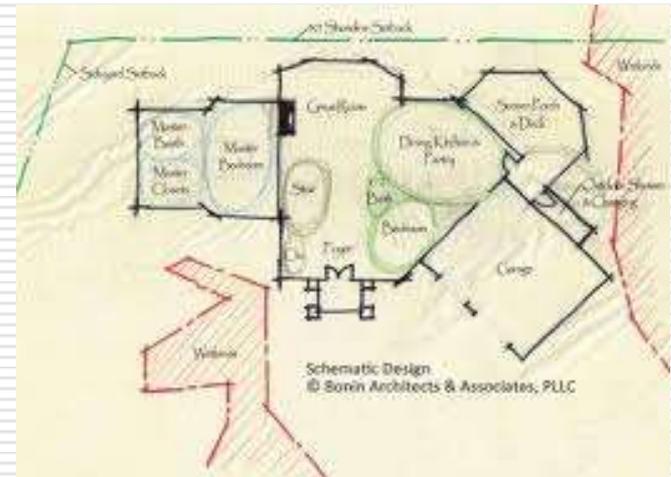


Thompson Library Schedule

image: Scott Conlon

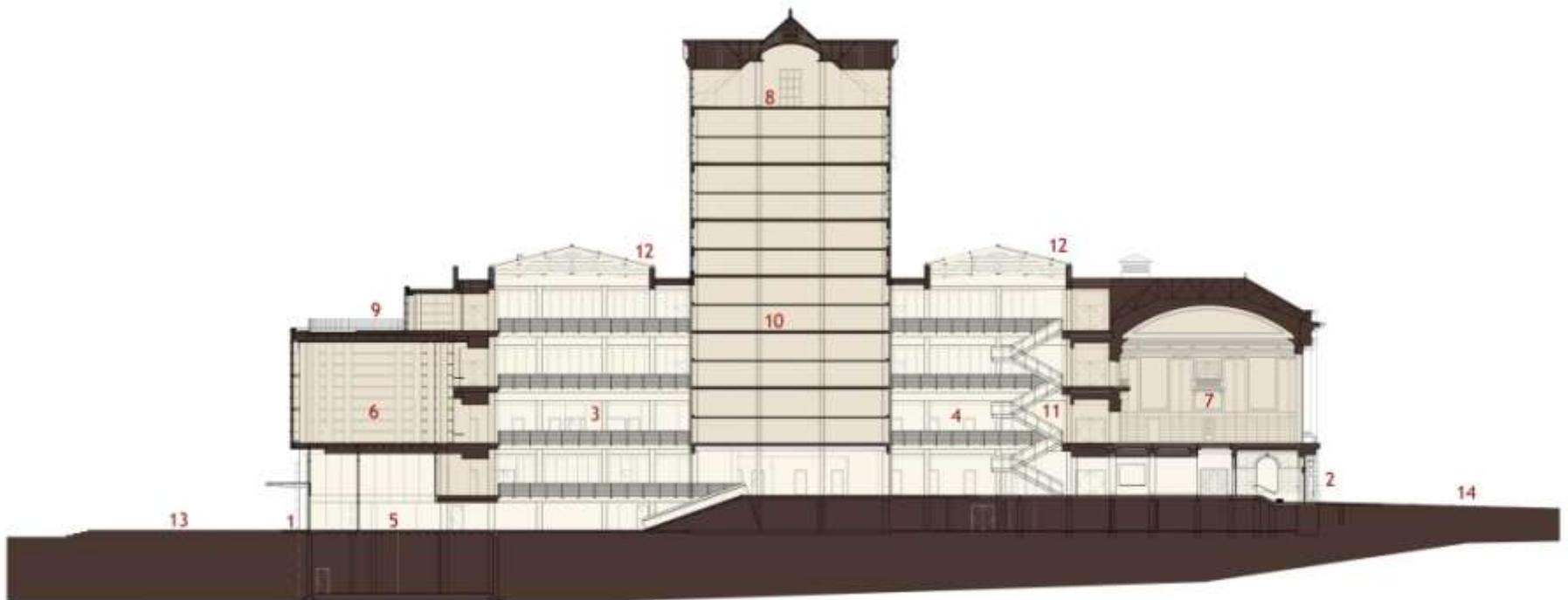
3. Design

- a. Architect design work
- b. Interior designs
- c. Testing the plans against the Program



3.a. Architect design work with the team, in this order ...

- i. PoR, as completed
- ii. Schematic Design (SD)
 - A. Required adjacencies
 - B. Floor load factors
 - C. “Scaffolding” users spaces
- iii. Design Development (DD)
- iv. Construction Documents (CD)



SECTION



LEGEND:

- | | | |
|----------------|----------------------------------|------------------------------|
| 1. West Entry | 6. West Reading Room | 10. Collections within Tower |
| 2. East Entry | 7. Restored Grand Reference Room | 11. Glass Stair |
| 3. West Atrium | 8. Campus Reading Room | 12. Skylight |
| 4. East Atrium | 9. Roof Terrace | 13. West Plaza |
| 5. Cafe | | 14. Oval Lawn |

3.b. Interior space designs

- i. These are components are *not* covered in the construction documents or costs: tables, chairs, computers.
- ii. Fixtures, furnishings & equipment (FF&E) planning is complex and expensive
- iii. FF&E specialists are necessary

4. Implement – Build it!

- A. Bid and negotiate contracts
- B. Construction and/or renovation
- C. Obtain certificate of occupancy
- D. Complete punch lists
- E. Close out the contracts

4.a. Bid and negotiate contracts

- i. Role of architects, CM and institutional facilities personnel will vary
- ii. Bids received may exceed the budget – then what?



Budget for the Thompson project

(line-item figures as of mid-2008, not updated)

<input type="checkbox"/> Construction	\$69,851,258
<input type="checkbox"/> Construction contingency	\$ 5,432,604
<input type="checkbox"/> Project & risk contingencies	\$ 3,198,951
<input type="checkbox"/> User contingency	\$ 175,245
<input type="checkbox"/> Bus service to Ackerman facility	\$ 500,000
<input type="checkbox"/> Architect / Engineering fees	\$ 7,135,841
<input type="checkbox"/> Commissioning fee	\$ 285,000
<input type="checkbox"/> University & State architects	\$ 966,802
<input type="checkbox"/> Construction management	\$ 5,230,750
<input type="checkbox"/> FF&E	\$ 7,814,304
<input type="checkbox"/> Technology	\$ 1,282,473
<input type="checkbox"/> Moving	\$ 1,000,000
<input type="checkbox"/> Swing space	\$ 5,104,388
<input type="checkbox"/> <u>Art</u>	<u>\$ 717,013</u>
TOTAL	\$108,694,629

4.b. Construction itself

- i. Site development
- ii. Framing and finishing
- iii. “Change orders” -- Changes are inevitable, but expensive!
 - RFI, Bulletin, PCO, and CO
- iv. Commissioning agents' role

4. Completion of the work



- ❑ Certificate of occupancy is a celebratory event!
- ❑ “Punch list” effort is usually the responsibility of the architect, but this varies.
- ❑ Close-out is a joint financial effort by institutional management (facilities) and the architect.

5. Occupy and Assess

- A. FF&E – with professional oversight
- B. Moves – DIY, or by professional?
- C. Dedicate and celebrate
- D. Operate
- E. Evaluate and improve continuously

5.A. “Evaluate and improve”

- The Thompson project results in opportunities to ponder the ...
 - ... “home runs”
 - ... “lessons learned”
 - ... and the continual need to plan for growth of collections.

Case continued: space planning must carry on ...

- Today:
- Near-term:
- Longer-term:
- Continually, and daily

Today: Temporary storage on the edge of campus



Potentials: additional rental space off campus



Longer-term: additional module on our HDI-style Depository



Continually ...

- De-duplication of selected published serials in electronic formats: (likely)
 - CIC Shared Print Repository
 - WEST (Western Regional Storage Trust)
- OhioLINK (Shared Depository Catalog) (less likely at Ohio State)
- Review of monographs that are duplicated in mass digitization efforts, a longer-term effort
- Collection development work that *adds* significant special collections and collections of distinction to our shelves (very likely)

Lest we forget, some relevant
recent Ohio history ...

The Library Study Committee (1987)

Ohio Board of Regents' Library Study Committee:

- Reason for their appointment: numerous and concurrent expensive requests for new academic library buildings
- Report: *Academic Libraries in Ohio: Progress through Collaboration, Storage and Technology* (1987)
 - Rise of the regional depositories
 - Birth of OhioLINK

Nationwide library trends (1)

- Impact of location, location, location:
 - Academic branch libraries are being consolidated.
 - NYPL Central Library controversy
- Many large libraries have “retention task forces” at work.
- Many look to regional consortia for shared print storage of low-use materials duplicated by electronic access to content
- Some peers are renting space and the document delivery services

Nationwide library trends (2)

- This is concurrent with the rise in the costs of construction for HDI-style Depository models. Also, it saw a concurrent reduction in support for OhioLINK at the State level.
 - a. \$2.5M cost at Ohio State for its original module and processing areas in 1995
 - b. \$9.0M cost of second module at Indiana University in 2010
- Only a few years ago we fully expected the growth of additional modules to our Depository land, adding up to five (5) modules in some areas.



content

has left the

container



OCLC Reports Information Format Trends revisited

<http://www.oclc.org/reports/2004format.htm>

Nationwide library trends (3)

- ❑ Mass digitization efforts are widespread and impactful, bringing millions of texts to the Internet, and in some cases making onsite access unnecessary.
- ❑ Purchase of e-book formats is a trend that may change need for print-on-site “soon”. [CNN report (5 April 2012) of the Pew Internet and American Libraries Project report.]
- ❑ e-journals the primary way most scholars acquire content. Print duplication shelved at valuable real estate cannot be sustained.

Nationwide library trends (4)

Recently published research (Courant and Neilson, CLIR 2010*) documents annual storage costs per volume at these rates:

- ❑ Open stacks on central campus: \$4.26
per volume per year
- ❑ Shelved in HDI-style facility: \$0.86
per volume per year
- ❑ [Stored digitally in Hathi Trust: \$0.15
per volume per year]

*"On the Cost of Keeping a Book" by Paul N. Courant and Matthew "Buzzy" Nielsen, in *The Idea of Order: Transforming Research Collections for 21st Century Scholarship*. CLIR: June 2010. pp. 81-105.

Nationwide library trends (5)

There have been recent discussions that illustrate the national concern for quality and quantity of cultural heritage space nationwide.

- ❑ The CIC's "What's In Store?" conference in May 2011 summarized that consortium's concerns and the national context of mass digitization
- ❑ Similar "Connecting to Collections"-focused discussions just like today's
- ❑ Historical societies and museums face similar constraints.

Digital environment changes (almost) everything

Digital versions of content will mean that local holding of very large quantities of published original print versions will no longer be necessary.

- There is wide ownership of serial publications from Elsevier, Springer, Wiley, JSTOR, where e-content stability and trustworthiness can be adequately assured, freeing the need for widespread duplication of print copies of same.
- Monographs in the public domain are being preserved through the Hathi Trust, the Internet Archive, and other (trusted) digital repositories.

In Summary (1):

- ❑ Physical space is expensive to build -- *and* to maintain.
- ❑ Master planning at highest level in the institution generates our construction.
- ❑ Leadership has the task of negotiating among competing priorities.
- ❑ Affiliation with quality professional planners, facilities personnel, architects and space planners is essential to success.

In Summary (2):

- ❑ Institutions vary on how they plan for space, but there are standard approaches and acknowledged best practices.
- ❑ “Green” building approaches are increasingly sensible for the long term.
- ❑ For heritage institutions, quality *and* quantity of space is mission-critical.
- ❑ As heritage institutions, we do not acquire and gather collections indiscriminately. We do it thoughtfully, building on our strengths.

In Summary (3)

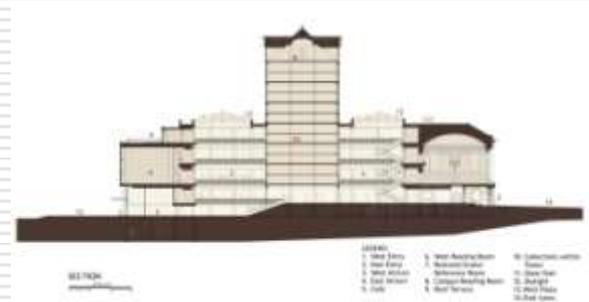
- During periods of space duress, constraints on our available space cannot be reason or excuse to make critical de-accessioning *or* acquisition decisions that have a long-term negative impact on our missions.
- De-duplication of non-essential, **non-artifact** materials is a planning principle. Materials with **intrinsic or artifact** value require a different approach.

In Summary (4)

- ❑ We do our best to acquire the needed space; to share resources; and/or to make the best use of our space.
- ❑ Space constraint cannot be the decision driver for the long term. We are stewards of both collections and of scarce resources.
- ❑ Off-site high-density storage for collections continues to be a lynchpin of collection management.

In Summary (5): this case:

- ❑ Ohio State spent a decade and \$108 million to realize a successful library transformation effort.
- ❑ The planning, design and implementation led to a realization of our vision.
- ❑ But we manage our space in continually changing ways, as good stewards.



From under-utilized spaces ...



... to reclaimed spaces.



Connecting to Collections
Outta Space 2012

image: Feinknopf

From awful spaces ...



image: Feinknopf



image: WB

... to “awesome” spaces.



From a sham ...



... to a point of pride.



Beauty, with functionality, ...



image: Feinknopf

... re-purposed and revitalized storage spaces ...



image: WB

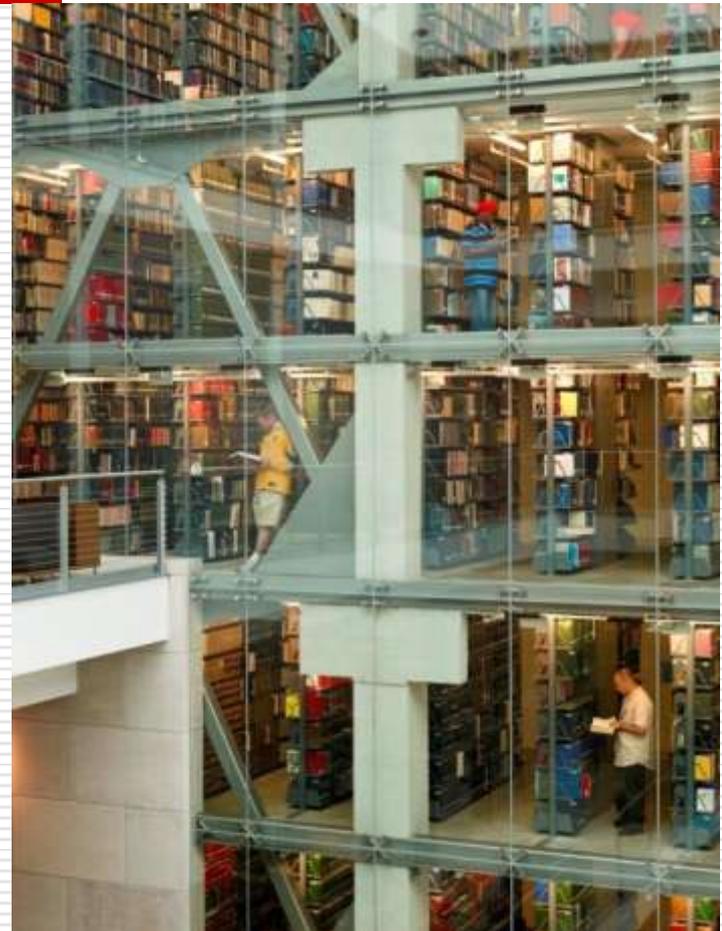
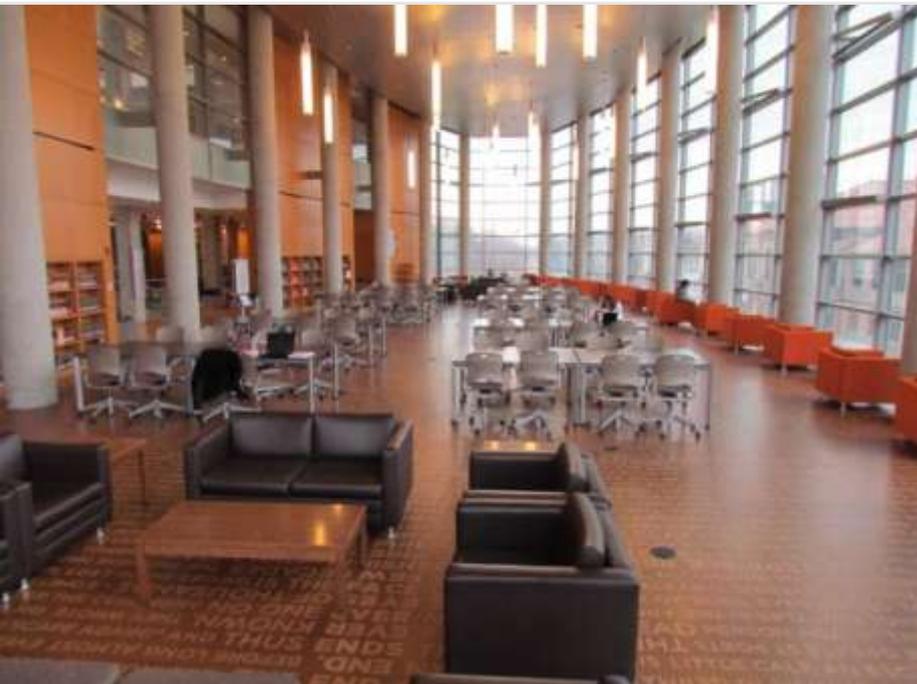


image: Feinknopf

... flexible, repurpose-able spaces...



images: Feinknopf

& new gathering and event spaces.



image: Feinknopf



image: Pam McClung

Case closed!!





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for a visit!!

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