

UNIVERSITY OF MINNESOTA

BOARD OF REGENTS

Facilities Committee

Thursday, February 11, 2010

9:45 – 11:45 a.m.

600 McNamara Alumni Center, West Committee Room

Committee Members

Steven Hunter, Chair
Clyde Allen
Anthony Baraga
Dallas Bohnsack
Venora Hung
Dean Johnson

Student Representatives

Jennifer McCabe
Sarah Shook

A G E N D A

1. Resolution Related to Campus Master Plan for the University of Minnesota
Morris - Action - K. O'Brien/J. Johnson (pp. 3-23)
2. Capital Budget Amendment - Action - K. O'Brien/M. Perkins/G. Balas
(pp. 24-30)
 - A. Akerman Hall Hanger Renovation and Akerman & Mechanical
Engineering Life Safety Improvements, Twin Cities Campus
3. Capital Budget Amendment - Review/Action - K. O'Brien/F. Cerra/M. Perkins
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 - A. Veterinary Diagnostic, BSL3 Necropsy Effluent System, Twin Cities
Campus
4. Board of Regents Policy: *Monumental Works of Art* - Review - K. O'Brien
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5. Real Estate Transactions - Review - K. O'Brien/S. Lehmkuhle/S. Weinberg
(pp. 41-49)
 - A. Purchase of 617 S. Broadway, Rochester, Rochester Campus
 - B. Purchase of 701 S. Broadway, Rochester, Rochester Campus
 - C. Seven-Year Lease for Office, Classroom, & Student Life Space and 148
Beds of Student Housing, 320-1st Ave. SW, Rochester, Rochester Campus

6. Capital Budget Amendments - Review - K. O'Brien/K. Martin/M. Perkins/
J. Parente/S. Crouch/J. Turman (pp. 50-69)
 - A. Griggs Hall Addition, Duluth Campus
 - B. Folwell Hall Interior Renovation – Design, Twin Cities Campus
 - C. Physics & Nano Technology – Design, Twin Cities Campus
 - D. Recreation Sports Addition – Design, Twin Cities Campus
7. Utilities & Energy Management: Principles & Progress Update - K. O'Brien
(p. 70)
8. Consent Report - Review/Action - K. O'Brien (p. 71)
9. Information Items - K. O'Brien (pp. 72-95)



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2009

Agenda Item: Resolution Related to the Campus Master Plan for the University of Minnesota Morris

review review/action action discussion

Presenters: Vice President Kathleen O'Brien
Chancellor Jacqueline Johnson

Purpose:

policy background/context oversight strategic positioning

Present to the Board of Regents an amendment related to the updated Morris Campus Master Plan. The campus master plan supports the Morris campus mission and guides future land use, capital project decisions, historic preservation; and technological support for a 21st century living and learning environment.

Outline of Key Points/Policy Issues:

The master plan outlines a future for the Morris campus driven by its strategic plan, anchored in its undergraduate residential mission; reflective of the history of the Morel and Nichols Garden Campus vision; and connected to the broader community it serves in its land-grant role. The following goals and principles were defined by the Master Planning Steering Committee during the master planning process.

Morris Master Plan Goals:

- Establish and craft campus gateways. Create a sense of arrival.
- Build a clear system for self-orientation and navigation on campus that extends beyond the edge of campus and into the greater Morris community.
- Facilitate and encourage multimodal transportation on campus and throughout the surrounding neighborhood.
- Address the best solution for parking and building accessibility
- Define and Activate a Sustainable Campus Management System to help achieve campus sustainability goals by 2010.
- Visually showcase UMM's green strategy, efforts, and accomplishments.
- Continuously advance communication and technology resources.
- Honor Miller Field and other historically significant sites on campus in accordance with the Historic Preservation Plan.
- Identify opportunities and constraints to future growth and expansion.
- Improve the student residential experience on campus, including day and night-time programming and circulation.

Guiding Principles - These principles guided the formulation of this revision to the Morris campus master plan.

- Arrival and Connection:
 - o Clearly defined campus edges, visual cues, and entry points will be built into the new UMM Master Plan, setting the stage for campus arrival from all direction and installing a feeling of transition from community to campus.
 - o A safe, multimodal transportation system, including pedestrian, cycle, automobile and bus networks will traverse campus and pass through the gateways into the neighboring community, pushing sustainable transportation ideals beyond the campus edge.
- Campus Transparency and Orientation:
 - o Opportunities to open clean, aesthetic view sheds will be paired with visual cues, systematic signage plans, and simplified circulation networks throughout campus, improving orientation and way-finding.
- Perpetuate A Sustainable Strategy:
 - o A sustainable strategy will be initiated by establishing initial goals; such as energy self sufficiency by 2010, the development of a more localized food system, and improved storm water management.
 - o The strategy will also include procedures for identifying new sustainability goals and tracking the campus' progress towards them. This may be directed with reference to a structured environmental management system (EMS), such as those prescribed by the International Standards Organization.
 - o GIS will be continually supplement and enhance as a living, organic assessment tool, helping to a) identify opportunities for environmental action, b) set optimum sustainability objectives, c) monitor and assess the campus landscape structures and health, and d) record the progress of UMM's Environmental management System (EMS).

Background Information:

Included in the docket material is an executive summary of the Morris Campus Master Plan. The full Plan can be found at: http://www.cppm.umn.edu/master_planning.html.

Board of Regents Policy: *Reservation and Delegation of Authority*, section VIII, subdivision 5, states "The Board of Regents reserves to itself authority to approve campus master plans and amendments thereto."

In September 1992 the Chair of the Board of Regents and the President of the University appointed a Master Planning Steering Committee to "design and recommend a set of principles which will discipline and inspire the development of a master planning process."

In 1993 the Board of Regents adopted the following four Campus Master Planning principles as developed by the master Plan Steering Committee:

- The principle of creating and maintaining a distinctive and aspiring vision for the physical development of each campus;
- The principle of enriching the experience of all who come to the campus;
- The principle of maximizing the value of existing physical assets while responding to emerging/changing physical needs;
- The principle of an inclusive, accountable, and timely process for creating and implementing a master plan vision.

In September 1996, the Board of Regents adopted a resolution directing the campus master plans reviewed earlier in the year to be used to “guide the future development of the campuses in accordance with the four planning principles and the policies, procedures and strategies therein will be the basis for all future master planning decisions.”

In the spring of 2008, and working with the Campus Resources and Planning Committee, (CRPC), Chancellor Johnson appointed a Master Plan Steering Committee and charged it with the task of updating the 1995 Morris Campus Master Plan. The Steering Committee issued an RFP and selected Oslund and Associates as the firm that would assist in the development of this plan. Oslund worked with the Steering Committee, which included members of the broader Morris community, over the course of the next year to develop and refine the plan. The final draft of the plan was approved by CRPC in the spring of 2009. In October of 2009, a summary of the plan was presented to the campus community and to the Morris community for their input and consideration.

The draft master plan was presented to the Facilities Committee on December 10, 2009.

President’s Recommendation for Action:

The president recommends the Board approve the Resolution related to the Campus Master Plan for the University of Minnesota Morris.



REGENTS OF THE UNIVERSITY OF MINNESOTA

RESOLUTION RELATED TO THE CAMPUS MASTER PLAN FOR THE UNIVERSITY OF MINNESOTA MORRIS

WHEREAS, in 1993, the Board of Regents adopted the following four campus master planning principles to direct the development of campus master plan on each of the University of Minnesota campuses:

The principle of creating and maintaining a distinctive and aspiring vision for the physical development of each campus;

The principle of enriching the experience of all who came to the campus;

The principle of maximizing the value of existing physical assets while responding to emerging/changing physical needs;

The principle of an inclusive, accountable, and timely process for creating and implementing the master plan vision; and

WHEREAS, in February 2008 Chancellor Johnson charged a faculty, staff, and student steering committee to update the 1995 University of Minnesota, Morris Campus Master Plan; and

WHEREAS, using an professional master planning consultant and internal resources and expertise to update the Morris Campus Master Plan has resulted in the development of an update to the plan that reflects the Campus community and supports academic plan of the Morris Campus; and

WHEREAS, the steering committee engaged in broad consultation with the campus community, adjacent jurisdictions, community partners and adjoining neighborhoods, throughout the master planning process; and

WHEREAS, there is agreement on the vision for the campus; and

WHEREAS, the administration from the University of Minnesota has recommended the adoption of this Amendment to the Morris Campus Master Plan.

NOW, THEREFORE, BE IT RESOLVED that the Board of Regents directs that the Amended Master Plan for the University of Minnesota Morris be used to support the Morris Campus academic mission and guide future land use and capital project decisions in accordance with the four planning principles.

University of Minnesota-Morris

campus master plan 2008

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EXECUTIVE SUMMARY

Because master planning is a specialty at oslund.and.assoc. (OAA), we are intimately familiar with the best methodologies and how those can be joined with campus goals and an overall vision to create a dynamic master plan. We passionately advocate to our clients the critical importance of the master plan as an “organic, living document,” one that must be relevant immediately and remain so for years to come. This is not a “New Master Plan — it is an evolution of the 1995 Master Plan, which Tom Oslund helped to develop while working at Hammel Green and Abramson, Inc. It has been updated to account for changes that have occurred on campus since 1995, and it has been modernized to reflect current campus needs, and ideals of today. The 2008 Master Plan is designed to be future-focused, flexible, phased for implementation.

At OAA, the idea of shaping a campus space for current and future generations entails not only providing places for social, physical, and intellectual interaction, but it is also about sculpting these same open spaces into artful forms that act as a breath within their given context. We feel that through design, there exists the possibility of discovery - a discovery that comes from gracefully combining an attuned observation of contextual considerations, cultural understandings and economic realities within a deliberate programmatic focus. This is the basis for all creative expression, and the cornerstone of our design philosophy.

OAA, working in concert with Kandiyohi Development Partners (KDP) and Elert & Associates, crafted a master plan document that is far-reaching and comprehensive in nature. Analysis was completed by all the team members at the outset of the project, studying environmental influences, building siting, traffic flow, parking, solar orientation, and many more elements. This information was compiled and synthesized and prepared for presentation. Next, an on-site design charrette and initial review of master plan guidelines and principles was held in Morris with members of the campus master planning committee. At this charrette, committee members were asked to “design the campus”, as well as consider how the guidelines and principles should affect their designs. 3 groups were created and assigned to draft their respective plans. Each group then assigned a spokesperson that presented their thoughts and perspectives on how they would shape the master plan.

OAA then synthesized all this information, including the analysis done by KDP, to offer the committee 3 distinct schemes for consideration. The analyses, a review of the charrette process, goals and principles, and the 3 initial schemes were presented to the master planning committee and representatives from the State Historic Preservation Office in December 2007. Taking the feedback from these presentations, OAA started refining the plans into a hybrid scheme, while KDP began creating GIS maps and studying their analysis to interpret and reveal the best sustainability recommendations for the Morris campus. The first hybrid scheme was presented in January 2008. Again, taking feedback from the committee, the hybrid was further refined.

At this point in the process we began to integrate the Historic Preservation plan directives into the master plan, ensuring that we adhered to the recommendations of the previously created document. In late March 2008 we brought a second hybrid to Morris for discussion with the Historic Preservationists, as well as the master planning committee. After this meeting we refined the hybrid into its final master plan form. We also presented a review of the technology analysis that was being completed by Elert & Associates.

Additional comments were taken and used to refine small pieces of the master plan. Drafts of KDP's portion of the master plan, as well as Elert's full analysis and recommendations were sent to Morris for review at the beginning of April 2008. Following the receipt of comments on the aforementioned components, a final comprehensive draft was crafted for review and edited into what is now before you.

We feel this master plan will offer the University of Minnesota Morris a clear guide to its future development, its decisive and precedent-setting move towards self-sufficiency and sustainability, and if stewarded with deep conviction, will create a campus rooted in the DNA of it's place.



Tom Oslund, FAAR, FASLA
Principal



David Motzenbecker
Associate



Sandra Rolph
Associate



Michael Krause
Principal



Craig Wilson
Principal

oslund.and.assoc.

kandiyohi development partners

PROCESS OVERVIEW

Each master plan begins with the exploratory process of analysis, interpretation, and synthesis of the gathered information. At the University of Minnesota Morris (UMM) we began with a macro view, zooming in over time to look at smaller and more detailed views and influences on and surrounding campus. These analyses were conducted by both oslund.and.assoc. (OAA), Kandiyohi Development Partners (KDP), and Elert & Associates. Each consultant was charged with the study of a specific realm - site, environment, and technology - and all the interlocking and overlapping instances that came along with those studies. OAA looked at the campus as an entity that stands within the borders of a small Midwestern town. OAA also evaluated how various influences affected the campus within this context - where the edges of campus are perceived to be, traffic patterns in and around campus, impervious surface, open space, historic influences, and a photo analysis of campus spaces - to name but a few.

KDP began exploring more data-intensive influences that related to sustainability and how that can be integrated into the future long-range plan for UMM. Elements such as geology, solar insolation, drainage, depth to bedrock, land cover, wind direction, and watersheds; among others, were compiled into GIS maps that allowed for detailed interpretation. Elert began comparing technology across peer institutions in the areas of infrastructure cabling, data centers, LAN, wireless LAN, phone systems, and AV/Multimedia.

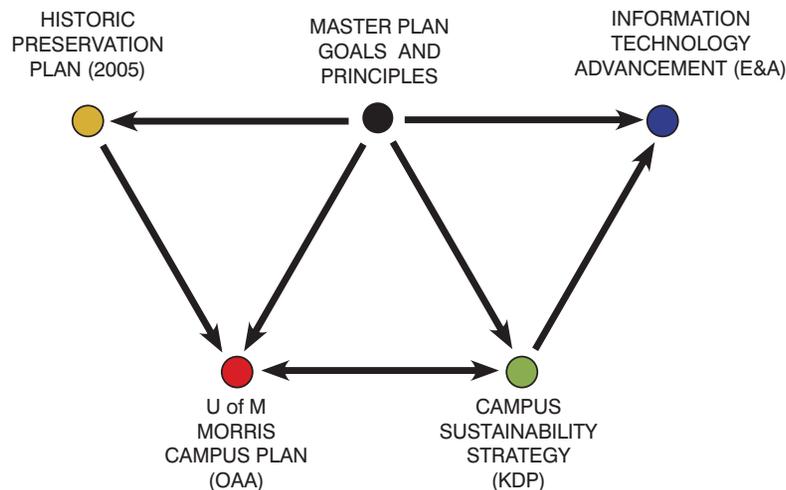
After analysis is complete, the process moves into schematic design. Schematic design involves the synthesis of information gathered in the previous phase with new understandings gained from steering committee meetings, on-campus charrettes and general observation into schematic ideas for how the campus might be shaped. Three distinct options were presented at the conclusion of this phase for comment and refinement.

The Design Development phase takes the favored concept or ideas from multiple concepts and generates a single, refined plan for review and commentary. During this phase, more and more detail is added to the plan so that it addresses specific needs identified during earlier phases.

As the process wraps up, a final master plan design is reviewed and agreed upon and then the crafting of this document begins. The process closes out with the submittal of this document for review and refinement, and finally the presentation of the final document to the Steering Committee and the Chancellor.

The process diagram (below) was developed to help readers understand the complex interrelationships that were present during this master plan update, and how they work together and influence each other. Everything in the master plan was driven by the Goals & Principles that were agreed upon by the master planning committee at the outset. With this understanding, it can be seen diagrammatically, that all things move outward from the Goals & Principles circle.

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The surrounding circles are placed in order from left to right in order of spatial magnitude. For instance, the Historic Preservation Plan is incredibly spatial in its recommendations and desires, as is the Campus Plan. The Sustainability Strategy, while influencing spatial decisions, is inherently less spatial as a singular entity. The same can be said for the Information Technology Advancement category.

As the reader moves through the document, this diagram will be seen in the lower corner of certain pages. It can be seen in these instances as a reference point, telling the reader which component of the plan is being discussed and the reader can also determine which other factors influenced the particular component they are reading about.

Also, the colored dots are used, singularly, as reference points throughout the Recommendations section of the master plan. For example, in the Sustainability Recommendations the dots are green, but where there are instances of the Sustainability Recommendations referencing a Campus Planning/Spatial strategy, a red dot is added and that section has bold type - making it easier to cross-reference. The same technique holds true in the other Recommendations sections.

2008 MASTER PLAN GOALS AND PRINCIPLES

The following goals and principles ● were defined by the campus planning committee during the initial stages of the master planning process. The integration of recommendations related to Campus Planning ●, Historic Preservation ●, Sustainability ●, and Technology Advancement ● objectives directed the evolution of a plan for Morris' future that also reflects the history of Morel & Nichols' Garden Campus.

● MASTER PLAN GOALS

- Establish and craft campus gateways. Create a sense of arrival. ●●
- Build a clear system for self-orientation and navigation on campus that extends beyond the edges of campus and into the greater Morris community. ●
- Facilitate and encourage multimodal transportation on campus and throughout the surrounding neighborhood. ●●
- Address the best solution for parking and building accessibility. ●●●
- Define and Activate a Sustainable Campus Management System to help achieve campus sustainability goals by 2010. ●
- Visually showcase UMM's green strategy, efforts, and accomplishments. ●●●
- Continuously advance communications and technology resources. ●
- Honor Miller Field and other historically significant sites on campus in accordance with the Historic Preservation Plan. ●●
- Identify opportunities and constraints to future growth and expansion. ●●●●
- Improve the student residential experience on campus, including day and night-time programming and circulation. ●●

● GUIDING PRINCIPLES

ARRIVAL and CONNECTION:

- Clearly defined campus edges, visual cues, and entry points will be built into the new UMM Master Plan, setting the stage for campus arrival from all directions and instilling a feeling of transition from community to campus.
- A safe, multimodal transportation system, including pedestrian, cycle, automobile and bus networks will traverse campus and pass through the gateways into the neighboring community, pushing sustainable transportation ideals beyond the campus edge.

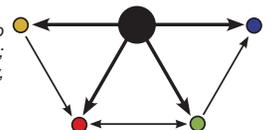
CAMPUS TRANSPARENCY and ORIENTATION:

- Opportunities to open clean, aesthetic view sheds will be paired with visual cues, systematic signage plans, and simplified circulation networks throughout campus, improving orientation and way-finding.

PERPETUATE A SUSTAINABLE STRATEGY:

- A sustainable strategy will be initiated by establishing initial goals; such as energy self sufficiency by 2010, the development of a more localized food system, and improved storm water management.
- The strategy will also include procedures for identifying new sustainability goals and tracking the campus' progress towards them. This may be directed with reference to a structured environmental management system (EMS), such as those prescribed by the International Standards Organization (e.g., ISO 14001).
- GIS will be continually supplemented and enhanced as a living, organic assessment tool, helping to a) identify opportunities for environmental action, b) set optimum sustainability objectives, c) monitor and assess the campus landscape structure and health, and d) record the progress of UMM's Environmental Management System (EMS).

The Goals and Guiding Principles point to all four aspects of the Master Plan Process; Historic Preservation, Planning, Sustainability, and Technology Advancement.



2008 CAMPUS PLAN

The final master plan for the University of Minnesota Morris is a very strong representation of the collaborative nature that this planning process offered. Many thoughts from multiple constituencies found their way into this final design.

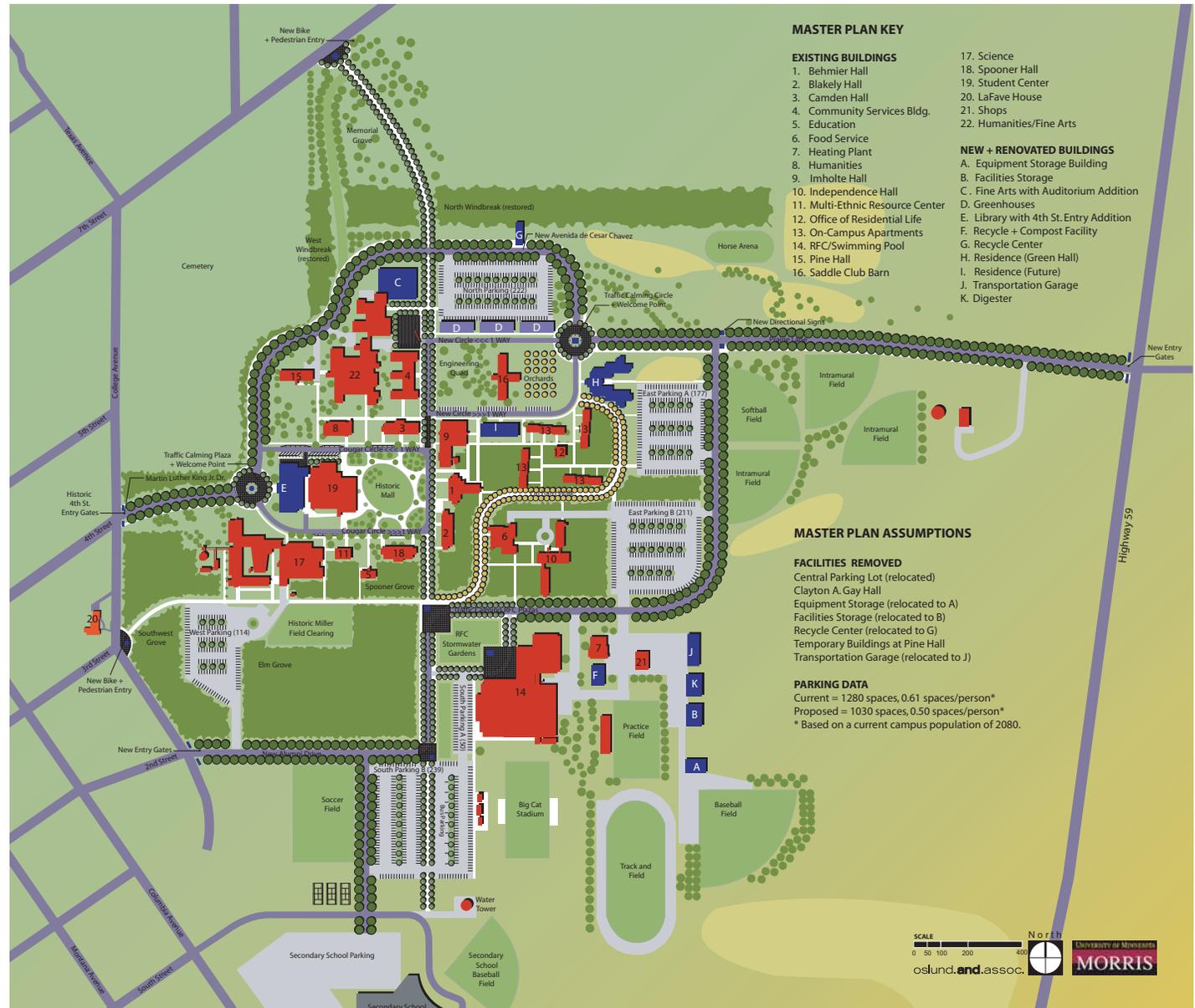
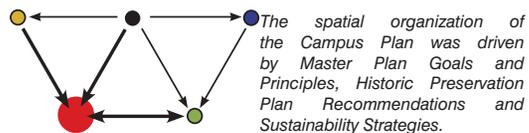
We feel that this plan offers the University a strong roadmap for a sustainable and forward-thinking, precedent-setting future. By reducing the campus entry points and enhancing those remaining, by clarifying the loop road circulation system, and by introducing roundabouts at key decision points, and by adding clear signage at these points of reference; campus wayfinding will certainly be improved.

A new quad space, surrounded by uses that reflect the campus commitment to sustainability and the 21st century, creates a new gateway and front door to the campus. The new green residence hall is a focal point, visually showcasing the green commitment to prospective students.

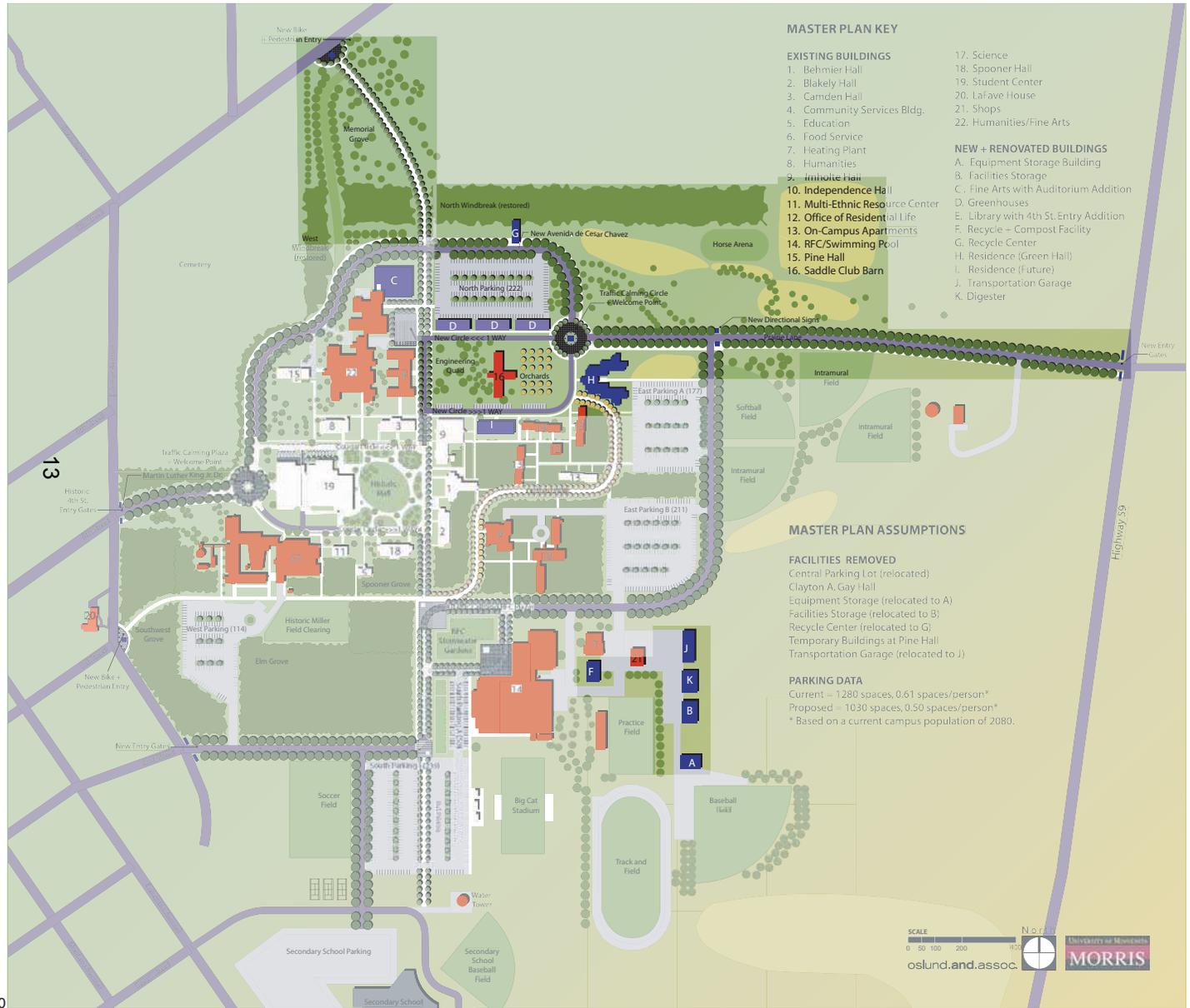
Campus walkability and connection to the town beyond has been improved and focused. Parking has been reconfigured, as has been access to the RFC. The re-alignment of 2nd Street is a strong move towards integrating both sides of the campus into one contiguous whole. This also helps reduce campus through-traffic and offers a place for stormwater gardens - another locale to showcase the sustainability practices in place on campus.

Wetlands have been recreated. Facilities services have been concentrated. Jewel box greenhouses line the new quad and offer iconic focal points near the entry roundabout.

We feel this plan will offer Morris a clear framework for expansion and growth during the next 20 years. As with any master plan, the document is to be considered organic and flexible to change along with the evolution of the campus.



2008 CAMPUS PLAN - PHASE 1



Phase 1 focuses on the development of the new Highway 59 Entry Drive and a new 'Green Quad', both of which are surrounded by uses that reflect the campus commitment to sustainability.

Highway 59 Entry Drive:

- Re-alignment and extension of Prairie Lane to the new Green Quad.
- Construction of a new campus entry gate on Highway 59 and the traffic circle welcome point.
- Restore the wetland to the north of the baseball diamonds. Design and construct a series of swales to drain into the restored wetland, and create new wetlands north of the east parking lots.
- Establish trees and plantings along the new entry drive following sustainability guidelines and recommendations in the Historic Preservation Plan.

New Green Quad

- Renovate existing roads/paved surfaces and construct new road segments to complete a one-way loop around the quad. This includes street parking areas along the south edge of the quad.
- Construct the new Green Dormitory at the east end of the quad.
- Re-locate the transportation garage and facilities storage buildings from the north parking lot to a new facilities buildings area adjacent to the practice field.
- Construct the new anaerobic digester and compost facilities in the new facilities buildings area.
- Remove the central parking lot and expand the north parking lot. Construct planted infiltration basins in the islands of the new lot to infiltrate storm water.
- Construct a row of 'jewel box' conservatory greenhouses along the north edge of the new quad to house campus food production programs.

Pedestrian Circulation

- Remove the north segment of Martin Luther King Jr. Drive and close the 7th Street Entry to vehicular traffic. Restore the north and west windbreaks.
- Re-establish the northern segment of the historic North-South Axis as a pedestrian and bike route to the center of campus. Include orientation signage at the new entry point.

2008 CAMPUS PLAN - PHASE 2

Phase 2 focuses on the re-alignment of 2nd Street towards the establishment of a loop road around campus. This will foster a more pedestrian-oriented campus environment and build safer connections to the RFC for both community and campus users.

Parking and Vehicular Circulation:

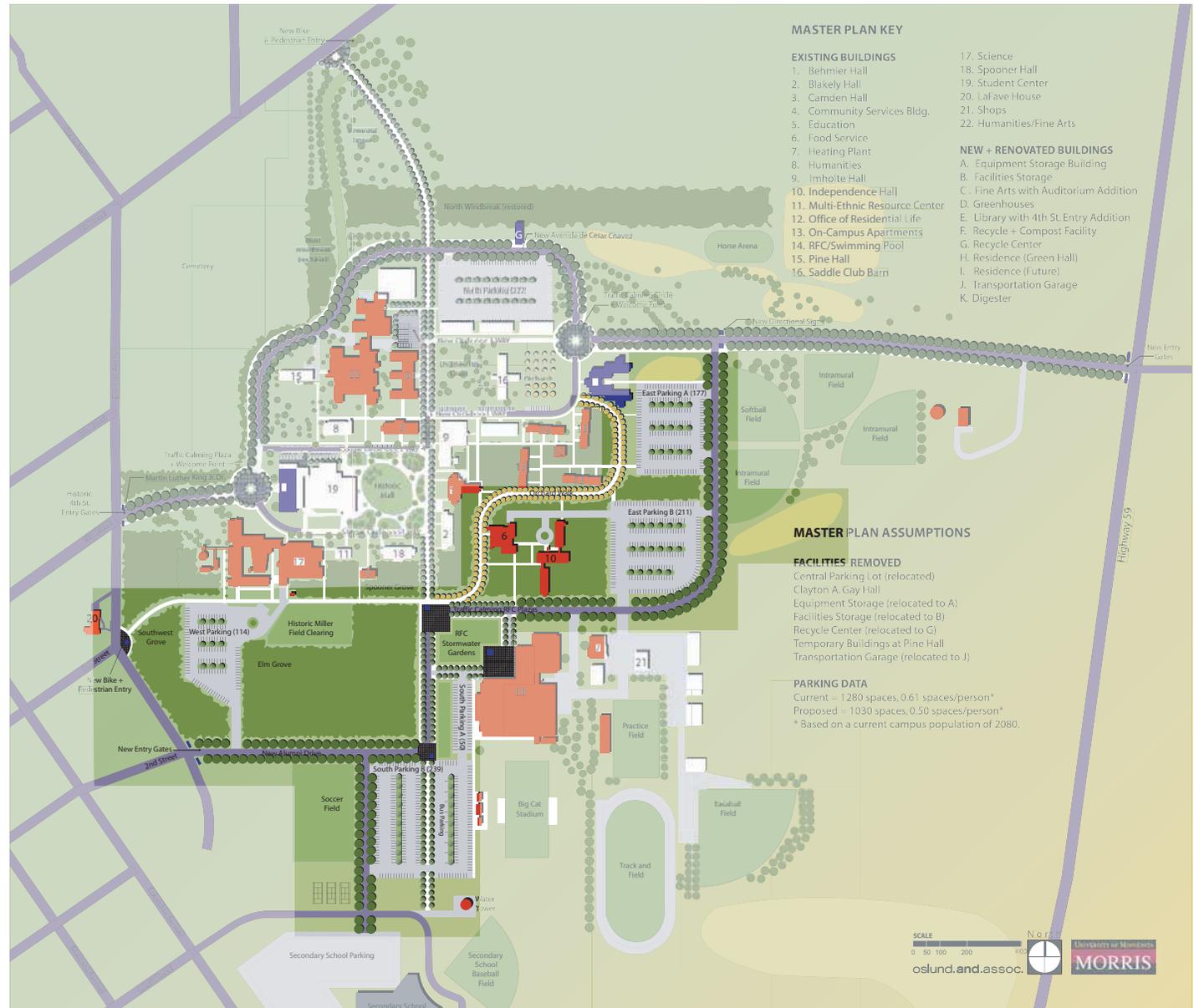
- Re-align 2nd Street to connect to the new Highway 59 Entry Drive. Establish a new entry gate with orientation signage at College Avenue.
- Construct the new drop off loop and South Parking 'A' lot to accommodate parking for accessibility to the RFC.
- Expand the South Parking Lot, including the bus loading zone. Construct planted infiltration basins in the islands of the new lot to infiltrate storm water.
- Extend a new road from the loop drive southwards to connect to the parking areas at the secondary school. Establish a system for sharing parking and athletic facilities (e.g. new tennis courts) between UMM and the secondary school.
- Expand and divide the east parking lots. Construct planted infiltration basins in the islands of the new lot to infiltrate storm water.

Pedestrian Circulation

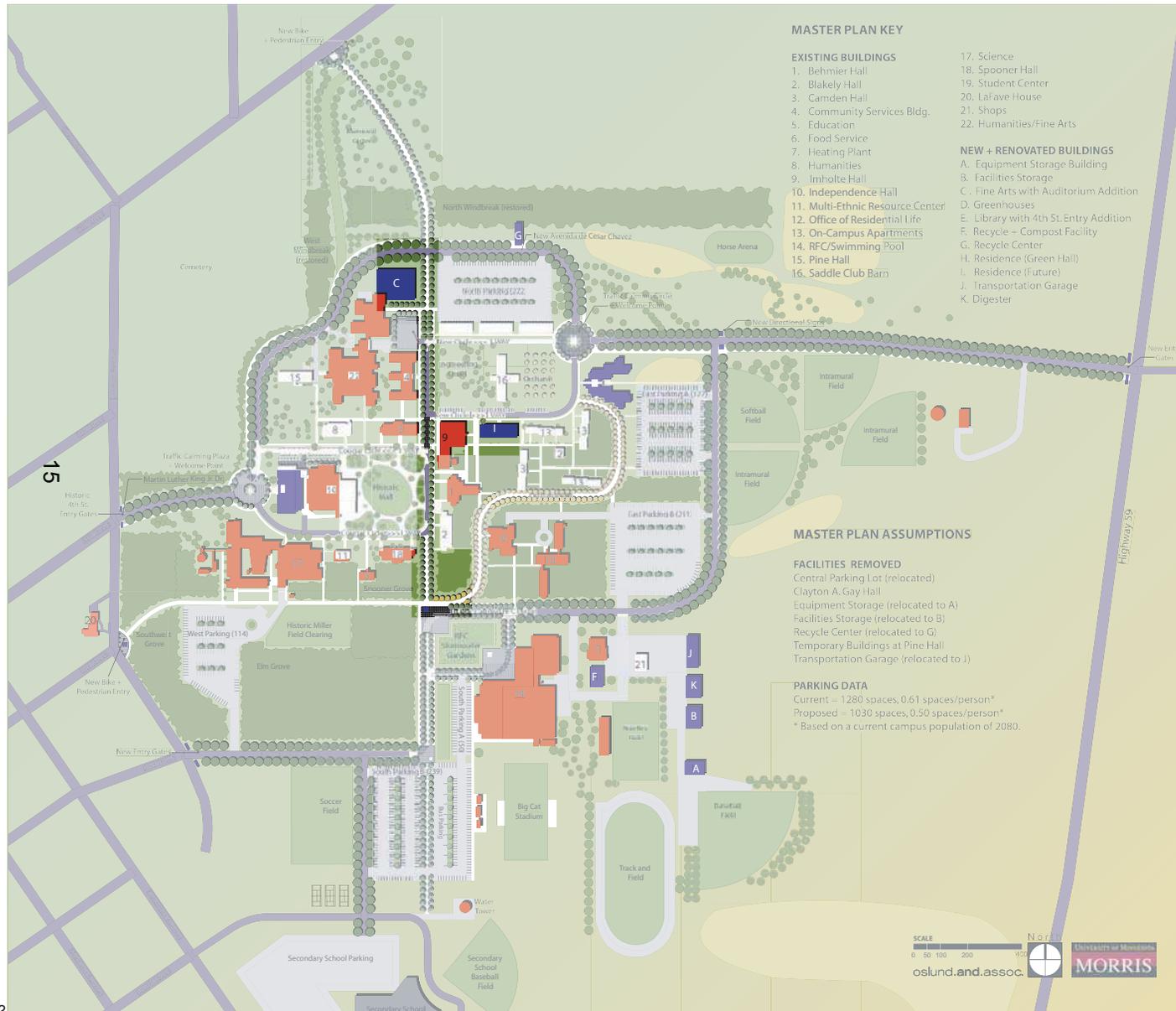
- Construct the RFC entry plazas to calm traffic and orient pedestrians travelling between the campus and the RFC
- Connect pedestrians from the North-South Axis at the RFC to the campus residence halls and the new dormitory via the new Orchard Walk.
- Connect the pedestrian walkways through the Southwest Grove, along the north edge of Miller Field, and through Spooner Grove to the Orchard Walk at the intersection with the North-South Axis.
- Establish a new pedestrian entrance plaza, including orientation signage, at 3rd Street and College Avenue.

Stormwater and the Environment

- Construct a new wetland for storm water retention and filtration south of the baseball diamonds.
- Build the RFC Stormwater Gardens to infiltrate stormwater and increase the visibility UMM's commitment to environmental sustainability.
- Restore the Elm Grove and plant boulevard trees along the new Alumni Drive loop road following the recommendations outlined in the Historic Preservation Plan.



2008 CAMPUS PLAN - PHASE 3



Phase 3 focuses on the restoration of the Historic North-South Axis and the completion of a campus-wide pedestrian/bike circulation system.

Pedestrian Circulation

- Restore the North-South Axis through central campus. The north and south portions of the axis are pedestrian/bike paths. The character of the axis should follow historic streetscape patterns where vehicular traffic is permitted through the historic district.
- Construct a driveable plaza that maintains ties to the historic streetscape character between Camden and Social Science. Design this space to calm traffic and promote a safe, pedestrian-oriented environment.

New Facilities

- Remove Gay Hall to re-open the North-South Axis.
- Construct a new residence hall (to replace Gay Hall) on the south edge of the Green Quad. Green building principles, should be employed, similar to the design principles in the new dormitory at the East end of the Quad.
- Construct the new Fine Arts Auditorium Addition.

2008 CAMPUS PLAN - PHASE 4

Phase 4 focuses on the expansion of the Library and the development of a 4th Street Entry welcome point to enhance the arrival experience on the West side of campus.

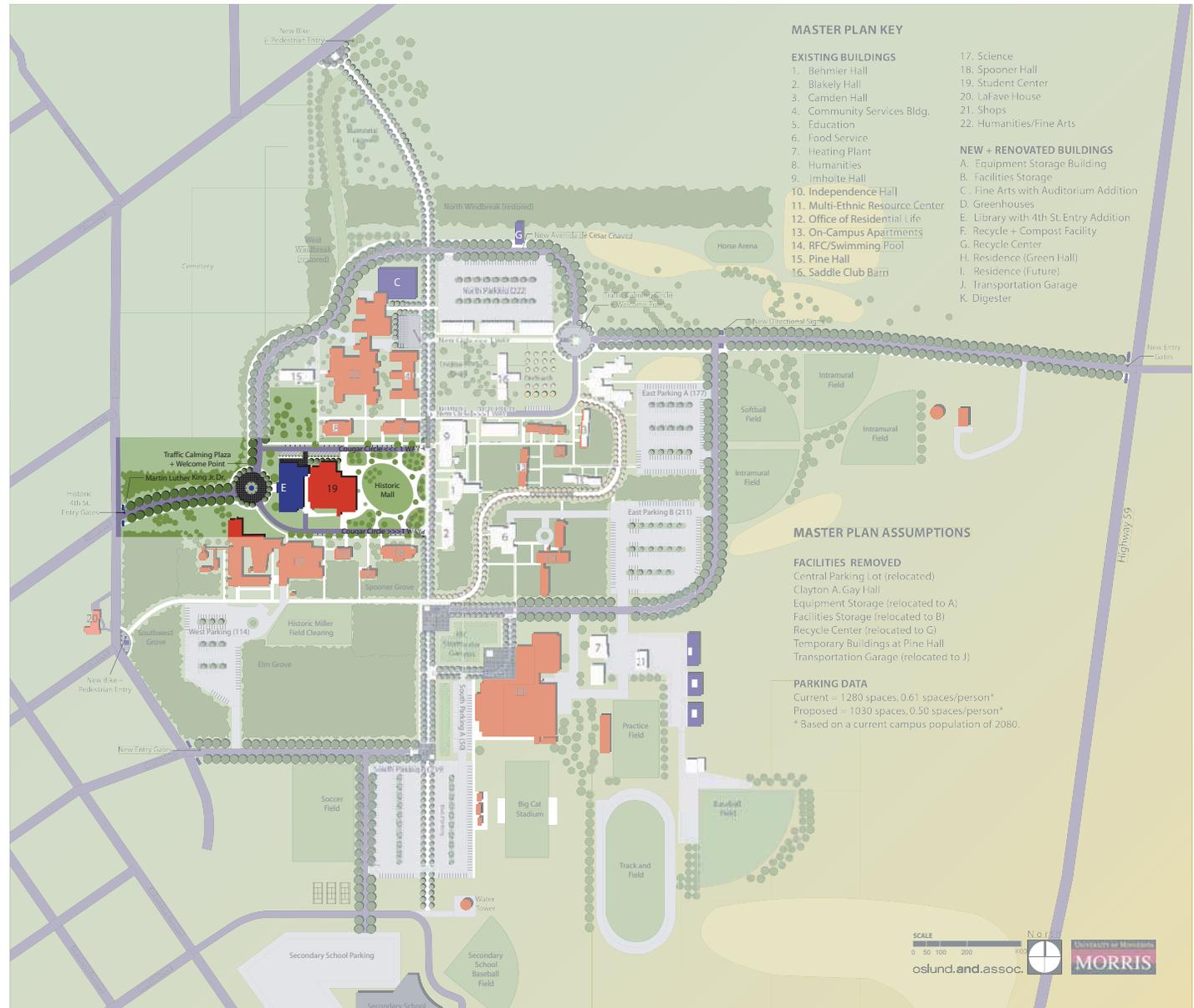
Parking and Vehicular Circulation:

- Construct a welcome plaza loop in front of Briggs Library to calm traffic and orient visitors arriving from the West.
- Convert Cougar Circle to a one-way loop to improve pedestrian safety. Maintain and restore the historic character of the streetscape.
- Add street-angled parking spaces to the north side of Briggs Library for accessibility.

New Facilities

- Design and build an addition to Briggs Library to enhance the arrival experience to campus from the 4th Street Entry (i.e., a new 'front door').
- Remove the temporary buildings on the north side of Cougar Circle and restore the historic nature of the Pine Hill Glen open space.

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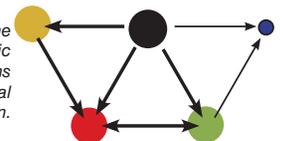


SPATIAL INTEGRATION MATRIX

The Spatial Integration Matrix identifies the goals and recommendations of the Master Plan, Sustainability Plan, and Historic Preservation Plan that are spatially oriented, and links them to their incorporation into the 2008 Campus Plan.

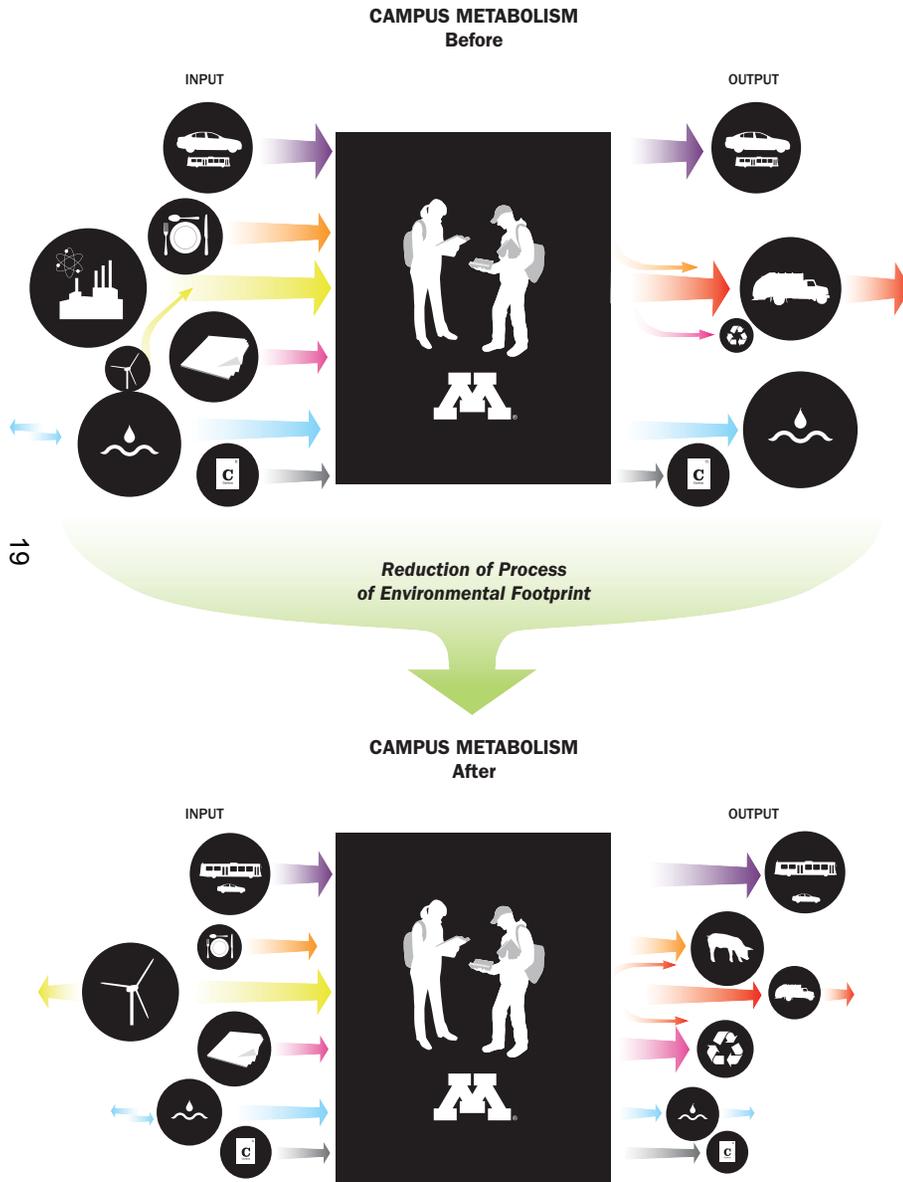
	GOALS, STRATEGIES and RECOMMENDATIONS	CAMPUS PLAN INCORPORATION
CAMPUS PLAN GOALS 17	ARRIVAL: Establish and craft campus gateways. Create a sense of arrival.	Main vehicular entry points are defined with new entry gates. Curving drives from the 4 th Street and Highway 59 entrances lead to traffic calming circles/welcome points that direct traffic. North and South Loop roads concentrate traffic flow around the campus to perimeter parking lots. Vehicular access and parking in the central quads is limited to accessibility or short term parking and passenger drop off, thereby maintaining a pedestrian-oriented campus core.
	NAVIGATION: Build a clear system for self-orientation and navigation on campus that extends beyond the edges of campus and into the greater Morris community.	
	TRANSPORTATION ALTERNATIVES: Facilitate and encourage multimodal transportation on campus and throughout the surrounding neighborhood.	A new bike and pedestrian circulation system crosses the Morris Campus. Bike and Pedestrian entry points are enhanced with signage and campus-community transition plazas at the 7 th and 3 rd Street entrances.
	SUSTAINABLE PARKING AND ACCESSIBILITY: Address the best solution for parking and building accessibility.	The Campus Plan focuses on a balance between the improved sustainability and appearance of perimeter parking lots and handicapped accessibility parking near buildings with the greatest community use. This includes the Library, Student Center, RFC, Fine Arts Addition, and Community Services Building.
	VISIBLE SUSTAINABILITY: Visually showcase UMM's green strategy, efforts, and accomplishments.	The Highway 59 entrance drive passes through storm water swales and restored wetlands to a new Campus Quad that features a Green Dormitory. Central orchard/garden plots and a row of conservatory greenhouses along the North edge of the quad exhibit Morris' sustainable food production strategy.
	RESIDENTIAL LIFE: Improve the student residential experience on campus, including day and night-time programming and circulation.	The North-South Axis and Orchard Walk pathways give priority to safe bicycle and pedestrian circulation between campus residence halls, the RFC, parking lots, classroom buildings, and the neighboring community.
	SUSTAINABILITY GOALS: Activate a sustainable campus management system.	See Sustainability Strategies, below.
	HISTORIC PRESERVATION: Honor historically significant sites in accordance with the Historic Preservation Plan.	See Historic Preservation Plan recommendations, below.
SUSTAINABILITY STRATEGY	SLOPE STABILITY, NATIVE PLANT COMMUNITIES and BIODIVERSITY: Re-forest upland areas and restore lowland grass and pasture to native prairie.	The Campus Plan illustrates the proposed restoration of the historic North-West windbreaks, The Southwest Grove, Elm Grove, Spooner Grove and Hillside, and the East Terrace.
	STORM WATER MANAGEMENT: Restore the wetland to the North of the baseball diamonds. Design and construct a series of swales to drain into the restored wetland (above). Create new wetlands North of the East Parking Lots and South of the Baseball Diamonds. Maintain the existing NWI emergent marsh/wet prairie along Highway 59.	These areas are included and reserved on the Campus Plan as part of an effort to implement sustainable storm water best management practices (BMPs) recommended in the sustainability strategies.
	WINDBREAKS: enhance coniferous plantings on the North and West sides of buildings.	The Campus Plan illustrates the proposed restoration of the historic North-West windbreaks and conifer groves.
	SUSTAINABLE TRAVEL: Create a hierarchy of roads, bike trails, pedestrian walkways, and campus entrances that enhance the walking / biking experience.	The North-South Axis and Orchard Walk pathways give priority to safe bicycle and pedestrian circulation between campus residence halls, the RFC, central campus, and the community.
	LOCAL FOOD SYSTEM: Integrate on-campus greenhouses into the campus food system.	Conservatory-like greenhouses line the North edge of the new campus quad (D).
	WASTE REDUCTION and RENEWABLE ENERGY: Construct a covered, open-air compost facility and an anaerobic digester facility into the campus waste system to dispose of organic waste and produce renewable energy.	The compost facility (F) is located in the South facilities area to minimize odor in the central campus area. The digester is also located in the Southeast facilities area near the existing heating plant (K).

Master Plan Goals, and the recommendations of the Historic Preservation and Sustainability Plans have a direct influence on the spatial organization of the Campus Plan.



HISTORIC PRESERVATION PLAN RECOMMENDATIONS 18	GOALS, STRATEGIES and RECOMMENDATIONS	CAMPUS PLAN INCORPORATION
	SPATIAL ORGANIZATION: Preserve the historic open spaces within the historic district and use an orthogonal approach to planning.	Where practical, historic spaces were retained and, in some cases, enhanced. The removal of two temporary buildings rejuvenates the Pine Hill Glen area, Miller field is defined as a clearing in a restored Elm Grove, The Engineering Quad remains as open space – creating a mirror image of the Historic Mall in the New Quad.
	VEGETATION: Restore historic windbreaks. Retain and replace street trees and historic plantings in accordance with historic patterns.	The north and west windbreaks have been restored. Historic boulevard patterns were retained and extended where new street trees and sidewalks were added.
	CIRCULATION: Keep existing roads, sidewalks, curbing, and boulevards at their historic form whenever possible. Restore roadways that have been altered or lost, when feasible. Provide a clear public vehicular route around and through campus.	The path of the historic North-South axis was restored as a primary bike and pedestrian access route – this fosters the historic aesthetic while advancing Morris’ sustainability strategy and circulation goals. The tree-lined Highway 59 entrance drive gently curves through fields and restored wetlands – a complement to the 4 th Street drive on the West side of campus. 2nd Street was re-aligned to yield an orthogonal spatial organization, and to slow traffic around the RFC. The perimeter drive defines a new edge to the expanding campus, and separates the major vehicular paths from a pedestrian-oriented environment at the campus core.
	PARKING: Provide parking in perimeter lots rather than near the center of the historic district and its most important spaces. Design parking to be parallel to adjacent buildings, roads, or walkways. Add landscaping and islands.	Parking in perimeter lots was enhanced with islands for storm water infiltration and screening. Handicapped accessibility parking was added near buildings that are frequented by the community, such as the Library, Student Center, RCF, Fine Arts Addition, and Community Service Building.
	4TH STREET ENTRY: Retain the configuration, scale, dimensions, and alignment of the road, sidewalk, grass areas, and tree structure. Restore the shape of the symmetrical entry drive as it divides west of Briggs Library.	The configuration and design of the 4 th Street entrance drive was maintained to a new traffic circle. Building additions and the extension of Martin Luther King Jr. Drive limit the feasibility of restoring the roadway to its historic form. The traffic circle brings the continuity of the drive into the Mall area re-introduces symmetry to the present-day 3-way intersection.
	MILLER FIELD and SPOONER GROVE: Retain what remains of the flat open plane, with no additional intrusions. Re-establish boulevard trees along 2nd Street. Maintain and rejuvenate existing pines, spruce, and crabapples.	The historic clearing of Miller field is defined and visually strengthened with restored Elm Grove and Spooner grove plantings. Boulevard trees are planned for the 2 nd Street re-alignment. The East-West pedestrian-bike way passes through the restored plantings of the historic campus, and transitions to the new ‘Orchard Walk’ at the North-South Axis. Lined with apple trees, this part of the walkway exhibits Morris’ localized food production strategy and the University’s progress in fruit breeding and research.
	NORTH-SOUTH AXIS: Should Gay Hall be removed in the future, reconstruct the street to 2nd Street. Retain the opening in the North Windbreak. Restore the character of the axis between Camden and Social Science, including essential elements of historic streetscape patterns	The South portion of the axis is restored to a pedestrian-bike path that connects the athletic facilities to central campus. The historic alignment of the axis extends through the North Windbreak and Memorial Grove to the original 7 th Street Entry. The historic streetscape is restored at Camden Hall, where limited vehicular traffic is controlled and calmed with roadway paving and bollards.
	ENGINEERING QUAD: Retain the quad as open space. Extend the Highway 59 entrance drive along the northern edge of the Quad. This will require removal of some of the spruce in the north windrow. Reconfigure the Central Parking Lot and eliminate elements that visually distract from the barn’s distinctive appearance when approached from Highway 59.	The Engineering quad is retained as an open space that mirrors the Historic Mall. Additional improvements to this area, such as spruce grove remediation and Saddle Club barn restoration, will help to enhance this expanding part of campus while preserving its historic aesthetic. The central parking lot was replaced with orchards/gardens for campus food production, with limited parking along the south edge for short-term parking and handicapped accessibility. This quad exhibits a progressive green strategy in a historic context.
	FARM BUILDINGS AREA: Remove the Transportation Garage, shifting major service functions to the Heating Plant area of campus. Use its site for open space, part of the North Windbreak, and/or part of a new North Parking Lot.	Major service buildings were re-located to the South facilities area. The historic seed house is retained along the north edge of the new Avenida de Cesar Chavez within the extended windbreak and boulevard trees.
PINE HILL GLEN: Retain the zone’s open lawn and ground plane to retain its traditional functions.	The removal of the temporary science buildings restores this open space and its function for campus events.	

SUSTAINABILITY STRATEGY



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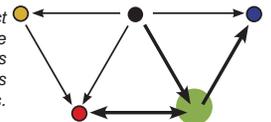
CAMPUS METABOLISM ANALYSIS

Any college campus is very much like a self-contained organism, with the movement in and out of large volumes of material and energy inputs, internal processes and by-product generation. In that sense, it is like the metabolism of an individual organism, but aggregated across all of the metabolisms within it, with metabolism defined as the series of reactions to various nutrients and stimuli that result in the sustaining of the organism over multiple generations. College campuses also need to sustain themselves, and they do that by reacting to the characteristics of their campus site, inputs of materials, energy and human intellect in ways that are designed to meet their institutional mission and perpetuate their existence.

The Metabolism Diagrams (left) provide an illustrative comparison of the Morris Campus Metabolism before (top) and after (bottom) implementing sustainable management strategies described in this plan (following pages). The size of the arrows represents the relative size of the material or energy flow through campus. Traffic will decrease as alternatives to personal vehicles increase (purple arrows). The input of food from external sources (orange inputs) decreases as food is procured locally and grown on campus. Food waste (orange outputs) decreases with the implementation of compost and hog facilities. Commercial waste reductions (red outputs) will also follow effective implementation and promotion of recycling programs and sustainable resource use. Energy from fossil fuels (yellow) decreases with additional renewable energy projects, such as the implementation of additional wind turbines, solar panels, and geothermal heat pump systems. Wasted stormwater will be reduced with the implementation of stormwater Best Management Practices (BMPs). These efforts combined will lead to a decrease in the overall carbon footprint of the Morris campus (grey arrows).

Recommended sustainability strategies are summarized on the following pages. These strategies follow a careful analysis the Morris Campus Metabolism using Geographic Information System technology (GIS) and available campus data. Red dots and bold type indicate strategies that are spatial in nature and relate to the campus plan from a sustainability perspective.

New Sustainability Strategies will affect the Campus Plan, as green infrastructure is proposed for the future. These initiatives will also drive the advancements of campus technology resources.



SUSTAINABILITY RECOMMENDATIONS

Elevation and Slope

- **Decrease erosion on areas with steep slopes by planting specially adapted native species** as suggested in Appendix 6: Species List of the U.S. Fish & Wildlife Service Morris Wetland Management District Comprehensive Conservation Plan and Environmental Assessment.
- The general slope of the campus to the east and south creates eastern and southern aspects which present opportunities for solar thermal or solar electric generation. (Refer to the Solar Insolation Analysis section later in this document).
- Much of the campus landscape is relatively steep (up to 12%), therefore, it is important to implement stormwater best management practices in order to increase infiltration, improve water quality and decrease water velocity before water reaches the Pomme de Terre River. (Refer to the Stormwater Analysis section later in this document).
- While slope analysis using the 1 to 24,000 scale 30m resolution DEM is useful for regional planning it is less useful for planning at a local scale. It is recommended that two foot contours be surveyed and stored digitally for the UM-Morris campus and surrounding land owned by the Regents of the University of Minnesota. This will be useful for many future environmental and physical planning endeavors.

Land Use-Land Cover, Natural Resources and Habitat.

- Existing native plant communities of moderate biological significance along the Pomme de Terre River present an opportunity to further augment the corridor of biological diversity between campus and the river. **Upland areas could be reforested and lowland grass and pasture land converted to native prairie.** We recommend that the UMM community initiate the development of this corridor and lead the Morris community in its implementation.
- Increasing biodiversity from the boundary of the City of Morris through campus to the Pomme de Terre River offers a design opportunity to transition from an urban, formal aesthetic to a natural, informal aesthetic. This differentiation would help emphasize the West side of campus as the "front door" of campus.
- Prioritize the planting of vegetation that provides food and habitat for wildlife as suggested in Appendix 6: Species List of the U.S. Fish

& Wildlife Service Morris Wetland Management District Comprehensive Conservation Plan and Environmental Assessment.

- Update the campus tree survey for completeness.
- There is a large area of moderately significant plant biodiversity immediately adjacent to the campus where it is likely to experience impacts from campus activities. The University should consider "adopting" this natural area for ongoing study, perhaps benchmarking the area's health as a biodiversity resource with other smaller, adjacent areas of moderate biodiversity value.

Geo-tech Analysis

- Stormwater should be managed to ensure that stormwater contaminants do not reach the shallow aquifer. The university should also have a hazard mitigation strategy for spills or leaks that may occur in areas with a shallow depth to the surficial aquifer, especially since parts of campus are overlain by porous soils and glacial deposits.
- While the underlying surficial geology of the Morris campus appears well suited for geothermal heat pumps, it is recommended that the University maximize use of its combined heat and power (CHP) system (also known as cogeneration). CHP systems generate electricity and thermal energy in an integrated system—in Morris' case, from biomass, a renewable energy resource. To increase efficiency and reduce costs, the entire campus should maximize use of thermal energy recovered from the CHP system for its heating and cooling needs. Should the campus maximize its thermal energy efficiency (depending on the drain of the parasitic load on energy production), it is recommended that the University consider either expanding its CHP system or explore other options such as geothermal heat pumps.

Stormwater Analysis.

- **Restore the wetland north of the baseball diamonds.** It appears from the National Wetlands Inventory (NWI) that the wetland was likely an emergent marsh, however, a professional restoration ecologist should be consulted to determine the original wetland type and hydrologic regime, as well as for assistance in plant selection and maintenance. A study should be completed prior to restoration of this wetland, or other infrastructure creation described below, that identifies all subsurface drainage, specifically agricultural drain tile.

- **Create a series of dry to wet swales from west to east that drain to the restored wetland.** Swales consist of open vegetated channels and filter and slow stormwater (Shaw and Schmidt 2003). See Shaw and Schmidt (2003) for a list of native plants best suited for each type of swale and other BMPs discussed below. These swales would move from high to moderate slopes, and from well drained to poorly drained soils. The swales should have mild longitudinal and side slopes, or check dams where necessary.
- Although no major flooding has been observed near the storm sewer outlet near the baseball diamonds (R. Thompson 2007, pers. comm., Dec 11), it is recommended to move the outlet back across the road into the swale/wetland complex. This will prevent possible flooding, reduce pollutants, and better attenuate flows. Consulting with a licensed professional civil engineer and licensed professional ecologist will be necessary.
- **Creating a wet prairie or an emergent wetland to the west of the baseball diamonds** could provide substantial attenuation of stormwater runoff peak flow rates prior to stormwater discharge into the existing stormwater management system. Further site investigation would be necessary to validate this recommendation.
- **An existing drainage area south of the baseball diamonds would be well suited for the creation of a wet prairie or emergent marsh.** This would reduce contaminants, create habitat, and attenuate stormwater runoff.
- **An existing NWI emergent marsh/wet prairie along the western edge of Highway 59 could benefit from enhancement through native plantings and proper maintenance** to ensure success of native plants. It is likely that it is dominated by invasive plants and may not function optimally for habitat, water attenuation, and pollutant remediation due to the agricultural and urban land uses surrounding it. This area has a shallow depth to groundwater. Restoring natural ecological function is important to limit contamination from stormwater runoff.
- Evaluate the volumes and water quality of water being discharged into the Pomme de Terre from the campus and analyze the discharge in the context of the larger area, including any discharge into the river by the City of Morris.
- The large volumes produced by the sump pump in the Central Heating Facility could be treated and considered for cooling at the biomass gasifier cooling tower. The sump pump water may have to be treated, but additional research and testing would have to occur to determine the feasibility.

SUSTAINABILITY RECOMMENDATIONS

- A distributed system of harvested gray water integrated into the various campus buildings and sites would be the preferred source for water irrigation services. Over time, the systems can become self managing through the use of water/rain/moisture sensors, and solar pumps.
- The campus should adopt stormwater policies and best management practices (BMPs) as outlined in the Metropolitan Council's Urban Small Sites Best Management Practice Manual. It is available online at: <http://www.metrocouncil.org/environment/Watershed/bmp/manual.htm>. The manual consists of 40 BMPs that are aimed at managing stormwater pollution for small urban sites in a cold-climate setting and is divided into the following sections:

Runoff Pollution Prevention

Impervious Surface Reduction

- Street Design
- Cul-de-Sac Design
- Parking Lot Design
- Turf Pavers
- Green Rooftops

Housekeeping

- Pavement Management
- BMP Maintenance

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- Landscape Design and Maintenance
- Animal Management

Construction Practices

- Grading
- Sequencing
- Vehicle Tracking Pad

Soil Erosion Control

- Mulches, Blankets, and Mats
- Vegetative Methods
- Structural Methods
- Sediment Control
- Silt Fences
- Inlet Protection
- Temporary Sedimentation Basins/Traps
- Check Dams

Stormwater Treatment BMPs

Infiltration Systems

- On-Lot Infiltration
- Infiltration Basins
- Infiltration Trenches

Filtration Systems

- Bioretention Systems
- Surface Sand Filters
- Underground Filters
- Filter Strips

Constructed Wetlands

- BMPs in Series
 - Stormwater Wetlands
 - Wet Swales
- #### Retention Systems
- Wet Ponds
 - Extended Storage Ponds
 - Wet Vaults
- #### Detention Systems
- Dry Ponds
 - Oversized Pipes
 - Oil/Grit Separators
 - Dry Swales
- #### Flow Control Structures
- Permeable Weirs
 - Flow Splitters
 - Proprietary Flow Control Devices
- #### Regulation of Water Quality

Wind Analysis

- Evaluate the potential for existing and future buildings to use natural ventilation systems based on prevailing winds; this strategy could be particularly useful for reducing summer peak electrical loads to cool buildings when activity levels on campus are relatively low. The strategy includes focusing on placement of air intake systems and operable windows on the side of buildings facing the prevailing winds and creating corresponding outlets for ventilation on the opposite side. With new construction, natural ventilation can be incorporated into mechanical systems to supplement their air flow and reduce the need for energy.
- November through February wind roses should inform tree planting, including dense coniferous trees as a wind break as a suggested species choice.
- Temporary or permanent meteorological towers should be erected to evaluate sites proposed for future wind turbines. While turbines have anemometers on the leeward side of the nacelle, the wind speed data are often significantly affected by the turbulence created from the turbine blades. Accurate wind data is essential for validating and predicting energy production estimates.
- Develop a site-specific wind resource grid for use in optimizing the placement of future wind turbines.

Solar Insolation Analysis

- Create a solar strategy that new or remodeled buildings be outfitted to be "solar ready". That means structures are built with the capacity to carry the additional weight of a solar thermal or electrical system and electrical designs are installed that will facilitate bringing electrical power into the interior of the structure for use. This could be phased with buildings that are in high solar area zones, such as Gay Hall, the Science building and the M, L, K dormitories adjacent to the east parking lot.
- Solar thermal or solar electric installed in strategic locations can reduce energy costs, the campus carbon footprint, and provide demonstration, learning, and research opportunities for staff and students.
- Solar lighting or signage is an opportunity at the gateway, or throughout the campus landscape.
- Deciduous trees planted along the southern facades of buildings will help decrease solar gain in summer months. When leaves drop in fall, light and thermal energy passes through the tree canopy to increase solar insolation.

Food Service Analysis

- Include in the next food service contract a requirement that the contractor must provide data on procurement and carbon footprinting to the best extent possible.
- Develop an ongoing research project on the details of the carbon footprint for the campus food system by looking at the carbon footprint of specific food items.
- Set targets for increasing the overall percentage of organic and locally-sourced food in the campus food system. UMM should target 50 percent by 2013.
- Review menu planning to establish a more seasonal menu plan based on the seasonal availability of local ingredients.
- Identify a source of local, grass-fed beef as the top priority, followed by organic pork and chicken, as well as vegetables, as an initial step toward more local sourcing of food supplies.
- **Conduct a study on the cost-effectiveness of an on-campus greenhouse system.**

SUSTAINABILITY RECOMMENDATIONS

- Evaluate a shift to a made-to-order food ordering system.

●● Travel Analysis

- Campus vehicle fleet should continue to be gradually converted to alternative fuel based and hybrid technologies.
- Purchase a “green” bus which uses hybrid technology, alternative fuels or both for campus purposes and look at ways to reduce private vehicle miles by using the bus for coordinated trips and links to regional transit systems, such as the North Star Corridor train.
- Diesel fueled vehicles should be outfitted with diesel particulate filters to reduce emissions.
- Preferential parking should be provided for hybrid, alternative fuel, or carpool vehicles. The preferential parking areas should be in existing parking areas, but closest to classrooms, dorms and other campus buildings and signed appropriately.
- **N**Financial incentives for students living on campus for choosing not to bring their car to campus (i.e., reduced residential fees)
- Implement a shared vehicle system, such as the Hour Car program in the Twin Cities. (www.hourcar.org)
- Evaluate travel patterns for opportunities to create carpooling opportunities. One option would be to provide “Park and Ride” lots in strategic locations for carpools.
- Convert excess existing parking to green spaces or other uses over time.
- **Create a hierarchy of roads, bike trails, pedestrian walkways, and campus entrances that enhance the walking / biking experience in order to encourage less intra-campus automobile use.** This will clarify that, as a policy matter, the safe movement of pedestrians and bicyclists on campus is the top transportation priority and not the movement of vehicles. This principle should be held in mind for future campus planning that impacts the movement of people and vehicles.

●● Waste Management

- **Of the aforementioned strategies, UMM should focus initially on the feasibility of an industrial composting system**, which should include capital costs, procurement, etc. The major advantage of this system is its ability to accept paper and meat-based waste for its composting process.
- Complete a thorough waste analysis and composition study for the campus.
- Conduct a cost benefit analysis of an industrial composting system.
- Expand educational efforts related to recycling and waste reduction with students and staff.

● Utility Infrastructure

- We concur with the recommendations put forth in the McKinstry study, which are listed in their report.
- Further evaluate opportunities for solar lighting on campus along pathways and on the exterior of buildings where the costs of connection to the electrical grid system tends to be higher and offsets the costs of the solar lighting application.

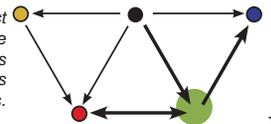
● US Green Building Council LEED® Certification

- Designation of a LEED project area that will be the future reference point for density and community connectivity calculations.
- Designation of preferred parking areas to be located in close proximity to building entrances and other desirable locations for alternative fuel and commuter/car pool vehicles.
- Integration of a campus wide stormwater management plan using distributed technologies.
- Exterior lighting plan, which can be included in energy modeling and renewable energy calculations. Note: we did not see any reference to solar exterior lighting in the McKinstry report and recommend that these lighting systems be evaluated for exterior applications.

● Developing a Carbon Footprint for UM-Morris

- Define the methodology. The best tools for methodology are the GHG (Green House Gases) Protocol tool from the World Resources Institute and the World Business Council for Sustainable Development (www.ghgprotocol.org). There is another format that has been developed as an ISO standard, ISO 14064 and available at www.iso.org.
- Specify the boundary and scope. In instances where a large institution such as UM-Morris wishes to understand its carbon footprint, we believe it is essential to include in the analysis indirect sources that contribute significantly to an overall carbon footprint, including the campus food service, transportation to and from campus by students and staff, material procurement, and events sponsored by the campus. Campus stakeholders should have a discussion of what might be the appropriate boundary for future LEED purposes. This will be a useful segue into the broader discussion of LEED issues.
- Collect data and calculate the footprint. The primary data sources are onsite fuel consumption, campus transportation use, any on-campus processes that generate emissions, electrical consumption, student and staff travel in vehicles not owned by the University. A secondary set of data and calculations need to be done for supply chain emissions, including primarily the campus food system and more general materials procurement on campus.
- Independent Review. It is often recommended that the campus footprint analysis be verified or reviewed by an outside entity, although this is not generally necessary if the program is to be used primarily as an internal management tool. This capacity is best developed as an internal function, although it may be desirable to have an outside entity assist the campus with establishing its structure and operating procedures.

New Sustainability Strategies will affect the Campus Plan, as green infrastructure is proposed for the future. These initiatives will also drive the advancements of campus technology resources.



TECHNOLOGY ASSESMENT RECOMMENDATIONS

oslund.and.assoc. retained Elert & Associates to assess the status of the UM-Morris's technology systems and compare their status with other Elert & Associates higher ed clients. Elert & Associates reviewed UM-Morris data network, wireless data network, phone system, cabling infrastructure, and AV-multimedia systems. The following section provides recommendations to close the technological gap with other colleges and universities.

● Technology Cabling Infrastructure

Elert & Associates recommends that UMM replace the cabling in the wiring closets where Category 5 cabling is installed and terminated on 110 blocks. UMM should strive to maintain at least Category 5e for horizontal copper distribution. This will allow for Gigabit Ethernet transmission to the desktop as required. The cost estimate to upgrade the horizontal cabling at UMM is **\$1,750,000**.

Elert & Associates recommends that when cabling upgrades or building renovations take place that UMM install 50 micron fiber for internal building fiber backbones.

After touring a handful of wiring closets on the campus and with the help of Morris IT personnel it was deemed that 19 of the 51 wiring closets on campus are unacceptable for housing cabling and data electronics. Elert & Associates recommends that these spaces be modified to allow for better ventilation, cooling, and dedicated power. In spaces where the wiring closet is purposed for another function (janitor's closet, etc.), a new space near the existing space should be created. Some of these situations could be solved by installing either a floor-standing cabinet or wall-mount cabinet in a space that has better environmental conditions.

● Wide Area Network

Since every college and university connects to their own WAN in their own way, it is hard to reach a consensus on which is the correct way of connecting to a WAN. Elert & Associates feels that UMM has an adequate amount of bandwidth in connecting to the MNET. However, since most of UMM's services are now accessed via the WAN they should look to making this connection redundant in the case of outages due to cut links or periodic maintenance. The connection coming into the City of Morris is redundant to the State but the connection between campus and the POP in Morris is not redundant. Another connection between the campus and the POP should be installed to provide redundancy. This link should enter the campus on a different path than the current link possibly connecting to a second core site on campus for even more redundancy.

● Data Center/Servers

Elert & Associates recommends the following recommendations:

Phase I

- Move the existing Cisco chassis into the data center and out of the switch room.
- Make the existing data center the primary data center on campus and re-route fiber currently in the switch room to the data center.
- Remove the shelves in the data center and move to server cabinets with rack-mounted servers. This will create more space in the data center and will also improve security and air handling within the room.
- Install an IP KVM to access individual servers. This will eliminate the abundance of keyboards, mice, and monitors from the data center allowing authorized IT personnel to access servers across the network.
- Remove any unnecessary storage in the data center (ex: old HP switches, etc.)

Phase II

- Establish a second data center on campus with another Cisco chassis that has an identical configuration (Gigabit ports may vary).
- The second data center should have a UPS system, backup power, and its own air conditioning system.
- Install a card access system for each data center. This allows for better security allowing UMM to keep better control of access to the data centers and also to track entry into the data centers.
- Move a portion of the buildings on campus onto the second data core. It is common to divide the buildings up geographically on campus with half on one core and the other half on the other core.

Phase III

- Create dual fiber connections from each building to the data cores. Ideally having separate fiber paths to each core would offer the most redundancy. However, if funding is limited, fiber can be routed between the two cores so that each building will connect to each core but not be on redundant fiber paths. This would provide redundancy in case one of the two chassis was to fail. This also allows UMM to more easily perform periodic maintenance on each chassis without having to bring the campus network down.

More information is needed to provide estimates for the technology aspects of these recommendations. Elert & Associates cannot provide architectural, mechanical, or electrical cost estimates for any new spaces.

● Local Area Network (LAN)

Elert & Associates recommends that UMM continue to replace its HP switches with Cisco switches installing the same models where possible. UMM should also consider installing one (or greater in TRs with more PoE devices) PoE switch in every telecommunications room to supply power

for devices requiring PoE. Based on the current switch information that was provided, the following cost estimates are for replacing the remaining HP switches with Cisco switches: 10/100 Mbps: **\$72,000**
10/100/1000 Mbps: **\$108,000**

● Wireless Data Network

Elert & Associates recommends that UMM develop a campus-wide deployment plan for wireless networking. Currently they have access points deployed throughout campus but no overall vision as far as a campus-wide system. At the time of deployment of a campus-wide system, UMM should strongly consider 802.11n as most manufacturers offer pre-draft equipment both on the network and end user sides. The following are estimates for a campus-wide wireless network for UMM:
802.11a/g system: **\$280,000**
802.11a/n system: **\$350,000**

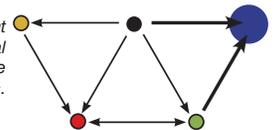
● Phone System

Based on the current evaluation of the phone system at UMM, the campus is in fairly good shape. Their existing phone system has been updated to the latest version of software while their voice mail (NuPoint) needs to be upgraded.

● AV-Multimedia Systems

Elert & Associates recommends that UMM budget for placing projectors in all of their classrooms. Typically the cost of a dedicated AV system for a classroom is **\$12,000 - \$15,000** for a projector, mechanical, wall-mount screen, network AV control system, DVD/VCR player, sound system, and a document camera. The instructor work area which houses the equipment is not included in the total because the work area can vary greatly in cost based on matching the aesthetics of the room, size, mobility, etc. A room response ("clicker") system can range from **\$5,000 - \$20,000** for a 100-student room. The cost for these systems can vary based on whether the system is portable or fixed and how many features the university would like implemented.

Information technology advancement is integral to the future environmental and economic sustainability of the University of Minnesota Morris campus.





**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Capital Budget Amendment

review review/action action discussion

Presenters: Vice President Kathleen O'Brien
Associate Vice President Michael Perkins
Gary Balas, Professor, Aerospace Engineering & Mechanics

Purpose:

policy background/context oversight strategic positioning

In accordance with Board of Regents Policy: *Reservation and Delegation of Authority*, act on the capital budget amendment for the following project:

- A. Akerman Hall Hanger Renovation & Akerman & Mechanical Engineering Life Safety Improvements, Twin Cities Campus

Outline of Key Points/Policy Issues:

The data sheet for this project is provided as a part of the Schematic Plans item of this docket. That data sheet addresses the basis for request, project scope, cost estimate, funding, and schedule. A map locating the project on the Twin Cities campus is also attached.

Akerman Hall Hanger Renovation & Akerman & Mechanical Engineering Life Safety Improvements, Twin Cities Campus

Akerman Hall is the home of the Aerospace Engineering and Mechanics (AEM) Department. AEM is an academic unit within the Institute of Technology offering students BS, MS, or PhD degrees. The undergraduate program is rated 4th in the nation by the Princeton Review's *Gourman Report on Undergraduate Program* and the graduate program is rated 8th in the nation in public universities (12th overall) by the National Research Council. AEM occupies approximately 35,000 square feet of Akerman's 60,000 square feet. Approximately 7,700 square feet will be remodeled. The first and mezzanine (second) floors of the hangar space will be completely repurposed to specifically provide flexible light industrial research labs, office and collaborative space. In addition the large open space on the main floor of the hangar is planned as flexible space easily changeable to a lecture or presentation venue. An accessible entry and toilets will also be provided.

Akerman Hall and old Mechanical Engineering comprised of approximately 200,000 square feet of space will be furnished with a fire alarm and a fire sprinkler suppression system.

The Akerman Hall Hangar Renovation project scored high among the projects that competed for funding from the 2008 Laboratory Improvement Appropriation funding. However, due to code deficiencies in the building and due to the amount of funding needed to appropriately renovate the Aerospace Engineering and Mechanics portion of Akerman Hall into an attractive, engaging, flexible, efficient, and collaborative learning environment, funding beyond what the 2008 Laboratory Improvement Appropriation could provide is needed. Aerospace Engineering and Mechanics partnered with Facilities Management to secure HEAPR funding for the building code deficiencies and secured supplemental funding from the Institute of Technology and an Internal loan from the Budget Office to provide the additional funding to repurpose the Akerman Hall Hangar space for the long term rather than invest in a short term fix.

Background Information:

Akerman Hall Hanger Renovation & Akerman & Mechanical Engineering Life Safety Improvements, Twin Cities Campus

Funding for the Akerman Hall Hangar portion of this project is funded from (a) the 2008 Laboratory Improvement Appropriation, (b) the Department of Aerospace Engineering and Mechanics (c) the Institute of Technology, and (d) an internal loan to be repaid by Aerospace Engineering and Mechanics. Of the \$2,020,000 portion of this project that is funding the Akerman Hall Hangar; \$855,000 was approved as a part of the 2009 Capital Budget approved by the Regents in June 2008. A capital budget amendment for the balance of the funding in the amount of \$1,165,000 is being presented for Regents review this month.

Funding for the Akerman & Mechanical Engineering Life Safety Improvements portion of the project is funded with \$3,200,000 of 2009 HEAPR funds approved as a part of the 2010 Capital Budget in June 2009.

Schematic Plans for this project were approved by the Board on December 11, 2009.

President's Recommendation for Action:

The President recommends approval of amending the Fiscal Year 2010 Capital Budget by \$1,165,000 to provide additional funding for the Akerman Hall Hanger Renovation & Akerman & Mechanical Engineering Life Safety Improvements Project located on the Twin Cities Campus.

**Akerman Hall Hangar Renovation & Akerman & Mechanical Engineering Life Safety
Improvements
Twin Cities Campus
Project No. 01-266-09-1477**

1. Basis for Request:

Akerman Hall Hangar Renovation

Akerman Hall is the home of the Aerospace Engineering and Mechanics department (AEM). AEM is an academic unit within the Institute of Technology offering students BS, MS or PhD degrees. The Aerospace Engineering and Mechanics program was one of the first 10 aerospace engineering programs accredited in 1936. The undergraduate program is rated 4th in the nation by the Princeton Review's *Gourman Report on Undergraduate Program* and the graduate program is rated 8th in the nation in public universities (12th overall) by the National Research Council.

As a constantly changing profession, aerospace engineering encompasses a wide range of complex problems and technologies requiring teaching and education space far different than space currently found in the hangar space of Akerman Hall. Akerman Hall is home for 16 faculty members, 110 graduate students, 340 undergraduates, post-doctoral research associates and staff. Approximately 35,000 of Akerman's 60,000 square feet are assigned to AEM.

The hangar space, once used for actual aircraft testing, retains much of the original 1948 construction and infrastructure. The department has adapted the space in piecemeal fashion over the years to accommodate changing program needs. The last renovation was in 1985 when testing lab space was inadequately constructed on a portion of the first level.

In December of 2007, AEM formed a Space Committee to identify how the space in Akerman Hall could be used most effectively to meet the department's objectives over the next ten years. Consultants studied current use of the building, and identified potential changes to better utilize the space. Findings noted that office space for graduate students and postdoctoral and research associates is extremely tight and insufficient to meet the needs of AEM researchers and that flexible, modern light industrial laboratory space was outdated and insufficient for the program size.

In follow up to the 2007 report, AEM hired BWBR Architects to develop a long term space plan to solving the program space deficiencies. The hangar was studied in detail – owing to its size, it offered flexible and cost efficient planning opportunities within Akerman Hall. Design solutions focused on reconfiguring and remodeling the hangar to include new student support work space and flexible laboratory space. The plan noted that a comprehensive remodeling of the hangar would correct many building code violations, provide a more efficient use of the space and create an attractive, engaging, and collaborative learning environment essentially not found in the department today. The new light industrial labs proposed in the hangar space replace obsolete 1985 testing labs. The new labs will allow research on subjects including guidance, navigation, and control of indoor micro-air vehicles, smart materials and large wind turbines.

Akerman & Old Mechanical Engineering – Fire Life Safety Improvements

Akerman Hall and old Mechanical Engineering comprise 200,000 square feet of space without fire protection sprinklers and fire alarms. Spaces within these buildings contain labs, industrial shops, classrooms, and office space unprotected by automatic sprinkler or fire alarm systems. This project component will be funded by 2009 HEAPR funds.

Proposals of other renovations in Akerman Hall have been stymied over the past 10 years primarily because of the lack of automatic fire life safety systems being in place.

Akerman Hall – Accessibility

Akerman Hall ranks as one of lowest graded buildings in terms of accessibility. This project will provide a pair of accessible toilet rooms on first floor and building entry at the hangar – both firsts for the building.

2. Scope of Project:

Constructed in 1948, the hangar of Akerman Hall contains much of its original construction, including single panel steel windows, rusting and non air tight hangar door, non compliant open stairs and labs constructed in 1985 made with non-allowed wood wall and ceiling framing. The first and mezzanine (second) floors of the hangar will be completely replanned and repurposed to specifically provide flexible light industrial research labs, office and collaborative space for undergraduate and graduate students, and post doctorate and research associates students. The repurposing and replanning of the hangar will accommodate 20-30 students and researchers in the collaboration and work spaces, and 15-30 in the new light industrial labs. Additionally, the large open space on the main floor of the hangar is planned as flexible space easily changeable to a lecture or presentation venue.

The driveway outside of the hangar will be replaced with a new concrete pedestrian plaza which will provide the first accessible entry from Union Street.

Other renovated spaces in Akerman Hall will include the first accessible toilet rooms on first floor, enclosure of the south stair way for building code safety compliance, and a new person lift to provide accessibility from the 2nd floor corridor to 3rd level of the hangar.

Renovation in Mechanical Engineering will be limited to the addition of the fire protection sprinkler and fire alarm systems. Installation of the systems in both buildings will be made in manner that is sensitive to the few significant interior historical features of the original 1948 constructions.

Demolition in the hangar will include all of the current interior construction except those features identified as historically significant by historical preservation eligibility research. The hangar door will be replaced with a new aluminum glass curtain wall and energy efficient glazing and upgraded windows which will maintain the historic character.

Renovation construction will encompass approximately 7,700 square feet of the approximately 35,000 square feet of Akerman Hall assigned to AEM, 2000 square feet of

exterior area, and over 200,000 square feet of Akerman and Mechanical Engineering for fire life safety improvements.

3. Environmental Issues:

The University has completed a hazardous material survey of the existing conditions in the hangar and other areas affected by this project. Hazardous materials include lab counter undercoatings, miscellaneous pipe insulation, limited mercury contamination, lead paint, and window caulk. This material will be removed by the University prior to construction.

4. Cost Estimate:

Construction Cost	\$3,870,000
Non Construction Cost	<u>\$1,350,000</u>
Total Project Cost	\$5,220,000

5. Capital Funding:

<u>Fund Source</u>	<u>Approved</u>	<u>Increase</u>	<u>Revised Total</u>
<u>Akerman Hall Hanger Renovation:</u>			
2008 Lab Improvement Appropriation	\$570,000		\$ 570,000
Dept of Aerospace Engr. & Mechanics	\$285,000	\$ 15,000	300,000
Institute of Technology		500,000	500,000
Internal Loan (Repaid by Aerospace Engr. & Mechanics)		650,000	650,000
Subtotal Akerman Hanger Renovation	<u>\$855,000</u>	<u>\$1,165,000</u>	<u>\$2,020,000</u>
 <u>Akerman & Mechanical Engineering</u>			
<u>Life Safety:</u>			
2009 HEAPR Appropriation	<u>\$3,200,000</u>		<u>\$3,200,000</u>
 Total Project Funding	 \$4,055,000	 \$1,165,000	 \$5,220,000

6. Capital Budget Approvals:

Funding for the Akerman Hall Hangar Renovation portion of the project was originally included in the Fiscal Year 2009 Capital Budget approved by the Board of Regents in June 2008. A Capital Budget Amendment in the amount of \$1,165,000 for this portion of the project is being requested at this time.

Funding for the Akerman & Mechanical Engineering Life Safety portion of the project was included in the Fiscal Year 2010 Capital Budget approved by the Board of Regent in June 2009.

7. Annual Operating and Maintenance Cost and Source of Revenue:

The annual operating and maintenance costs will remain approximately the same as a result of the hangar renovation and infrastructure new construction. The hangar currently houses lab operations and department activities. The fire life safety construction has very minimal ongoing costs.

8. Time Schedule:

Complete Design	January 2010
Establish Construction Guaranteed Maximum Price	January 2010
Begin construction	Spring 2010
Complete construction	Fall 2010

9. Design Build Contractor/Architect, Engineers, Consultant Team

Design Build Contractor:	M.A. Mortenson, Minneapolis
Architect:	BWBR Architects, St. Paul
Engineer:	Sebesta Blomberg & Associates, Roseville
Historical Consultant:	Hess Roise, Minneapolis

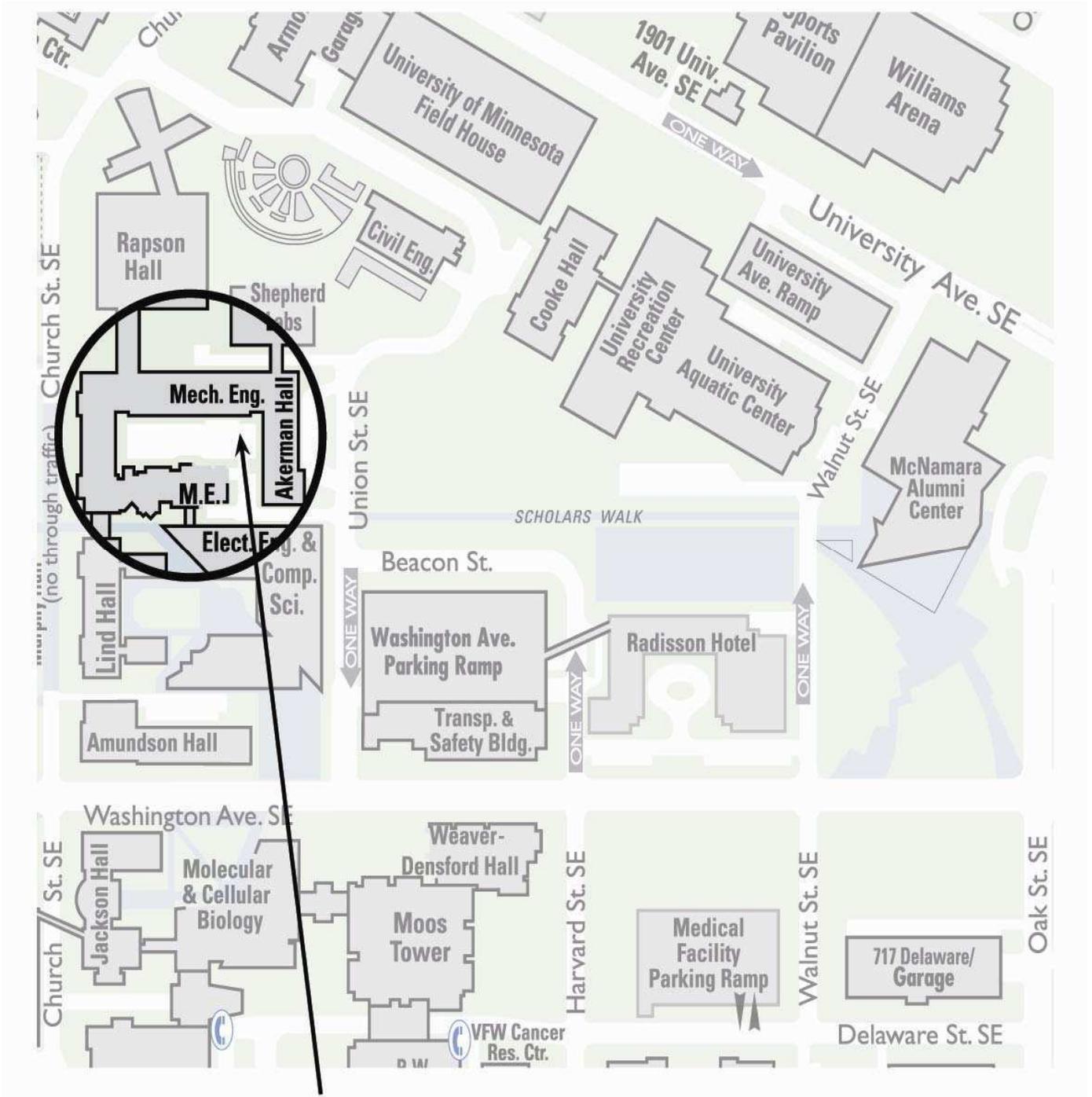
10. Recommendation:

The above described project scope of work, cost, funding, and schedule is appropriate:

E. Thomas Sullivan 11-30-09
E. Thomas Sullivan, Senior Vice President for Academic Affairs & Provost

RHP Pfitzenreuter 11/25/09
Richard Pfitzenreuter, Vice President and Chief Financial Officer

Kathleen O'Brien 11/30/09
Kathleen O'Brien, Vice President for University Services



Akerman Hall and Mechanical Engineering

**Twin Cities, Minneapolis
East Bank Campus**



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Capital Budget Amendment

review review/action action discussion

Presenters: Vice President Kathleen O'Brien
Senior Vice President Frank Cerra
Associate Vice President Michael Perkins

Purpose:

policy background/context oversight strategic positioning

In accordance with Board of Regents Policy: *Reservation and Delegation of Authority*, review and take action on the following capital budget amendment:

- Amend the Fiscal Year 2020 Capital Budget by \$572,190 to fund the Veterinary Diagnostic Laboratory – BSL-3 Necropsy Effluent Decontamination project on the Twin Cities Campus.

Outline of Key Points/Policy Issues:

Veterinary Diagnostic Lab – BSL-3 Necropsy Effluent Decontamination

Refer to the attached project data sheet and map for this project.

The mechanical and electrical installation of the thermal effluent system to process the contaminated waste produced by the BSL-3 Necropsy Laboratory will not change the building structure or architecture. The thermal effluent system uses steam to heat the contaminated effluent to a temperature and pressure that kills the living pathogens and breaks down any large pieces of waste material so that it can be safely discharged into the city sanitary sewer system. At the time the laboratory was constructed the lack of funding prevented the installation of the thermal system at that time; however, the facility was built with a basement with the utility infrastructure in place to accommodate the installation of the thermal effluent system.

Background Information:

Veterinary Diagnostic Lab – BSL-3 Necropsy Effluent Decontamination

The College of Veterinary Medicine has received a grant for the installation of the thermal effluent system. With supplemental funding from the college the thermal effluent system will be installed. At the time the Fiscal Year 2010 Capital Budget was prepared the grant funding had not been received and the scope of work, schedule, and budget was not completed. In

order to ensure the University completes the work prior to the expiration of the grant, review/action of this capital budget amendment is requested at this time.

President's Recommendation for Action:

The President recommends approval of the following Capital Budget Amendment:

- Amend the Fiscal Year 2020 Capital Budget by \$572,190 to fund the Veterinary Diagnostic Laboratory – BSL-3 Necropsy Effluent Decontamination project on the Twin Cities Campus.

**Vet Diagnostics Lab – BSL-3 Necropsy Effluent Decontamination
St. Paul Campus
Project No. 02-385-09-1670**

1. Basis for Request:

The Veterinary Diagnostic Laboratory (VDL) Biological Safety Level 3 (BSL-3) Necropsy Laboratory was built in 2008, and it is one of only a handful of BSL-3 necropsies in the United States. This lab is set up for a potential influx of the avian influenza, or any other cross species, highly contagious pathogens. It was built for necropsies of small animals and birds that may be carrying these highly contagious bacteria or viruses.

At the time the facility was built, funding for a thermal effluent system was not available so manual decontamination safeguards were put into place. Although the lab can continue to function using the manual decontamination procedures, these procedures take away valuable teaching time when doing the actual necropsies. It also limits the number of necropsies done each day due to the time the manual decontamination takes. It is the VDL's goal to be able to process the contaminated waste or effluent more efficiently and automatically, and have more assurance that it is processed properly.

In anticipation of the purchase and installation of a thermal effluent system, the lab was built with a basement and all the utilities required for the thermal effluent system were brought to the basement. The College of Veterinary Medicine has received a grant for the installation of the thermal effluent system. With supplemental funding from the College of Veterinary Medicine the thermal effluent system installation will be designed, purchased and constructed.

This project was not included in the Fiscal Year 2010 Capital Budget as the grant funding had not been received at that time.

2. Scope of Project:

The installation of the thermal effluent system will involve mechanical and electrical construction and will not change the building structure or architecture. This project consists of the installation of a thermal effluent system to process the contaminated waste produced by the BSL-3 Necropsy Laboratory.

A thermal effluent system uses steam to heat the contaminated effluent to a temperature and pressure that kills the living pathogens and breaks down any larger pieces of waste material so that it can be safely discharged. The effluent system is constructed of stainless steel with no mechanical moving parts. After each batch of effluent is processed, the system goes through a series of diagnostic checks to insure that all valves, sensors, and other critical components are functioning properly before the next batch begins. The system for this lab will consist of a 250-gallon collection tank, a 250-gallon thermal tank and room for a future 250-gallon thermal tank. This lab has calculated that in a normal 8 to 10 hour day, it will require 2-1/2 batches to be processed.

This project will require mechanical plumbing connections, steam connections, compressed air connections and vents from the new system. It will also require electrical connections for the controls and alarms within the system.

3. Environmental Issues:

There are currently no known environmental issues. The existing waste system has not been used since the installation of the lab. The lab captures all its waste and removes it from the lab via the lab's autoclave.

4. Cost Estimate:

Construction Cost	\$ 86,625
Thermal Effluent Equipment	376,375
Non Construction Cost	<u>109,190</u>
Total Project Cost	\$572,190

5. Capital Funding:

Veterinary Population Medicine	\$377,190
Federal Government Sponsored College of Veterinary Medicine	<u>195,000</u>
Total Capital Funding	\$572,190

6. Capital Budget Approvals:

At the time the Fiscal Year 2010 Capital Budget was prepared the grant funding had not been received and the scope of work and cost estimate for this project was not completed. In order to ensure that the University completes the work prior to the expiration of the Federal funding, review/action of a capital budget amendment to fund the project is requested at this time.

7. Annual Operating and Maintenance Cost and Source of Revenue:

The operation and maintenance costs of the effluent decontamination equipment will be based on the BSL-3 level use of the lab. The energy use and maintenance of the new equipment is expected to be the same as the existing autoclave based process.

8. Time Schedule:

Complete Design	Feb 2010
Bidding period	Mar 2010
Begin construction	April 2010
Complete construction	October 2010

The project delivery method will be design, request qualifications and price proposals, construct.

9. Design Architect, Engineers

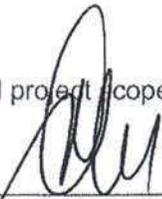
Design/Engineer

LKPB Engineers, Minneapolis

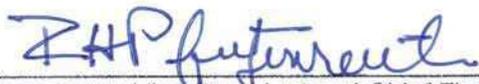
The project delivery method will be design, request qualifications / price proposals, construct.

10. Recommendation:

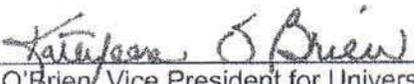
The above described project scope of work, cost, funding, and schedule is appropriate:

 1/28/10

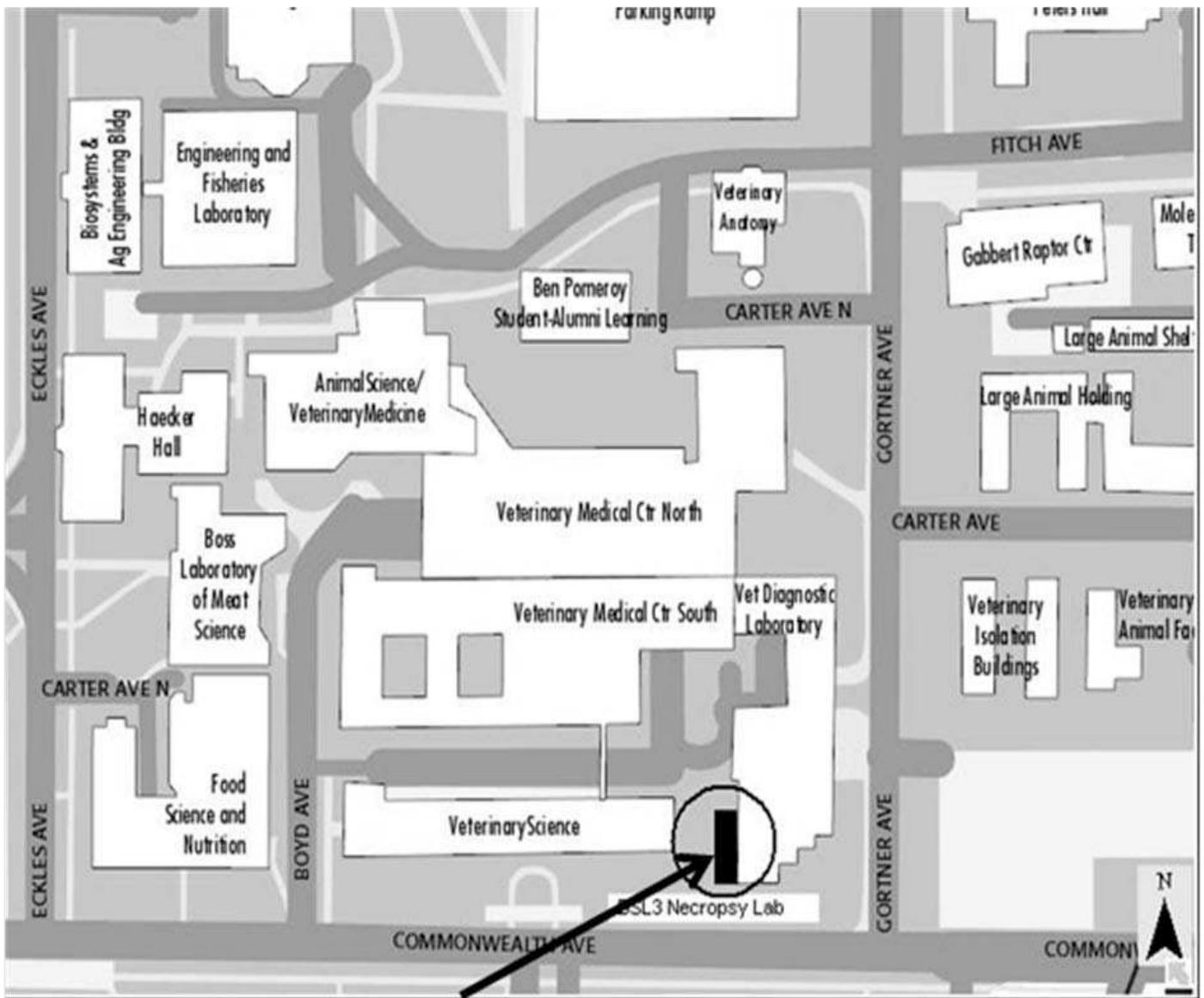
Frank Cerra, Senior Vice President, Academic Health Center and Dean of the Medical School

 2/1/10

Richard Pfitzenreuter, Vice President and Chief Financial Officer

 1/28/10

Kathleen O'Brien, Vice President for University Services



Vet Diagnostics – BSL-3 Necropsy Lab

Twin Cities, Minneapolis
St. Paul Campus



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Board of Regents Policy: Monumental Works of Art

review review/action action discussion

Presenters: Vice President Kathleen O'Brien

Purpose:

policy background/context oversight strategic positioning

To review proposed amendments to Board of Regents Policy: *Monumental Works of Art*.

Outline of Key Points/Policy Issues:

The revision is part of the comprehensive review of Board of Regents policies. It is designed to utilize a consistent and appropriate style, format and appearance as other board policies.

Currently titled *Monumental Works of Art*, this policy has been renamed *Campus Public Art*. The new policy is on pages 38-39 and the existing policy is on page 40. The new policy articulates the University's commitment to public art located on University of Minnesota real estate. It also removes references to specific type or scale of works of art and establishes a broader definition of public art on campus that incorporates all forms of artistic media.

In its broadest terms, public art is defined as art in all forms located in public places. Public art on campus is intended to instill a genuine sense of community and enrich the campus.

The new policy clarifies the Delegation of Authority to the President or delegate for administrative policy and procedures to guide decision-making for campus public art. These policies and procedures will address the acceptance, commissioning, development, acquisition, installation, and conservation of public art on campus.

Background Information:

Board of Regents Policy: *Monumental Works of Art* was adopted on March 13, 1953 and amended on July 9, 2004.

President's Recommendation for Action:

The President recommends that the Board adopt amendments to Board of Regents Policy: *Monumental Works of Art*.



UNIVERSITY OF MINNESOTA
BOARD OF REGENTS POLICY

DRAFT for review February 11, 2010

CAMPUS PUBLIC ART

SECTION I. SCOPE.

This policy governs the acceptance, commissioning, development, acquisition, installation, and conservation of public art located on University of Minnesota (University) real estate.

Subd. 1. Exceptions. This policy does not cover the acceptance of small commemorative plaques in buildings or works of art included in museum collections, gallery exhibitions, personal workspaces, reception areas, or meeting rooms.

SECTION II. DEFINITION.

Subd. 1. Campus Public Art. *Campus public art* shall mean art in all forms that is physically or visually accessible to the public through permanent or temporary installation that contributes to the experience of the natural or built public spaces, both indoors and outdoors, on University real estate.

SECTION III. GUIDING PRINCIPLES.

The following principles shall guide the University's acceptance, commissioning, development, acquisition, installation, and conservation of campus public art:

(a) The University is committed to creative expression that strengthens civil society, and advances the growth of culturally informed University communities, adjacent cities, and the State.

(b) Campus public art shall embody the University's research, teaching, and public engagement mission.

(c) Campus public art shall reflect the values and complement the physical characteristics of the University, and shall uphold and promote the principles set out in campus master plans.

(d) The University aspires to establish a sustainable public art collection that creates, maintains, and enhances an enduring cultural legacy for the University and the State.



UNIVERSITY OF MINNESOTA
BOARD OF REGENTS POLICY

Page 2 of 2

Administrative

CAMPUS PUBLIC ART

Adopted: March 13, 1953

Amended: July 9, 2004

DRAFT for review February 11, 2010

SECTION IV. IMPLEMENTATION.

Subd. 1. Campus Master Planning. Decision-making regarding the acceptance, commissioning, development, acquisition, installation, and conservation of campus public art shall be consistent with the master plan for each campus and only works intentionally designed or designated for a specific site will be approved.

Subd. 2. Public Art Plan. The president or delegate shall periodically evaluate campus public art through the development of a campus public art plan.

Subd. 3. Delegation of Authority. The president or delegate shall approve campus public art projects in accordance with other Board of Regents policies and maintain administrative policy and procedures to guide decision-making related to the acceptance, commissioning, development, acquisition, installation, and conservation of campus public art.

NEW



UNIVERSITY OF MINNESOTA
BOARD OF REGENTS POLICY

Page 1 of 1

Administrative

MONUMENTAL WORKS OF ART

Adopted: March 13, 1953

Amended: July 9, 2004

MONUMENTAL WORKS OF ART

Subd. 1. Scope. This policy governs the acquisition of monumental works of art of major scale, including sculpture, paintings, fountains, and architectural ornaments of all descriptions, intended for permanent placement in a particular location on a University of Minnesota (University) campus.

Subd. 2. Guidelines for Acceptance. All fixed monumental works of art shall relate directly to the architectural plan of the campus and shall be designed to harmonize completely with the architectural style of University buildings, with the understanding that only works intentionally designed for specific areas on University grounds or locations will be accepted.

Subd. 3. Exceptions. This policy shall not preclude the acceptance of small items for teaching purposes or small commemorative or portrait plaques in buildings.



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Real Estate Transactions

review review/action action discussion

Presenters: Vice President Kathleen O'Brien
Chancellor Stephen Lehmkuhle
Susan Carlson Weinberg, Director of Real Estate

Purpose:

policy background/context oversight strategic positioning

In accordance with Board of Regents Policy: *Reservation and Delegation of Authority*, review and recommend approval of the following real estate transactions:

- A. Purchase of 617 S. Broadway, Rochester (Rochester Campus)*
- B. Purchase of 701 S. Broadway, Rochester (Rochester Campus)
- C. Ten-Year Lease for Office, Classroom, Laboratory, and Student Life Space and 148 Beds of Student Housing, 320-1st Avenue SW, Rochester (Rochester Campus)

* *Final approval of this project by the Chief Financial Officer is contingent on the resolution of university cash flow issues.*

Outline of Key Points/Policy Issues:

The details of the above purchase and lease transactions and their financial impact are described in the transaction information pages immediately following this page.

Background Information:

Board of Regents Policy: *Reservation and Delegation of Authority* states that "The Board of Regents reserves to itself authority to approve the purchase or sale of real property having a value greater than \$250,000 or larger than ten (10) acres" and all "leases of real property, easements and other interests in real property if the initial term amount to be paid by or to the University exceeds \$250,000, consistent with Board policies."

President's Recommendation for Action:

The President recommends approval of the following real estate transactions:

- A. Purchase of 617 S. Broadway, Rochester (Rochester Campus)
- B. Purchase of 701 S. Broadway, Rochester (Rochester Campus)
- C. Ten-Year Lease for Office, Classroom, Laboratory and Student Life Space and 148 Beds of Student Housing, 320-1st Avenue SW, Rochester (Rochester Campus)

**PURCHASE OF 617 BROADWAY AVENUE SOUTH, ROCHESTER
(ROCHESTER CAMPUS)**

1. Recommended Action

The President recommends that the appropriate administrative officers receive authorization to execute the appropriate documents providing for the purchase of 617 Broadway South, Rochester.

2. Location and Description of the Property

The subject property is located at the corner of 6th Street SW and Broadway Avenue South, four blocks south of University Square in Rochester. Directly to the east (across Broadway Avenue South) is the Zumbro River and directly to the north (across 6th Street SW) is a Rochester Fire Station.

The property consists of a vacant one-story building constructed in 1979 containing 3,780 gross square feet situated on .71 acre.

The legal description of the property:

Parts of Lots 3, 4, 5, 6 and 7, Block 103, Wilson's Addition, City of Rochester, Olmsted County, Minnesota.

3. Basis for Request

The subject property would be purchased for future development for the Rochester Campus.

4. Details of Transaction

The owner of the property is Z's American Properties, a Texas corporation. The University has offered \$1,060,000 for purchase of the property, with a closing to occur by March 31, 2010.

5. Use of Property

The building, last used as a Mexican restaurant and vacant since June 2009, has reached its useful life and will be demolished after the site is purchased by the University. The property could be used on an interim basis for surface parking.

6. Environmental

The University has completed a Phase I environmental site assessment. A Phase II soil and groundwater investigation and a building hazardous materials and asbestos study will be conducted prior to closing to confirm the property is in acceptable environmental condition. Depending on the results of the Phase II investigation, the site may be enrolled into the Minnesota Pollution Control Agency's (MPCA) Voluntary Investigation and Cleanup (VIC) and Petroleum Brownfields (PB) programs to obtain all appropriate liability assurances.

7. Source of Funding

The purchase of the property would be funded with University debt.

8. Recommendations

The above-described real estate transaction is appropriate:

Stephen H. Lehmkuhle 1/29/10

Stephen Lehmkuhle, Chancellor, Rochester Campus

* *RHP* 2/11/10

Richard H. Pfitzenreuter III, Vice President for Finance and CFO

Kathleen O'Brien 1/29/10

Kathleen O'Brien, Vice President for University Services

* Final approval of this project by the Chief Financial Officer is contingent on the resolution of university cash flow issues.

**PURCHASE OF 701 BROADWAY AVENUE SOUTH, ROCHESTER
(ROCHESTER CAMPUS)**

1. Recommended Action

The President recommends that the appropriate administrative officers receive authorization to execute the appropriate documents providing for the purchase of 701 Broadway Avenue South, Rochester.

2. Location and Description of the Property

The subject property is located adjacent to and directly south of 617 Broadway Avenue South in Rochester, about four blocks from University Square. Directly to the east (across Broadway Avenue South) is the Zumbro River.

The property consists of the remnants of a one-story building constructed in 1981 containing 2,975 gross square feet situated on .84 acres. Portions of the property are leased for two outdoor billboards.

The legal description of the property:

Lot 7, Block 104, commencing at the intersecting north line of Lot 7; Lot 1 including 22 feet of vacant street adjacent to Lot 1, Block 103 and Lot 2, Block 103, Wilson's Addition, City of Rochester, Olmsted County, Minnesota

3. Basis for Request

The subject property would be purchased for future development for the Rochester Campus.

4. Details of Transaction

The owner of the property is Golden Eagle LLC, a Minnesota limited liability corporation. The University would pay \$1,025,000 for purchase of the property, with a closing to occur by March 31, 2010. The landlord's interest in the leases for the two billboards will be assigned to the University at the closing.

5. Use of Property

The building was used as a Chinese restaurant until fire destroyed the interior of the building in the summer of 2009. The building has been vacant since that time. The remaining building structure has reached its useful life and will be demolished after the site is purchased by the University. The property could be used on an interim basis for surface parking.

The two billboard leases encumbering portions of the property continue through December 31, 2010 and annually thereafter unless terminated.

6. Environmental

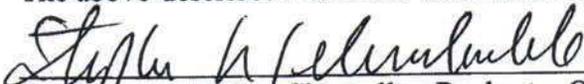
The University has completed a Phase I environmental site assessment. A Phase II soil and groundwater investigation and a building hazardous materials and asbestos study will be conducted prior to closing to confirm the property is in acceptable environmental condition. Depending on the results of the Phase II investigation, the site may be enrolled into the Minnesota Pollution Control Agency's (MPCA) Voluntary Investigation and Cleanup (VIC) and Petroleum Brownfields (PB) programs to obtain all appropriate liability assurances.

7. Source of Funding

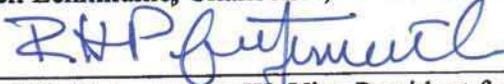
The purchase of the property would be funded with University debt.

8. Recommendations

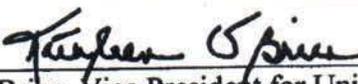
The above-described real estate transaction is appropriate:

 1/29/10

Stephen Lehmkuhle, Chancellor, Rochester Campus

 2/11/10

Richard H. Pfitzenreuter III, Vice President for Finance and CFO

 1/29/10

Kathleen O'Brien, Vice President for University Services

**TEN-YEAR LEASE FOR OFFICE, CLASSROOM,
LABORATORY AND STUDENT LIFE SPACE
AND 148 BEDS OF STUDENT HOUSING,
320-1ST AVENUE SW, ROCHESTER
(ROCHESTER CAMPUS)**

1. Recommended Action

The President recommends that the appropriate administrative officers receive the authorization to execute a ten-year lease for the University's use of 70 apartment units (148 beds of student housing) and office, classroom, laboratory, and student life space at 320 1st Avenue SW, Rochester, Minnesota.

2. Description of Leased Premises

The leased premises will consist of the following spaces totaling 83,000 rentable square feet (RSF) in a new building to be constructed at 320 1st Avenue SW, Rochester:

(a) Floors 3 through 7, totaling 70 furnished apartment units (ten 4-BR, eight 3-BR, thirty-two 2-BR, six 1-BR, and fourteen studio/efficiency units), 148 beds, 57,102 RSF;

(b) 16,907 RSF on Floor 2 for a student life center and office space;

(c) 1,071 RSF on the First Floor for the on-site student life manager (to be selected by the University), security/reception desk, and mailboxes;

(d) 7,920 RSF on the Lower Level for a 24-seat science lab and lab prep area (capable for future build-out to accommodate 48 students), two 84-seat classrooms, storage area and locked space for the installation or wiring and cabling required for University operation of telecommunications equipment for the classrooms and other spaces;

(e) Rooftop plaza above 2-story portion of the building with access from Floor 3; and

(f) Shared use of all building common areas including a Lower Level bicycle storage area, and up to 70 parking spaces in the 3rd Street Ramp owned by the City of Rochester.

3. Basis for Request

In 1999, the Greater Rochester Area University Center Board (GRAUC) advocated for a branch of the University of Minnesota in Rochester. The legislature approved the language from the Rochester Higher Education Development Committee Report for the development of the University of Minnesota Rochester.

On April 16, 2007, the Board of Regents approved a 6-year lease covering 52,924 usable square feet (USF) of classroom, laboratory and office space, plus an option to lease up to 3,828 additional USF (added to the leased premises effective January 1, 2008) and storage space (90 square feet leased beginning December 1, 2008 and an additional 124 square feet of storage space leased beginning June 1, 2009), at 111 South Broadway, Rochester, for occupancy by the University of Minnesota Rochester.

In May, 2009, the Board of Regents approved a 51-month lease for University of Minnesota Rochester's use of 7,888 square feet of office space at 102 South Broadway, Rochester.

The University is now taking the next step to provide a "UMR housing" option for UMR students and to secure the use of additional space for a science laboratory, classrooms, offices, and student life space.

The funding for the \$27.8 million new mixed-use building to be constructed at 320 1st Avenue SW, Rochester by GH Holdings, LLC, developer of the project and the University's landlord for the subject lease, will include \$5.8 million in City of Rochester sales tax revenue dedicated to higher education purposes in Rochester. The \$5.8 million will be available to the University in the future for capital costs for UMR campus development. The Finance and Operations Committee is expected to review the transaction related to the \$5.8 million in March.

4. Details of Transaction

The lease of the subject property will commence on August 1, 2011 and continue through July 31, 2021. The University will have early access to the leased premises for the installation of furniture, fixtures, equipment, and telecommunications wiring and cable.

The University will have the first right to lease all available building space not included in the University's leased premises (apartments on Levels 8 and 9, retail space on Lower Level, Levels 1 and 2) as well as the right to approve all Retail Tenants of the portions of the building not leased by the University.

The Landlord will provide a tenant allowance in the amount of \$808,048 to be used by the University for leasehold improvements in the non-residential portion of the leased premises above the base building construction, purchase and installation of wiring, cabling, furniture, fixtures and equipment, and/or moving expenses.

5. Lease Costs

Effective August 1, 2011, annual rent for the 70 apartments will be \$1,420,800. Rent will increase annually by 3% commencing on August 1, 2014.

Effective August 1, 2011, annual base rent for remainder of the leased space (science lab and prep area, classrooms, student life space, office space, security/reception desk, etc.) will be \$419,886 and will increase annually by 3% commencing on August 1, 2014.

The University will also pay as additional rent its share of operating expenses, common area maintenance costs, utilities and property taxes for the non-residential portions of the leased premises, estimated at \$202,004 plus property taxes the first year.

Students housed in the 70 apartment units who elect to rent one of the 70 parking spaces will each pay directly for the use of such parking space.

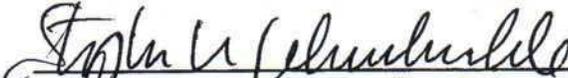
6. Source of Funds

The lease costs for the residential portion of the leased premises will be funded by rents charged to UMR students who chose this housing option (and rents received from summer guests).

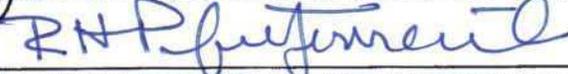
The lease costs for the non-residential portion of the leased premises will be funded with incremental new tuition revenue generated through enrollment growth at the University of Minnesota Rochester.

7. Recommendations:

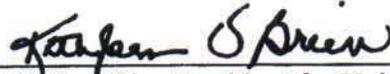
The above-described real estate transaction is appropriate:



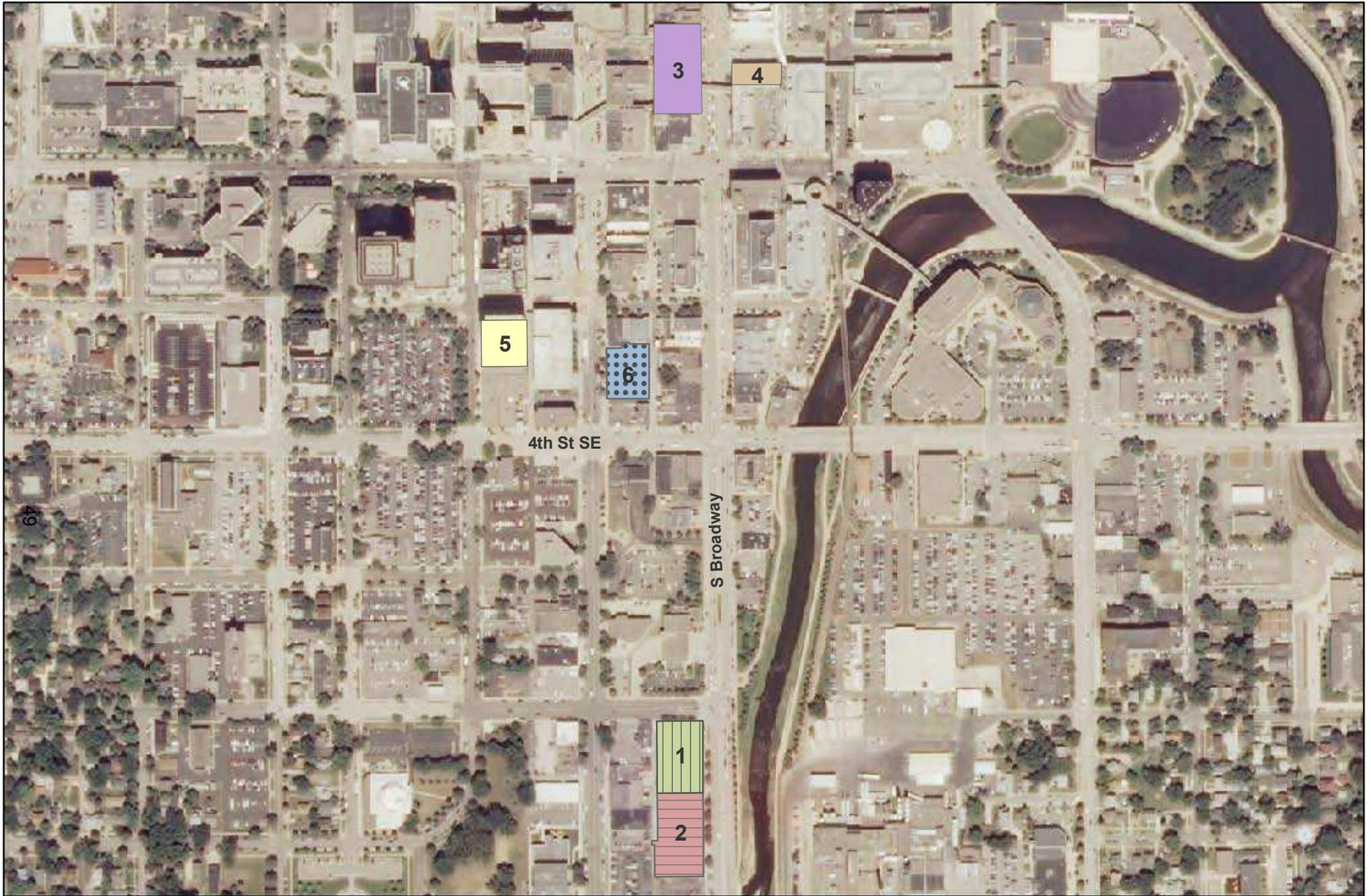
Stephen Lehmkuhle, Chancellor, Rochester Campus

 2/11/10

Richard H. Pfutzenreuter, III, Vice President for Finance and CFO

 1/29/10

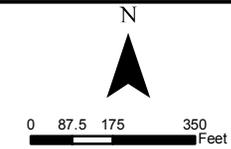
Kathleen O'Brien, Vice President for University Services



Real Estate Office
University of Minnesota

**Purchase of 617 S. Broadway,
 701 S. Broadway and
 10-Year Lease at 320-1st Ave. SW,
 Rochester**

- 1 617 Broadway S
- 2 701 Broadway S
- 3 University Square
- 4 102 Broadway S
- 5 Stable Building
- 6 320 1st Ave SW



This map is intended to be used for planning purposes only and should not be relied upon where a survey is required.

Base Data: Real Estate Office
 MNDNR, MNDOT



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Capital Budget Amendments

review review/action action discussion

Presenters: Vice President Kathleen O'Brien
Chancellor Kathryn Martin
Associate Vice President Michael Perkins
College of Liberal Arts Dean James Parente
Institute of Technology Dean Steve Crouch
Recreational Sports Director Jim Turman

Purpose:

policy background/context oversight strategic positioning

In accordance with Board of Regents Policy: *Reservation and Delegation of Authority*, review the following capital budget amendments:

- Amend the Fiscal Year 2010 Capital Budget by \$2,000,000 to provide additional funding for the Griggs Hall Addition on the Duluth Campus.
- Amend the Fiscal Year 2010 Capital Budget by \$2,274,715 to fund design services for the Folwell Hall Interior Renovation project located on the Twin Cities Campus. *
- Amend the Fiscal Year 2010 Capital Budget by \$1,763,000 to fund design services for the Physics and Nanotechnology Building located on the Twin Cities Campus. *
- Amend the Fiscal Year 2010 Capital Budget by \$1,760,000 to fund design services for the University Recreation Center Expansion project located on the Twin Cities Campus. *

* *Final approval of this project by the Chief Financial Officer is contingent on the resolution of university cash flow issues.*

Outline of Key Points/Policy Issues:

Griggs Hall Addition

Refer to the attached project data sheet for this project.

The Duluth Campus currently provides approximately 3,000 on-campus housing spaces. The freshman class enrollment is typically 2,100 - 2,200 students, with 90% percent provided on-campus housing. Duluth campus freshmen typically have a more positive on-campus experience if they are housed in dormitory style housing. The current supply of dormitory style housing does not meet demand. Therefore the Duluth Campus plans to design and construct a 280 bed traditional two residents per room dormitory to help meet the demand.

Folwell Hall Interior Renovation

Refer to the attached project data sheet and map for this project.

Folwell Hall, built in 1906, is located in the heart of the Historic Knoll and is home to the College of Liberal Arts Language Departments as well as thirty-one classrooms. With the exception of the central corridor and fireplace rooms 128 and 131 on the 1st floor, the marble staircases, and the entrances; the interior of the building will be demolished and reconstructed to provide modern facilities for the College of Liberal Arts and classrooms. The exterior of Folwell was stabilized and restored in 2007.

Physics and Nanotechnology Building

Refer to the attached project data sheet and map for this project.

The new Physics and Nanotechnology Building is planned to include a basement and 4 floors above grade and will be located on the site bounded by Civil Engineering to the north, Akerman Hall to the west, Scholars Walk to the south and Recreational Sports to the east. Located adjacent to the existing Institute of Technology (IT) campus will allow close connections to other IT disciplines. Located along the Scholars Walk, views into the new building, including the nano cleanroom laboratory, will create an open, inviting, and interesting type of “science on display” for the University.

The building will house approximately 200 faculty, postdoctorate, graduate level, and visiting researchers. The facility will include 40 research laboratories in addition to the nano cleanroom laboratory. Lively debate and student interaction with the Physics faculty will be facilitated by dedicating meeting and “argument” space throughout the building.

University Recreation Center Expansion

Refer to the attached project data sheet and map for this project.

The program for the University Recreational Sports Expansion consists of the following: a two-court gymnasium, fitness and weights area, seven multi-purpose rooms, outdoor recreation center with a climbing wall, locker rooms, jogging track, offices and miscellaneous spaces. A café with associated serve and prep area, public toilets and a social lounge will be located at the entry. The use of natural light and natural ventilation will be explored in order to reduce energy consumption and to provide a more pleasant environment for the students.

Background Information:

Griggs Hall Addition

The Fiscal Year 2010 Capital Budget approved by the Board of Regents in June 2009 included \$12,000,000 for the design and construction of the Griggs Hall Addition. Based upon preliminary design completed for the project the cost estimate has increased by \$2,000,000 to \$14,000,000. Construction is scheduled to begin before the approval of the 2011 Capital Budget; therefore, the capital budget amendment is requested at this time.

Folwell Hall Interior Renovation

The Folwell Hall Interior Renovation project is included in the University’s 2010 Capital request and is scheduled to be in the Fiscal Year 2011 Capital Budget pending the outcome of the 2010 legislative session. Schematic plans were presented to and approved by the Board of Regent in December 2009. This capital budget amendment requests approval to expend University funds in advance of legislative action on the 2010 Capital Request in order to continue the design of the project and to advance preparation for relocation efforts related to the need to vacate the building prior to construction. The intent is to proceed from schematic design to construction documents and be positioned to move into construction in the June/July

2010 time frame if the project receives legislative funding. Accelerating the design and construction will also limit the impact on the academic programs by condensing the construction to 12 months and impacting only two academic semesters.

Physics and Nanotechnology Building

The Physics and Nanotechnology building is included in the 2010 State Capital Request and is currently scheduled to be included in the Fiscal Year 2011 Capital Budget pending the outcome of the 2010 legislative session. Pre-design activity was completed in preparation of the 2010 Capital request. This capital budget amendment seeks approval to expend University funds to prepare schematic plans for the project in advance of legislative action on the request for project funds. Advancing the project design put the University in an excellent position to quickly move the project to final design and construction.

University Recreation Center Expansion

Initiating the schematic design process in February 2010 (if this capital budget amendment is approved) will allow for the completing the schematic plans by late spring 2010. Based on this schedule schematic plans would be presented to the Board of Regents in June 2010 and the project would be included in the Fiscal Year 2011 Capital Budget. Allowing sufficient time for the completion of schematic design is important to ensure the scope of the project, schedule and budget that are presented at schematic design and included in the 2011 Capital Budget are based documentation that is discovered and refined during the schematic architectural and engineering design process.

President's Recommendation for Action:

The President recommends approval of the following Capital Budget Amendments:

- Amend the Fiscal Year 2010 Capital Budget by \$2,000,000 to provide additional funding for the Griggs Hall Addition on the Duluth Campus.
- Amend the Fiscal Year 2010 Capital Budget by \$2,274,715 to fund design services for the Folwell Hall Interior Renovation project located on the Twin Cities Campus.
- Amend the Fiscal Year 2010 Capital Budget by \$1,763,000 to fund design services for the Physics and Nanotechnology Building located on the Twin Cities Campus.
- Amend the Fiscal Year 2010 Capital Budget by \$1,760,000 to fund design services for the University Recreation Center Expansion project located on the Twin Cities Campus.

**Griggs Hall Addition
Duluth Campus
Project Number: 03-541-10-1052, Capital Budget No. 2981**

1. Basis for Request

The Duluth Campus currently provides approximately 3,000 on-campus housing spaces. Recently the freshman class enrollment has been 2,100 – 2,200 students. Ninety percent of these students are provided on-campus housing. However, the demand for traditional dormitory space has consistently exceeded the supply. This equates to 400-500 freshmen being assigned dormitory rooms and the remaining approximately 1,480 freshmen students assigned to on-campus apartments. The housing staff believes that students who start out in dormitory space have a far better university experience than those who are assigned an apartment. Freshman can easily become isolated in apartments which make it difficult to make connections with other residents and more importantly, the campus as a whole.

2. Change in Project Since Approved

The \$12,000,000 Capital Budget for this project was approved by the Regents in June 2009 as a part of the 2010 Capital Budget. The current project estimate is \$14,000,000; therefore, a Capital Budget Amendment of \$2,000,000 is requested to ensure the project's success. Construction is planned to begin before the Regents act on the 2011 Capital Budget, therefore the Capital Budget Amendment is request at this time.

3. Scope of Project

Construct an approximate 69,560 square foot addition to the Griggs Hall freshman dormitory to provide 280 beds as traditional two residents per room with ancillary spaces. The ancillary spaces include study areas, lounges, laundry, mail distribution, resident storage and lobby circulation. The full building utility infrastructure will include heating ventilation and air conditioning, emergency power, information technology infrastructure, elevators, stairways, security systems with surveillance of public spaces, and fire detection/suppression systems.

4. Variance to the Master Plan

The project is in alignment with the UMD campus master plan.

5. Environmental Issues:

A Phase I Environmental Analysis of the project site has been completed. The findings have shown that no hazardous materials/soils are known to exist at the site. Storm water management requirements will be included as a part of the project.

6. Cost Estimate

Construction Cost	\$11,201,000
Non-Construction Costs	<u>2,799,000</u>
Total Project Cost	\$14,000,000

7. Capital Funding

	<u>Approved</u>	<u>Increase</u>	<u>Revised Total</u>
University Debt Service	\$ 9,000,000	\$3,000,000	\$12,000,000
UMD Auxiliary Services	<u>3,000,000</u>	<u>(1,000,000)</u>	<u>2,000,000</u>
Total	\$12,000,000	\$2,000,000	\$14,000,000

8. Capital Budget Approvals

The \$12,000,000 Capital Budget for this project was approved by the Regents in June 2009 as a part of the 2010 Capital Budget. The current budget is \$14,000,000; therefore, a Capital Budget Amendment of \$2,000,000 requested to ensure the project's success. The project schematic plans are scheduled to be presented in March 2010.

9. Annual Operating and Maintenance Costs

The annual operating and maintenance costs will be paid by the UMD Auxiliary Services Department. UMD Auxiliary Services is a self-supporting unit, collecting operating costs from student housing fees.

10. Time Schedule

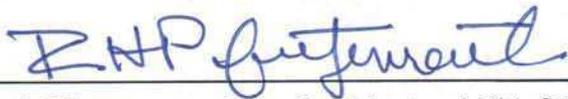
Project Design	December 2009 – March 2010
Procure Bid Packages	March 2010 – April 2010
Begin Construction	June 2010
Complete Construction	July 2011

11. Architect/ Construction Manager

Architect: Elness, Swanson, Graham Architects – Minneapolis, Minnesota.
Construction Manager: Johnson Wilson Constructors – Duluth, Minnesota

12. Recommendations:

The above described project scope of work, cost, funding, and schedule is appropriate:

 2/11/10

Richard P. Pfutzenreuter, Vice President and Chief Financial Officer



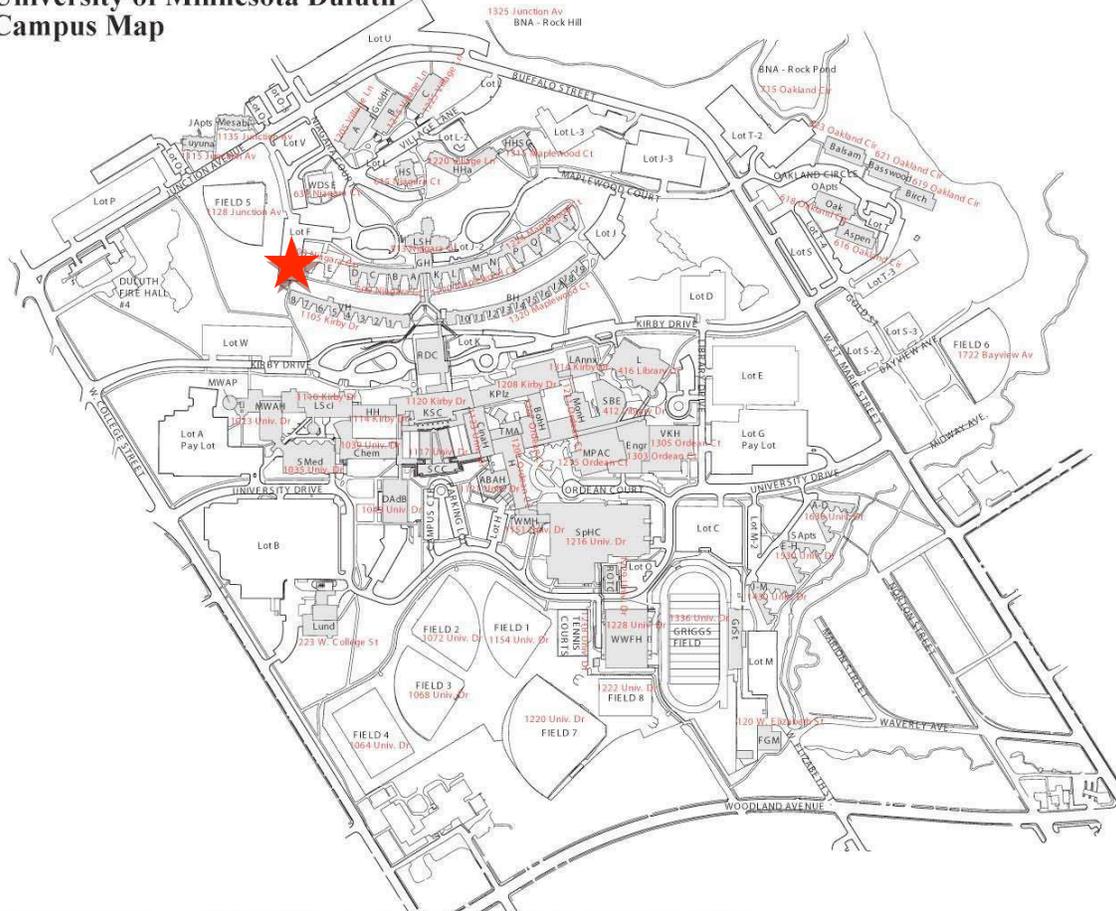
Kathryn A. Martin, Chancellor, Duluth Campus

 1/29/10

Kathleen O'Brien, Vice President University Services

Griggs Hall Location Map

University of Minnesota Duluth Campus Map



**Folwell Hall - Interior Renovation
Capital Budget Amendment for Advanced Design Funding
Twin Cities Campus
Project No. 022-08-1102**

1. Basis for Request:

The Folwell Hall Interior Renovation Project is included in the University's 2010 Capital Request and is scheduled to be in the University's Fiscal Year 2011 Capital Budget pending the outcome of the 2010 Legislative session. Schematic Design was approved by the Board of Regents in December 2009. This capital budget amendment requests approval to expend University funds in advance of legislative action on the FY2010 Legislative Capital Request in order to continue the design of the project and do advanced preparation for relocation efforts related to the need to vacate the building prior to construction. The intent is to proceed from Schematic Design to Construction Documents and have the project sufficiently advanced so as to immediately move from legislative approval to construction in June/July 2010. Advancing design to this level, in anticipation of a successful Capital Bonding Bill, puts the University in an excellent position to put people to work quickly in the hard-hit construction sector and will create a favorable situation for the project in terms of market conditions and overall construction duration; it will also limit the impact on the academic mission of the University by condensing the construction to 12 months total duration (impacting only two academic semesters).

2. Scope of Project:

Design and pre-construction efforts to advance the project from Schematic Design to completed Construction Documents sufficient to generate a "guaranteed maximum price" and begin construction. Minor preparatory work related to move planning and swing space improvements such that the University can vacate the building for demolition and construction in June 2010.

The final design and construction of Folwell Hall will accomplish the following:

- Demolition of interior with the exception of historic elements on the first floor and the marble staircases.
- Interior reconstruction consisting of the following:
 - Historic elements will be restored
 - New energy efficient windows.
 - Demountable wall system.
 - Two new elevators and two additional staircases.
 - Replacement of ventilation, heating, electrical power, lighting, telephone and data.
 - New life safety systems – fire alarm and fire sprinkler systems.
 - Accessible toilet rooms on all floors.
 - Classrooms provided with technology rich learning environments.
 - Faculty libraries, conference and seminar rooms for collaboration
 - Departmental shared administration spaces
- The gross square footage (GSF) is 111,500 Gross Square Feet.
- The assignable square footage (ASF) is 56,800 square Feet.

3. Master Plan or Precinct/District Plan:

This project is in compliance with the University of Minnesota Twin Cities Campus Master Plan – 2009: Guiding Principle 5, Steward Historic Buildings and Landscapes. Development Framework Map, Adaptive Reuse designations (including Folwell Hall) reflects priorities for capital investment and renovation of important buildings to support the university’s academic mission.

4. Environmental Issues:

The building has been surveyed for asbestos materials and asbestos containing materials have been identified. Where it is anticipated that new construction work will impact areas containing hazardous materials as identified in the surveys, those materials will be abated. The large area of soils in the existing crawl space is contaminated by asbestos fibers; this area will be encapsulated by a new concrete slab at the east end of the building for new mechanical spaces. All earth that will need to be excavated will be handled as contaminated soils as required by environmental regulations. Further, if concealed conditions are encountered during construction, which are determined to contain hazardous materials, additional abatement will be required and performed in conformance with State and Federal regulations.

5. Cost Estimate:

The cost for the advanced design work and associated preparatory costs are:

Schematic Design Costs (previously expended)	\$ 728,715
Schematic Design to Construction Documents	1,366,000
Move Preparations / Swing Space Improvements	<u>180,000</u>
Total Advance Spending	\$2,274,715

6. Capital Funding:

University Funds	\$2,274,715
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Note: Should the University receive funding from the MN Legislature for the project as a part of the Capital Bonding Bill the project will then reimburse the University funds that were used to fund this advance spending.

7. Capital Budget Approvals:

This is a Capital Budget Amendment request to fund advanced design work and preparatory costs only, the full Folwell Hall Interior Renovation project will be included in the Fiscal Year 2011 Capital Budget.

8. Annual Operating and Maintenance Cost and Source of Revenue:

Operating and maintenance cost for Folwell totaled \$591,000 for fiscal year 2008 (July 2007 to June 2008). The operating and maintenance costs are funded by Facilities Management.

9. Time Schedule:

Complete design	June 2010
Begin construction	July 2010
Complete construction	July 2011
Occupancy	August 2012

10. Architect / Construction Manager:

Architect: Miller-Dunwiddie Architects
Construction Manager: McGough Construction

11. Recommendation:

The above described project scope of work, cost, funding, and schedule is appropriate:

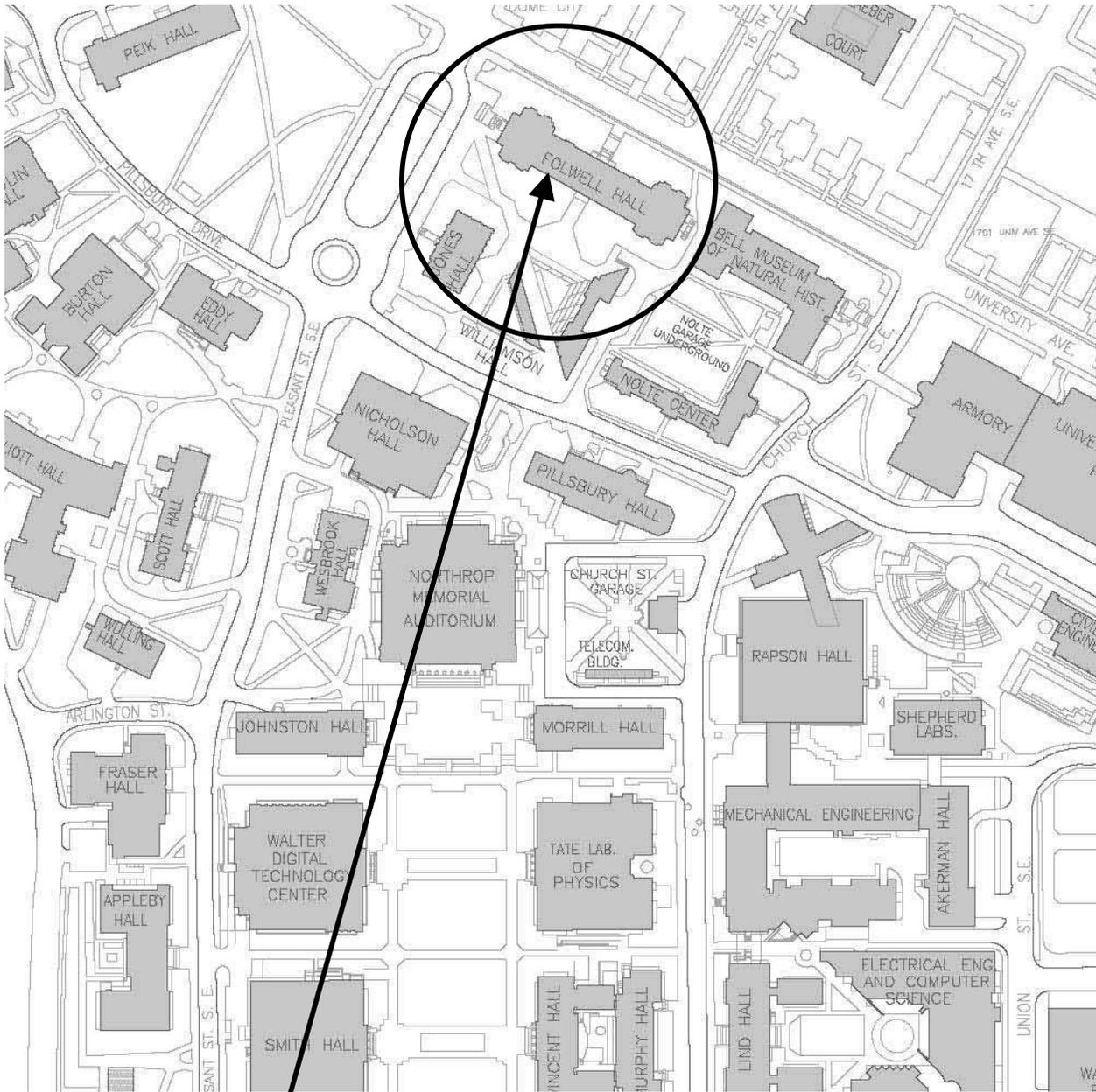
E. Thomas Sullivan 1-29-10
E. Thomas Sullivan, Senior Vice President for Academic Affairs and Provost

* RHP Pfitzenreuter 2/11/2010
Richard Pfitzenreuter, Vice President and Chief Financial Officer

Kathleen O'Brien 1/29/10
Kathleen O'Brien, Vice President for University Services

* Final approval of this project by the Chief Financial Officer is contingent on the resolution of university cash flow issues.

Twin Cities, Minneapolis East Bank Campus



Folwell Hall

**Physics and Nanotechnology Building
Capital Budget Amendment for Schematic Design Funding
Minneapolis Campus
Project No. 01-155-08-1718**

1. Basis for Request:

The Physics and Nanotechnology building is included in the University's 2010 State Capital Request and is currently scheduled to be in the University's FY2011 Capital Budget pending the outcome of the 2010 Legislative session. Pre-design activity was completed in preparation for the 2010 Capital Request. This capital budget amendment seeks approval to expend University funds in advance of legislative action on the University's State Capital Request in order to continue the design of the project to the Schematic Design level. Advancing design to this level in anticipation of receiving an appropriation for the project puts the University in an excellent position to quickly move the project into final design, secure a Construction Manager and proceed to construction on an accelerated schedule.

Physics and Nanotechnology research requires a highly technical environment that can constantly adapt to the latest technologies. Tate Laboratory of Physics, the current home to the School of Physics, cannot adequately serve the department's research needs. Recruiting and retaining quality faculty and graduate students for cutting edge research requires the construction of a new research facility.

The new Center for Nanostructure Applications (CNA) is a necessary addition for the University of Minnesota to remain a leader in the field of nanotechnology. The CNA will provide space for this heavily funded and technologically demanding research.

The proposed building will house the laboratories, offices, and collaborative work spaces for the faculty, staff, and graduate students of the Department of Physics. Several of the major experimental or observational research groups in the Department of Physics will have their laboratories in the building. The research space will be flexible, with adequate utilities, environmental controls, and modern safety accommodations to accommodate the needs of evolving research programs.

The space for the CNA will be well-defined, contiguous, and distinct from other occupants of the building. The space will be a flexible and adaptable multidisciplinary research facility able to support chemical, biological, or physical researchers. The center will consist of flexible use laboratory clean room space, support spaces, and office spaces.

Infrastructure improvements required to support the new building will be part of the project, including utility extensions, chiller, electrical service, and the treatment of storm water. In addition, the extension/straightening of Harvard/Union Streets will be coordinated with this project.

2. Scope of Project:

The new Physics/Nanotechnology building will include a basement and four (4) floors above grade and will be located on the site bounded by Civil Engineering to the north, Akerman Hall to the west, Scholars Walk to the south and Recreation Center to the east adjacent to the existing Institute of Technology (IT) campus area allowing close connection to other IT disciplines. Located along Scholars Walk, views into the new building, including the Nano Cleanroom laboratory, will create an open, inviting, and interesting type of "science on display" for the University. Circulation patterns on the site will be designed to be in concert

with the campus master plan guidelines related to pedestrians, bicycles, light rail/bus, and vehicles.

The new building site lies in a transitional space between academic, sports/recreation, and parking structures. There is relative consistency of scale and massing in the surrounding buildings, including the parking ramp, with heights typically around four or five stories. The primary exterior cladding material of the surrounding buildings is brick with stone accents. The design of the new Physics/Nanotechnology building will be consistent with the adjacent buildings in both building massing and exterior facade materials/details.

The building will house approximately 200 faculty, postdoctorate, graduate level, and visiting researchers. The facility also includes forty research laboratories, and a 5,000 net square foot Nano cleanroom laboratory designed for Class 100 chip fabrication and Class 1000 bio-nano work. Lively debate and student interaction with the Physics faculty will be facilitated by dedicated meeting and “argument” space throughout the building.

As a research laboratory requiring safe research environments and high ventilation rates in a demanding climate, this building will have significant environmental impacts, particularly related to energy use. Since it is to be funded by the State of Minnesota, this building is required to meet the mandatory provisions of the B3 (Buildings, Benchmarks, and Beyond) Guidelines, as well as the Minnesota Sustainable Building 2030 Law. B3 covers project management practices from programming through commissioning and operations, as well as design requirements related to site and water, energy, indoor environmental quality, and materials and waste. The 2030 law mandates energy performance that achieves a 60% reduction from an average building of its type, providing that required life-cycle analysis proves that designing such efficiency into the building is cost-effective.

The new building will tie into existing campus utility services for steam heat, chilled water cooling, electrical power, and telecommunications services. Connections will be made to the new building from the existing city water, sewer, and storm-water lines. The project will be designed to maximize on-site storm water management in order to minimize the amount of storm water outflow to the city storm-water line.

The building structural system will be constructed mostly using cast-in-place, reinforced concrete construction to provide a solid, vibration resistant structure. Isolated, floating floor slabs will be used to reduce vibration even further. There will be no basement underneath the first floor Nano cleanroom laboratory in order to enhance vibration performance issues.

The laboratory spaces for the building will be designed using a modular grid layout for the purpose of facilitating reconfiguration in the future. It will be possible to expand and contract individual laboratory rooms using minimal remodeling techniques as experimental research projects change over time. The mechanical and electrical systems will also be designed on a modular grid basis to facilitate this type of reconfiguration.

The building is anticipated to consist of approximately 155,000 gross square feet

3. Master Plan or Precinct/District Plan:

This project is in compliance with the University of Minnesota Twin Cities Campus Master Plan: 2009. Guiding Principle Nine: Optimize the use of campus land and facilities and apply best practices. Assignment of space should encourage interdisciplinary use. Space is flexible and adaptable to ensure buildings can meet academic needs. According to the plan the project is located on a site identified for near-term development (within a 10-year horizon).

4. Environmental Issues:

A preliminary geotechnical report did not find any contamination within the soils on the site but the investigation was limited. A more extensive investigation will be conducted during the design phase of the project.

5. Cost Estimate:

Capital Budget Amendment Requested at this time:

The cost for Schematic Design is:

Pre-Design Costs (previously expended)	\$526,650
Schematic Design	<u>\$1,236,350</u>
Total Advance Spending	\$1,763,000

Anticipated Total Final Project Cost:

Construction Cost	\$60,000,000
Non Construction Cost	<u>\$20,000,000</u>
Total Project Cost	\$80,000,000

6. Capital Funding:

CPPM Planning Fund	\$526,650
ICR from Institute of Technology	<u>\$1,236,350</u>
Total Funding	\$1,763,000

Note: Should the University receive funding from the Legislature for the project, as a part of the Capital Bonding Appropriation; the project will reimburse the University funds that were used to fund the advance spending.

7. Capital Budget Approvals:

This is a capital budget amendment request for Schematic Design costs only. The full Physics and Nanotechnology project will be included in the Fiscal Year 2011 Capital Budget if the requested State Capital Appropriation is received for the project.

8. Annual Operating and Maintenance Cost and Source of Revenue:

This information will be developed in future as the project design progresses further.

9. Time Schedule:

Schematic Design Completed	June 2010
Complete Design (Construction Documents)	May, 2011
Establish Construction Guaranteed Maximum Price	May, 2011
Begin construction	August, 2011
Complete construction	February, 2013

10. Architect / Construction Manager:

Architect: Architectural Alliance, Minneapolis with Zimmer Gunsul Frasca, Seattle)

Construction Manager at Risk: To be determined after the Schematic Design phase work.

The project will be delivered using the Construction Manager at Risk process.

11. Recommendation:

The above described project scope of work, cost, funding, and schedule is appropriate:

E. Thomas Sullivan

1-29-10

E. Thomas Sullivan, Senior Vice President for Academic Affairs and Provost

* *RNP Pfitzenreuter*

2-1-2010

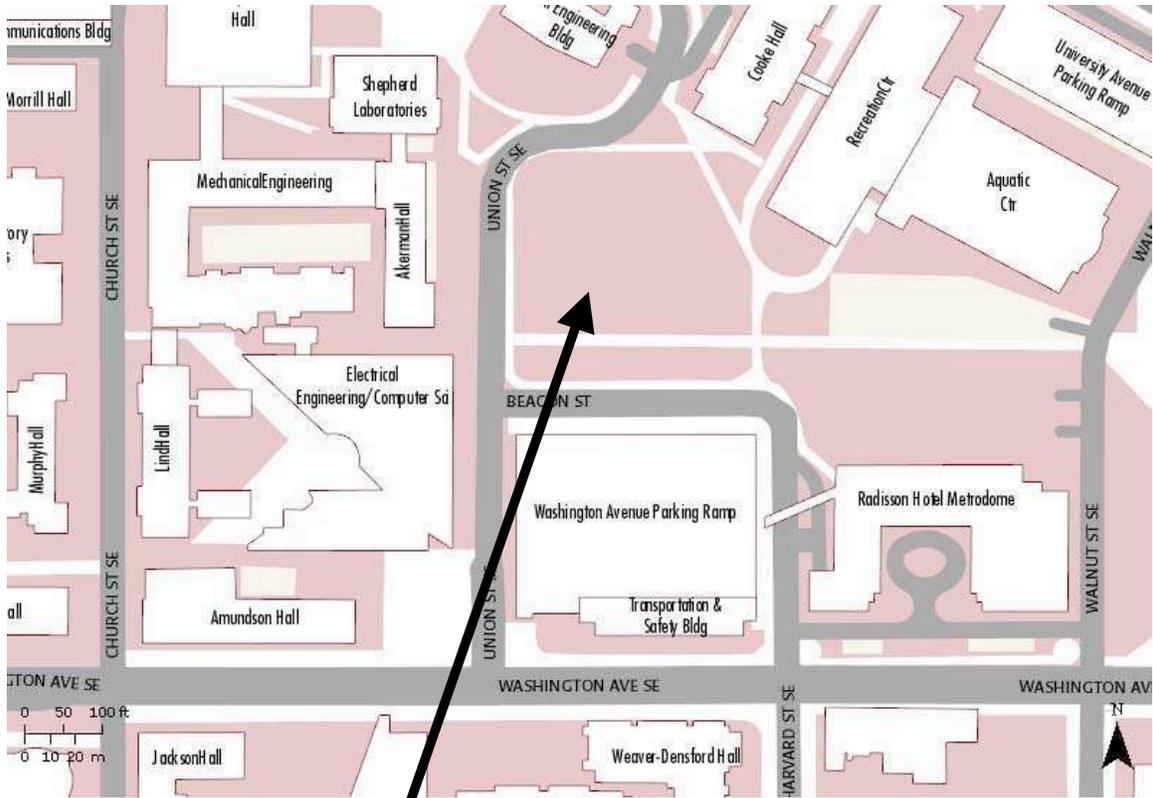
Richard Pfitzenreuter, Vice President and Chief Financial Officer

Kathleen O'Brien

1/29/10

Kathleen O'Brien, Vice President for University Services

* Final approval of this project by the Chief Financial Officer is contingent on the resolution of university cash flow issues.



**University of Minnesota
Twin Cities Campus**

Physics and Nanotechnology Building Site

**University Recreation Center Expansion
Minneapolis Campus
Project No. 01-169-08-1295**

1. Basis for Request:

The URC opened in March 1993. Participation figures for students, faculty and staff increased dramatically. Not only providing a venue for physical activity, the URC quickly became a popular site for gathering and social interaction for the University community, However, the one dominant complaint about the new facility was that it was too small and too often overcrowded. Members frequently had to wait to use equipment or activity space. The primary reason for this situation was that the state legislative funding for the URC was cut almost in half (student fees and University funds were also part of the financial package). As a consequence, space needed to be significantly reduced. *In other words, the recreation center was too small to meet anticipated needs when it opened.* Since that time, the demand and popularity for the facility has only increased. Surveys continue to indicate students' frustration over the crowded conditions and lack of available space and equipment.

This inadequacy has been documented and reinforced through several student surveys and studies. Most notable of this research work was the extensive independent feasibility study completed in 2005 by the nationally recognized firm of Brailsford & Dunlavey (B&D). The B&D firm conducted student surveys and informal sessions, as well as interviews with many university officials.

The B&D study found that while 80% of the students surveyed used the Recreational Sports facilities in some way, 60% said they had to wait to participate due to overcrowded conditions. As this overcrowding situation increases, more students will become frustrated and will go elsewhere, creating a reason to leave campus rather than staying longer. Other studies have shown that the rate of recreational participation is dramatically higher for those students who live on or very close to campus. Since 1993, on-campus and near-campus housing at the University of Minnesota has increased significantly, yet recreational sport facilities have not.

The capability to offer new or expanded programs is extremely limited with the current facility. Opportunities to provide innovative alternative programming to various segments of the University community are restricted or not done at all due to lack of space. For example, a "Beginning Strength Training Program for Women" was recently initiated. The program, designed mostly for faculty/staff women, received an outstanding response, but is limited in size and number of sessions due to lack of space. Group exercise classes, such as spinning (group bicycling) is so popular that often people are unable to take part because there is not enough room. Members come as much as a half hour before class to be sure that they can get one of the bikes. If there was adequate space, no one would have to be turned away.

Besides providing exercise and social interaction, participation in recreational sports provides the type of student involvement that is beneficial to the educational outcome and overall campus experience. Research has shown that this involvement results in higher GPA's, higher retention and graduation rates, a higher level of social integration, and a greater sense of affiliation with the institution, both while attending school and afterwards. Studies have also shown that student involvement reduces stress, helps build character and community, improves management and leadership skills, enhances diversity (recent surveys of students of color on the Twin Cities Campus showed a 76% participation rate in recreational sports), and improves overall happiness.

Recreational sports provide the opportunity to develop healthier, more productive lifestyles that will carry on long after graduation. These same opportunities are available to staff and faculty, and have the potential to improve the health and wellbeing of employees, reduce sick time, and increase productivity.

The benefits and contributions of recreational sports facilities and programs in higher education are becoming more documented and recognized across the country. They play, and will continue to play, a significant role in attracting and keeping outstanding students, faculty, and staff. These facilities and programs will continue to greatly enhance the campus experience and contribute to individual development at institutions like the University of Minnesota. However, the tools need to be available to fulfill that role. The current University Recreation Center is not capable of providing all that is wanted and expected of the campus community. In fact, the limitations of the current space at times can work cross-purpose to that goal. This proposed addition will be an enormous step toward attaining that level of recreational sports experience and opportunity that the U of M students, staff, and faculty desire and deserve.

2. Scope of Project:

The program for the expansion of the Sports and Recreation Center on the University Minnesota main campus consists of the following components: a two-court gymnasium, fitness and weights area, seven multi-purpose rooms, outdoor recreation center with a climbing wall, locker rooms, jogging track, offices and miscellaneous spaces. The entry of the building also has a café with an associated serve and prep area, public toilets and a social lounge.

Sustainability and the prudent use of resources are central to the project. The use of natural light and natural ventilation will be explored in order to reduce energy consumption and to provide a more pleasant environment for the students. Preliminary calculations indicate that a displacement air ventilation system combined with natural ventilation could save a significant amount of energy. Sustainable systems, such as use of the solar energy, double glazing of the south wall and green roofs will be explored as well.

Proposed heating ventilation and air conditioning systems are basic systems selected to facilitate maintenance and to minimize energy consumption while providing excellent occupant comfort. Larger size central equipment is proposed to centralize maintenance, to maximize usable space in the building and to reduce construction cost. The heating source will be high pressure steam routed from the campus central plant and distribution system. The cooling source will be chilled water routed from the campus central plant and distribution system.

The new Recreational Center will receive its power from existing medium voltage switchgear.

3. Master Plan:

This project is in compliance with the University of Minnesota Twin Cities Campus Master Plan: 2009. According to the plan the project is located on a site identified for near-term development (within a 10-year horizon.)

4. Environmental Issues:

An Environmental Site Assessment is being conducted by the Department of Environmental Health and Safety. Additional environmental evaluation will be conducted as necessary during the Schematic Design phase of the project. Environmental issues will be addressed as a part of the project.

5. Cost Estimate:

Capital Budget Amendment Requested at this time

Cost for Schematic Design is:

Pre-Design Costs	\$ 560,000
Schematic Design	<u>1,200,000</u>
Total Advance Spending	\$1,760,000

Anticipated Total Project Final Cost:	
Construction Cost	\$41,700,000
Non Construction Cost	<u>17,900,000</u>
Total Project Cost	\$59,600,000

6. Capital Funding for Schematic Design:

College of Education & Human Development	\$ 25,000
Student Affairs Administration	100,000
Recreational Sports General Administration	1,480,000
Office of Budget & Finance General Contingency	<u>155,000</u>
Total Funding for Pre-design & Schematic Plans	\$1,760,000

7. Capital Budget Approvals:

This Capital Budget Amendment establishes the initial capital budget for this project. The full University Recreational Center Expansion project is planned to be included in the Fiscal 2011 Capital Budget.

8. Annual Operating and Maintenance Cost and Source of Revenue:

This information will be developed in the future as the design progresses further.

9. Time Schedule:

Complete Schematic Design	Summer 2010
Complete Design Development	Fall 2011
Establish Construction Guaranteed Maximum Price	Winter 2011
Begin construction	Spring 2011
Complete construction	Spring 2013

10. Architect / Construction Manager:

Architect: Studio 5 Architects, Minneapolis with Cannon Design, Chicago

Construction Manger at Risk: To be determined during the Schematic Design phase work.

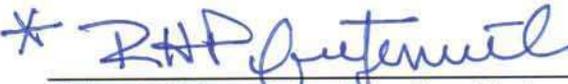
The project will be delivered using the Construction Manager at Risk process.

11. Recommendation:

The above described project scope of work, cost, funding, and schedule is appropriate:

 1-30-10

 E. Thomas Sullivan, Senior Vice President for Academic Affairs and Provost

*  2/11/2010

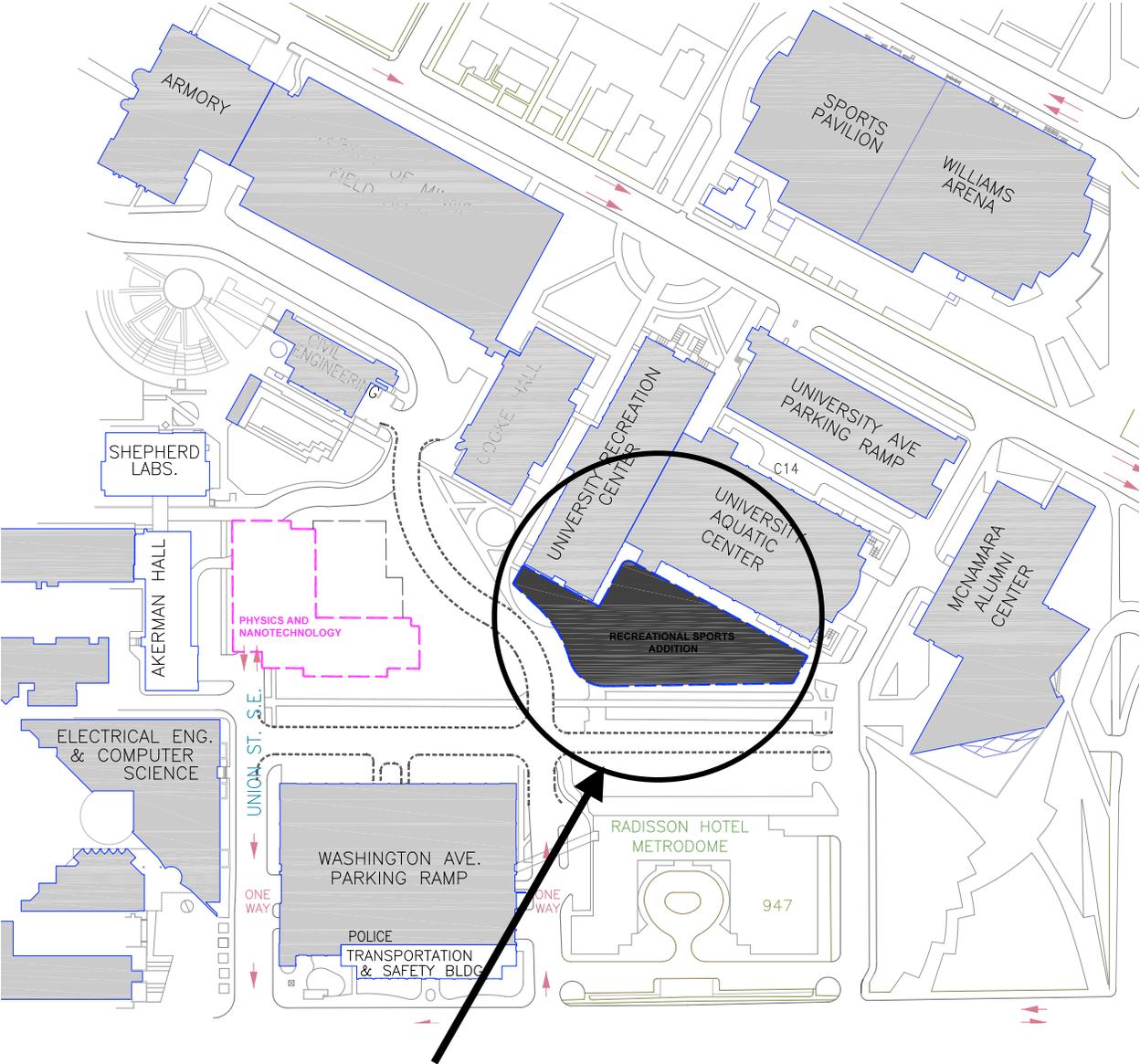
 Richard Pfitzenreuter, Vice President and Chief Financial Officer

 1/29/10

 Kathleen O'Brien, Vice President for University Services

* Final approval of this project by the Chief Financial Officer is contingent on the resolution of university cash flow issues.

Twin Cities, Minneapolis East Bank Campus



RECREATIONAL SPORTS ADDITION



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Energy and Utilities: Principles and Progress Update

review review/action action discussion

Presenters: Vice President Kathleen O'Brien
Associate Vice President Mike Berthelsen
Associate Director Jim Green

Purpose:

policy background/context oversight strategic positioning

To provide the Facilities Committee with the annual overview of Energy Management including: services provided, cost to deliver the services, status of the utility master plan conservation, and sustainability efforts.

Outline of Key Points/Policy Issues:

The University's operates its utilities and energy systems with the three principles of:

- **Sustainability.** The University will manage its facilities in a manner to minimize its overall energy consumption. All energy production meets government permit requirements.
- **Reliability.** The University and its customers require uninterrupted energy supply, production and distribution.
- **Risk and Cost Management.** The University requires utility systems to produce and deliver energy at a competitive cost while managing both system reliability and environmental responsibility.

In addition to a general update, this year's utility presentation will focus upon conservation efforts undertaken on the Twin Cities Campus.

Background Information:

The administration seeks to regularly update the Board regarding major areas of University activity and management, especially those that have significant risk for the institution. Financial and operational risk to the operation of the University is endemic to energy and utility management.

Each February, the Facilities Committee receives an update on Energy and Utilities management at the University.



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Consent Report

review review/action action discussion

Presenters: Vice President Kathleen O'Brien

Purpose:

policy background/context oversight strategic positioning

There are no consent agenda items for the February Facilities Committee meeting.

Outline of Key Points/Policy Issues:

Background Information:



**UNIVERSITY OF MINNESOTA
BOARD OF REGENTS**

Facilities Committee

February 11, 2010

Agenda Item: Information Item

review review/action action discussion

Presenters: Vice President Kathleen O'Brien

Purpose:

policy background/context oversight strategic positioning

Provide the Board of Regents with information on the following items:

1. Update on the Wind to Hydrogen to Ammonia project at the West Central Research and Outreach Center, Morris
2. Capital Planning & Project Management, Capital Improvement Semi-Annual Report
3. The final project review for the Akerman Hall Hangar & Mechanical Engineering Building Life Safety Renovation Project

Outline of Key Points/Policy Issues:

Wind to Hydrogen to Ammonia

Reconciling the scope of work and schedule for this project to the budget has been a challenge due to the demonstration and research nature of the project. There now is a plan in place to design and construct the facility this calendar year. The project description, history, issues, status, budget, funding, and schedule are summarized in the attached document titled "University of Minnesota, West Central Research and Outreach Center, Morris, Minnesota, Wind to Hydrogen to Ammonia Project."

Capital Planning & Project Management, Capital Improvement Semi-Annual Report

In accordance with Board of Regents Policy: *Board Operations and Agenda Guidelines*, present the February 2010 Capital Planning & Project Management, Capital Improvement Semi-Annual Report to the Board of Regents. This report typically includes projects in process that have been approved in the Capital Budget and where the Regents have approved the Schematic Plans. The report highlights progress performed, challenges encounter in delivering the project scope of work within the approved budget and schedule.

Final Project Review – Akerman Hall Hangar & Mechanical Engineering Building Life Safety Renovation

In accordance with Board of Regents Policy: *Reservation and Delegation of Authority*, Article I, Section VIII, Subdivision 9, "The Board reserves to itself the authority for a subsequent review of approved capital budget projects with a value greater than \$5,000,000 prior to the award of construction contracts." The project information sheet for the Akerman Hall Hangar & Mechanical Engineering Building Life Safety Renovation is attached.

Background Information:

Information items are intended to provide the Board of Regents with information needed for them to perform their oversight responsibilities.

**University of Minnesota
West Central Research and Outreach Center (WCROC), Morris, Minnesota
Wind to Hydrogen to Ammonia Project
Project #14-874-06-1662
A Community Scale Pilot Project and Research Facility
February 11, 2010**

The project consists of two components, each funded separately as follows;

Wind to Hydrogen

- The initial phase was funded by LCMR in 2006
- Funding of \$800,000, given over two years (2006 & 2007) of \$400,000 in each year
- The project consists of an electrolyzer, internal combustion engine/generator, storage tanks, modular building, and the associated piping, electrical, controls, site preparation, labor, engineering and project management fees.
- Additional funding of \$430,000 has been provided by WCROC and College of Food, Agricultural & Natural Sciences

Anhydrous Hydrogen to Ammonia

- Funded by a \$2,500,000 – 2006 Legislative Appropriation
- This phase of the project consists of the development of the ammonia skid (Hydrogen compressor, Nitrogen compressor, Recycle stream compressor, Reactor vessel(s), Process gas heat exchanger (electric), Process gas heat exchanger (gas to gas), Ammonia condenser, storage tanks, modular building, and the associated piping, electrical, control systems design (and source code development), site preparation, labor, engineering, project management fees, and operations and safety manuals/training.

Project Development History

- Winter 2006 Sebesta Blomberg was retained to develop a schematic design for the wind to hydrogen
- Fall 2006 Sebesta Blomberg began feasibility level engineering study of the anhydrous ammonia facility
- Spring 2007 Sebesta Blomberg was authorized to proceed with the design development phase of the hydrogen and ammonia production facility
- Summer 2007 Knutson Construction was selected as the Construction Manager at Risk and assist with the pricing of the project
- Late fall 2007 project pricing significantly over budget (\$4.9 million Vs. a construction budget of \$3.0 million)
- Winter 2008 down sized the project to produce significantly smaller amounts of hydrogen and anhydrous ammonia, and use a design-build process to push the engineering, bidding and construction risk on to one vendor.
- Spring 2008 Sebesta Blomberg was retained to provide a pre-design of a smaller capacity production facility and design-build documents
- Summer 2008 CPPM sought bids for a design-build contractor
- Fall 2008 entered into contract negotiations with Fagen, Inc., which also included a licensing agreement. Fagen's proposal sought intellectual property development rights in exchange for the design and construction of the facility at cost.

- Spring 2009 the Office of the General Counsel and the Legislative Citizen Commission on Minnesota Resources (LCCMR) began conversations concerning the State's rights to any intellectual property developed with LCCMR funding, which held up final negotiations of the Design-build and licensing agreements
- Fall 2009 final resolution sought with Fagen and the LCCMR
- December 2009 negotiations with Fagen terminated as Fagen withdrew their proposal for the project.
- December 2009 reengaged Sebesta Blomberg as the designer and Knutson Construction as the Construction Manager.

Project Issues

- The physical size and quantity output of hydrogen and anhydrous ammonia has been significantly downsized from the original anticipated design as submitted to the Board of Regents in July 2007. Initially, the equipment was to be assembled on-site and housed in a custom designed 4,000 square foot building. In order to meet budget, the currently proposed design anticipates off-site assemble of the components on skids and housed in modular buildings.
- This will be a demonstration facility where plug and play research may be performed to explore ways to monitor/measure/etc. engine/generator production, efficiency, performance, wear, etc.
- All elements and production capabilities will be significantly reduced from what was presented to the Regents in July 2007.
- There will be no guarantees with regard to the quantity or quality of the hydrogen and/or ammonia produced by the facility. However, the electrolyzer use to separate hydrogen from water will come with a manufacturer's warranty.

Current Status

- The 2006 Legislative Appropriation language states: "West Regional Outreach Center Morris - To construct, furnish, and equip a facility for the wind energy to hydrogen to anhydrous ammonia pilot project." When the wind turbine is generating power we will have a closed (off the grid) wind to hydrogen to anhydrous ammonia facility:
- Contracts with the project Engineer and Construction Manager that were established prior to pursuing the design/build project with Fagen are still in place:
 - Engineer: Sebesta Blomberg
 - Construction Manager: Knutson Construction
- Received proposal from Sebesta Blomberg to design and construct in two phases:
 - Phase I – Wind to Hydrogen (funded from LCCMR funds)
 - Phase II – Hydrogen to Ammonia (funded from 2006 State Capital Appropriation)
- The LCCMR funds must be committed and substantially spent by June 30, 2010, proceeding with that portion of project as Phase I will help ensure obligating these funds by June 30, 2010.
- As a demonstration project, one of the primary goals is to produce at least 50% of the ammonia needed to support the 300 acres of farm land at the WCROC, using 150 lbs of ammonia/acre (50 lbs applied 3 times a year, spring, summer, fall)
- The proposed facility will:
 - Includes the same project components describes to the Regents in July 2007; however, on a smaller scale (for example):

- 4,000 square foot building will be replaced with modular container buildings
- Production and storage units will be smaller
- Production originally anticipated sufficient to provide anhydrous ammonia fertilizer for 300 WCROC acres with excess to sell
- Proposed facility is anticipated to produce sufficient anhydrous ammonia fertilizer for approximately 50% of the needs of the WCROC

Project Budget

Project engineering & consulting expenses to date	\$ 360,454
University's consulting engineering, fees, etc.	344,546
Design and Construction of the Facility	2,700,000
University's contingency	<u>325,000</u>
Total	\$3,730,000

Project Funding

Legislative-Citizen Commission of Minnesota Resources	\$ 800,000
2006 Legislative Appropriation	2,500,000
Wind Turbine Rebate	150,000
CFANS & Research & Outreach Funds	<u>280,000</u>
Total	\$3,730,000

Schedule

Reengage Sebesta Blomberg & Knutson	December 2009
Design & Pricing – Hydrogen	January 2010
Board of Regents Update	February 2010
Place order for Hydrogen production	February 2010
Complete Hydrogen Facility	June/July 2010
Price & Construct Ammonia Facility	Summer 2010
Commission Ammonia Facility	Fall 2010

Capital Planning & Project Management

Capital Improvement Budget
Semi-Annual Report
February 2010

Campus Summary

Twin Cities Campus

- Akerman Hall Hangar & Akerman/Mechanical Engineering Fire Life Safety Renovations
- Carlson School of Management Repurposing
- Center for Magnetic Resonance Research Expansion (16.4 T Magnet)
- Center for Magnetic Resonance Research Expansion
- Eddy Hall Annex Building Demolition
- Folwell Hall Interior Renovation
- Landcare Grounds Facility Building
- Medical Biosciences Building
- Music Education Building Demolition
- Science Teaching & Student Services
- St Paul Utility Building and Electrical Switch Gear (Chilled Water Facility Phase III)
- St Paul Chilled Water System – Phase IV – Chiller and Cooling Towers
- Tandem Accelerator Building Demolition
- Weisman Art Museum Addition

Duluth Campus

- Civil Engineering

Morris Campus

- Bio-Mass / District Heating Addition
- Community Services Building Renovation
- Wind Energy Conversion System – Turbine Installation

Crookston Campus

- Evergreen Hall

Research and Outreach Centers

- Ash River, Minnesota: NOvA Project Phase I & Phase II
- North Minneapolis: Urban Research & Outreach Center
- Northwest Research and Outreach Center, Crookston: Maintenance/Farm Research Operations Center
- West Central Research and Outreach Center, Morris: Administration Building Addition and Remodeling
- West Central Research and Outreach Center, Morris: Wind to Hydrogen to Ammonia

CPPM Performance Measures

The CPPM group accepts full accountability for:

- Meeting project scope expectations
- Delivering expected quality
- Delivering projects on schedule
- Delivering projects on budget
- Improving process productivity
- Limiting / eliminating legal liabilities
- Promoting targeted business participation
- Support University of Minnesota sustainability initiatives

Initiatives:

- Best Value Procurement established as standard practice
- Revised performance forms created to incorporate professional development goals for staff
- Implementation Unifier: Electronic Project Management Information System

CPPM Teams:

- CPPM has organized itself into the following Team structure:
 - Academic Health Center
 - Biomedical Discovery District
 - Provost
 - President / Administration
 - System Academic Administration, Athletic, Student Services, Out State
 - Planning & Architecture
 - Business Services

Twin Cities Campus



Akerman Hall Hangar & Akerman/Mechanical Engineering Fire Life Safety Renovations

Description: Renovation of the hangar area of Akerman Hall which includes laboratory, office and collaborative spaces for undergraduate and graduate students in the Aerospace Engineering and Mechanics program. The project also encompasses fire, life, safety and accessibility upgrades in the Akerman Hall and Mechanical Engineering buildings.

Project Executive: Gary Summerville **Project Manager:** Pete Nickel
A & E Firm: BWBR Architects **Contractor:** Mortenson Construction
Budget: \$5,200,000
Schedule: September 2010 – Completion

- Project includes 7,600 SF of interior usable space, 2,000 SF of exterior plaza/site renovation space, and 200,000 SF of FLS upgrades
- Design only for heating ventilation and air conditioning upgrades and window replacement for Akerman and Mechanical Engineering
- Construction to began in Mar 2010
- **The project is on schedule and within budget**

Carlson School of Management Repurposing

Description: This project addresses space and use changes in the Carlson School building that arose after several programmatic units relocated to Hanson Hall when it was occupied in Spring 2008. The moves created opportunities for repurposing space in the current Carlson School facility enabling the school to provide better service for students, improve security, expand the executive education facilities and co-locate scattered departments. This work has been phased over semester breaks to minimize disruption to students and faculty.

Project Executive: Justin Grussing **Project Manager:** Paul Oelze
A & E Firm: RSP Architects **Contractor:** McGough
Budget: \$10,000,000
Schedule: Winter 2010

- All building design elements are now complete
- Construction will be completed in six phases
- Construction is in the final phase
- **The project completed on schedule and within budget**



Center for Magnetic Resonance Research Expansion (16.4 T Magnet)

Description: Expansion and renovation of the Center for Magnetic Resonance Research. It will incorporate the nation's highest field strength (16.4) tesla magnetic resonance system for lab primate and human biological research.

Project Executive: Gary Summerville **Project Manager:** Kevin Ross
A & E Firm: RSP Architects **Contractor:** M A Mortenson
Budget: \$11,040,000
(\$2,040,000 Const + \$9,000,000 Magnet)
Schedule: Fall 2009

- Construction is complete
- **The project is within budget.**



Center for Magnetic Resonance Research Expansion

Description: Expansion of research magnet space is accompanied by corresponding office space expansion for staff and researchers. Laboratory and storage space is expanded to support research on site. Patient facilities are expanded and provided in close proximity to main entry lobby. Additional vivarium space is planned. Expanded office and seminar space is relocated to the second level expansion to support a second level link between all precinct research buildings.

Project Executive: Richard Johnson **Project Manager:** Kevin Ross
A & E Firm: RSP Architects **Contractor:** M A Mortenson
Budget: \$53,200,000
Schedule: Fall 2010

- Funded as a part of the Bio-Medical Bonding Authority
- Under construction
- **The project is on schedule and within budget**



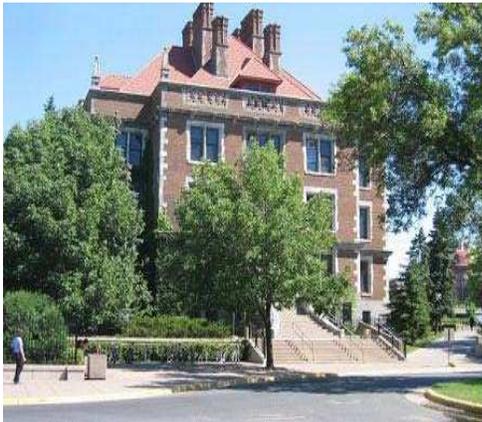
Eddy Hall Annex Building Demolition

Description: This project includes documentation, demolition and restoration plans to support removal of the metal structured Annex currently located on the west side of Eddy Hall. Project will also include work necessary to meet current building code requirements for accessibility, and fire/life safety in the historic building. Significant restoration to the existing building’s west facade, and adjacent west site will be included.

Project Executive: Justin Grussing
A & E Firm: Collaborative Design Group
Budget: \$750,000
Schedule: Summer 2010

Project Manager: Paul Oelze
Contractor: TBD

- Design is complete February 2010
- Construction start April 2010
- Construction complete July 2010
- **The project is on schedule and within budget**



Folwell Hall Interior Renovation

Description: This project will fully renovate the interior 115,000 gross square foot interior of Folwell Hall. The project will preserve the historical architecture of the building, marble floors, wainscoting and gargoyles, while at the same time creating a space capable of meeting the diverse educational needs of today’s students. The renovation of Folwell Hall will accommodate the same four language departments: German, Scandinavian & Dutch; French & Italian; Asian Language & Literature; and Spanish & Portuguese, including their faculty offices and teaching assistants. Thirty-one classrooms will be located more efficiently on the ground and first floors, thereby reducing travel distance for students. On a broader level, the renovation of Folwell Hall addresses the critical campus wide shortage of modernized teaching space by creating classrooms capable of supporting today’s technology oriented teaching methodologies.

Project Executive: Justin Grussing
A & E Firm: Miller-Dunwidde Studio 5
Budget: \$34,500,000
Schedule: Fall 2011

Project Manager: Paul Oelze
Contractor: McGough Construction

- Schematic Design is complete
- Design Development commenced in January 2010
- **The project is on schedule and within budget**



Landcare Grounds Facility Building

Description: This project consists of new construction of a 21,000 gross square foot building with a 45,000 square foot outdoor yard area. The project will accommodate U of M Landcare and U of M Facilities Management departments. It will include the following types of indoor spaces: garage, storage, office, meeting/training/lunch /breakroom(s), lounge, toilets, mechanical, service and data. The project will include the following types of outdoor spaces: loading ramp, fuel distribution, storage bunkers, staging/storing, equipment storage, planting materials storage/handling and general storage.

Project Executive: Justin Grussing
A & E Firm: DLR
Budget: \$5,000,000
Schedule: Summer 2010

Project Manager: Paul Oelze
Contractor: Graham Construction

- Demolition and clearing of the site is complete
- Footings and foundation work has begun
- **The project is on schedule and within budget**



Medical Biosciences Building

Description: Construction of a Medical Biosciences Building and the utility infrastructure required to support it, as part of an expansion to the existing Research Precinct which includes the Lions Research Building, the McGuire Translational Research Facility, and the Center for Magnetic Resonance Research. The facility will provide space for the Center for Memory Research & Care, Neuroscience Department, the Immunology Center and Bio-Safety Level-3 Laboratory Suits.

Project Executive: Gary Summerville
A & E Firm: Perkins & Will
Budget: \$79,300,000
Schedule: December 2009 – Completion

Project Manager: Kevin Ross
Contractor: Kraus Anderson

- Occupancy achieved in October 2009
- **The project is on schedule and within budget**



Music Education Building Demolition

Description: This project includes documentation, demolition and restoration plans to support demolition of Music Education Building. The project will salvage useable sandstone and leaded glass windows (other building material is not salvageable due to previous renovations), reroute utilities, restore utility services to adjacent buildings and provide landscape restoration and historic interpretive mitigation to the site.

Project Executive: Justin Grussing
A & E Firm: Miller-Dunwidde
Budget: \$510,000
Schedule: Summer 2010

Project Manager: Paul Oelze
Contractor: TBD Construction

- Design complete February 2010
- EAW issued for review/approvals
- Construction start April 2010
- Construction complete June 2010
- **The project is on schedule and within budget**



Science Teaching & Student Services

Description: An innovative, flexible science teaching and learning environment, which will support technology-rich and hands-on, interactive science instruction in addition to providing a consolidated student services center for front-line academic and transactional services that cannot be effectively handled on-line, such as academic counseling and career counseling.

Project Executive: Justin Grussing
A & E Firm: KPF & HGA
Budget: \$72.5M
Schedule: Fall 2010 – Completion

Project Manager: Hines
Contractor: McGough

- Funding is a part of the 2008 State Capital Appropriation and 2009 Capital Budget
- Demolition of the existing building started in January 2009.
- Construction of new building is in progress. The building is fully enclosed and interior construction is underway.
- **Project is within budget and the schedule**



St Paul Utility Building and Electrical Switch Gear (Chilled Water Facility Phase III)

Description: The St Paul electrical switch gear lacks capacity to support the primary electrical services required by the St Paul campus and additional chillers and cooling towers. Building space is needed to continue development of the St Paul chilled water facility; to house additional electrical switch gear, chillers and cooling towers and related mechanical and electrical equipment. Under ground piping is needed to connect this second chilled water plant to the pipe distribution system and additional electrical ductbanks are needed to feed the new electrical switch gear and to distribute electrical service to the St Paul campus. Due to favorable budget additional underground piping and building connections have been added to the project, which extends construction to Spring 2010.

Project Executive: Gary Summerville
A & E Firm: Sebesta Blomberg

Project Manager: Roger Wegner
Contractor: Adolfson & Peterson

Budget: \$17,486,000
Schedule: Fall 2009 - Completion

- Underground piping and electrical ductbank completed
- Building is completed
- Electrical switch gear has been installed
- **Project scope of work is within budget and schedule**



St Paul Chilled Water System – Phase IV – Chiller and Cooling Towers

Description: This project is the 4th phase of a multi-phase plan to upgrade the chilled water and electrical utility infrastructure and delivery systems on the St. Paul Campus. It consists primarily of installing one new 3,000 ton centrifugal chiller, cooling towers with 6,000 tons of capacity and associated pumps, piping and electrical switch gear to operate the new chiller and tower. There is sufficient room within the Fitch Utility Building to house a second 3,000 ton centrifugal chiller when needed to satisfy future campus chilled water needs. The cooling tower has been sized to serve the needs of the future chiller.

Project Executive: Gary Summerville
A & E Firm: Sebesta Blomberg
Budget: \$7,700,000
Schedule: Spring 2010 - Completion

Project Manager: Roger Wegner
Contractor: Adolfson & Peterson

- Chiller is on order and will be delivered and installed in March 2010
- Cooling towers are on order and will be delivered and installed in February 2010
- Electrical switch gear associated with the chiller and towers is on order and will be delivered and installed in March-April 2010
- Pumps, piping, etc. are being installed in the building and will be complete April 2010
- **Project scope of work is within budget and schedule**



Tandem Accelerator Building Demolition

Description: The Tandem Building Demolition Project consists of 2 major components: accelerator machine decommissioning and building demolition / site restoration. The project will decommission and remove the vintage 1965 electrostatic, linear, proton particle accelerator machine housed inside the Tandem Building. The demolition portion includes the work necessary to tear down the Tandem Building and repair the site to a permanent, stable condition.

Project Executive: Justin Grussing

Project Manager: Matt Stringfellow
Wycliffe Waganda

A & E Firm: TKDA

Contractor: TBD

Budget: \$1,340,000

Schedule: Summer 2010

- The accelerator machine decommissioning contract work is complete
- Salvaged parts from the linear accelerator machine have been shipped to other facilities worldwide (shipping costs paid by recipients)
- All items to be salvaged or recycled have been removed from the Tandem Building
- Chemical/radiation abatement work by DEHS is nearing completion
- Asbestos abatement work is about to start
- Building demolition construction documents are nearing completion
- **Project is within budget and the schedule**



Weisman Art Museum Addition

Description: The project includes adding four galleries to the southeast corner of approximately 5,950 gross square feet and studio space to the north of approximately 2,200 gross square feet. Mechanical and electrical modifications are included as well as moving the sidewalk to the north further north to provide space for the studio addition.

Project Executive: Gary Summerville

Project Manager: LaSalle Group

A & E Firm: Gehry Partners & HGA

Contractor: J E Dunn

Budget: \$14,155,000

Schedule: Fall 2011

- Schematic Design approved May 2009
- Design Development in process
- **Project is within budget and the schedule**

Duluth Campus



Civil Engineering

Description: The construction is approximately 35,000 gross square feet and wraps around the northwest and northeast sides of the Voss-Kovach Hall and is being designed to achieve LEED Silver certification.

Project Executive: Gary Summerville **Project Manager:** John Rashid
A & E Firm: Stanius Johnson **Contractor:** Stahl Construction
Budget: \$15,000,000
Schedule: January 2010 - Completion

- Funded as a part of the 2008 State Appropriation & 2009 Capital Budget
- Building code office has issued a Temporary Certificate of Occupancy January 2010
- Certificate of Substantial Completion issued January 7, 2010
- Furniture is installed
- Equipment for the building is being ordered
- UMD is working through a couple construction quality related issues with the general contractor before occupancy

The project is within budget and on schedule

Morris Campus

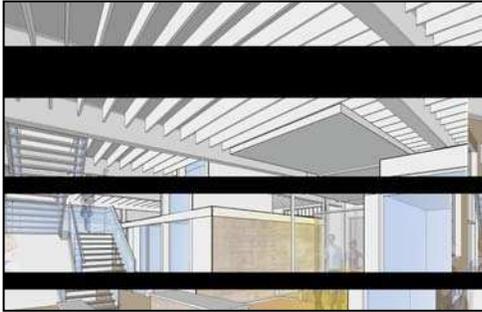


Bio-Mass / District Heating Addition

Description: Through the gasification of corn Stover, the Morris campus is seeking to expand its central heat plant capacity, as well as research the effectiveness of using locally grown biomass, to supplant their reliability on fossil fuels. This project is research in nature. The University hopes to demonstrate the opportunities for the use of biomass as a readily available and cost effective alternative for heating in rural community buildings such as hospitals, schools, clinics and businesses.

Project Executive: Gary Summerville **Project Manager:** Oliver Real Estate
A & E Firm: HGA **Contractor:** Knutson Construction
Budget: \$8,956,000
Schedule: Summer 08 – Completion

- System testing and commissioning in process
- The research nature of this project required skills beyond that required of a typical construction project
- **The project construction has been completed, however, the facility has not achieved operations as expected and additional funding will be required to make the facility operational.**



Community Services Building Renovation

Description: The project includes the complete interior architectural, mechanical, and electrical renovation of the Community Services Building. The building consists of approximately 18,000 gross square feet and will provide approximately 11,800 square feet of space assignable to programmatic functions.

Project Executive:	Gary Summerville	Project Manager:	Paul Oelze
A & E Firm:	Meyer, Scherer & Rockcastle	Contractor:	J E Dunn
Budget:	\$7,500,000		
Schedule:	Fall 2010 - Completion		

- Funded as a part of the 2008 State Appropriation & 2009 Capital Budget
- Construction is in complete.
- **The project is within budget and on schedule**

Wind Energy Conversion System – Turbine Installation, Morris Campus



Description: The project is to install and connect to the grid, two Vestas V82, 1.65 megawatt wind turbines at the West Central Research and Outreach Center (WCROC). These two new turbines are in addition to one existing wind turbine installed in 2005 on this site. First new wind turbine will be used for UM-Morris and any surplus power will be sold to Otter Tail Power company. Second wind turbine's 100% power will be sold to Runestone Electric Association.

Project Executive:	Gary Summerville	Project Manager:	Tanweer Janjua
A & E Firm:	HGA Architects, Inc.	Contractor:	Ryan Companies, US Inc.
Budget:	\$ 7,400,000		
Schedule:	To Be Determined		

- Design Documents are 100% complete.
- Both turbines will now be located at the (WCROC)
- The original financing plan that included Clean Renewable Energy Bonds (CREB Bonds) was not implemented. Alternative financing options are being explored and until the financing for the project is resolved, the project will not move forward.

Crookston Campus

Evergreen Hall, Crookston Campus



Description: Construction of a 53,422 gross square foot two-story, 128-bed apartment style student housing facility that consists of two wings, each with 16 two-bedroom/4-bed units, which are connected with a two-story link. The link includes a first floor classroom/seminar space, recreation and lounge areas, guest studios and two two-bedroom units on the second level. A single story full service kitchen area and gathering/dining space is also included at the northwest end of the north wing. Evergreen Hall will be LEED® certified. The project includes sustainable design features including low flow plumbing fixtures that will decrease water usage by 30%, upgraded windows that will daylight 97% of spaces, NSF-140 Platinum carpet with the highest recycled content in the industry, salvaged cabinet hardware, and integration of green building education into University curriculum. Evergreen Hall makes use of green building materials, such as countertops throughout the facility that feature recycled glass, banana peel fibers, or paper; recycled vinyl and plastic in the flooring; energy-saving lighting; and interior woodwork milled from evergreen and ash trees removed from the construction site. Another unique feature of the building is an innovative interactive classroom.

Project Executive: Gary Summerville

A & E Firm: Michael J Burns,
Moorhead

Budget: \$10,600,000

Schedule: Fall 2009

Project Manager: Tim Norton UMC & Sebesta
Blomberg

Design Builder: Community Contractors, Grand
Forks, ND

- Completion Dates:
 - 8/21/09 –for the building, except for the kitchen area and site work.
 - 10/1/09 –Kitchen Area and site work
- LEED certification application in process
- Project is within budget and the schedule

Research and Outreach Centers

Ash River, Minnesota



NOvA Project Phase I & Phase II

Description: The scope of work consists of two subprojects. Phase I, Road Improvements and Site Preparation, includes the upgrade of approximately 3.5 miles of existing logging road to provide all weather access to the Far Detector Building, clearing and grubbing of the building site and the rock excavation for the Detector Enclosure. Phase II is for construction of the 41,000 GSF Far Detector Building. The building sits over a below grade enclosure (approximately 70 feet wide by 70 feet tall and 350 feet long). The enclosure will be situated approximately 40 feet into the rock and will have cast-in-place concrete floor slab and walls. The Physics Department will install detector equipment for the experiment after substantial completion of the construction portion.

Project Executive: Justin Grussing
Project Architect: Burns & McDonnell

Project Manager: Matt Stringfellow
Construction Adolfson & Peterson /
Manager at Risk: Hoover

Budget: \$45,139,000
Schedule: Winter 2011

Other: All project capital cost funded by The U.S. Department of Energy

- Road work is complete except for final asphalt
- Rock blasting continues for the Far Detector Building
- Concrete work and superstructure for the above ground portion is under way
- **Project is behind schedule due to excavation issues but the project is currently on budget**

North Minneapolis



Urban Research & Outreach Center

Description: The University acquired the Penn Plymouth Shopping Center located at 2001 Plymouth Avenue North in 2008 for rehabilitation to house its first Urban Research and Outreach/Engagement Center to house community/university partnership programs and the UROC staff. The project is the complete renovation of this 21,000 square foot shopping center that was originally constructed in 1976.

Project Executive: Mike Denny &
Gary Summerville
A & E Firm: Urban Design
Perspectives, Mpls
Budget: \$3,700,000
Schedule: Fall 2009

Project Manager: Legacy Management
Company
Contractor: Stahl Construction

- Construction in process
- Substantial completion has been achieved and the building is being occupied.
- **Project is within budget and the schedule**

Northwest Research and Outreach Center, Crookston



Maintenance/Farm Research Operations Center

Description: The current farm operations facility, constructed in 1971, does not accommodate the changes made in crop and animal research and the outreach mission of NWROC. Academic positions have been added; dairy herd and beef feedlots have increased in size; and the number of acres operated to support crop and livestock research has increased. The number of vehicles needed to carry out the NWROC mission has increased and the farm equipment has increased in size. The new facility will be equipped to facilitate the maintenance and operations needs of the NWROC.

Project Executive: Gary Summerville

A & E Firm: Foss Architects,
Moorhead, MN

Budget: \$2,000,000

Schedule: Spring 2009 – Substantial Completion

Project Manager: Oliver Real Estate

Contractor: Comstock Construction,
Fergus Falls, MN

- Construction Progress
 - Construction was substantially completed in June 2009
 - Move-in and occupancy occurred over the summer and into the fall 2009
 - Additional exterior concrete apron work is scheduled for June 2010 (one year waiting period due to poor soil around the site)
- **The project was completed within budget and schedule.**

West Central Research and Outreach Center, Morris



Administration Building Addition and Remodeling

Description: The existing Administration Building at the WRCOC constructed in 1972 no longer has the capacity needed for the programs housed in the building. In addition to the WCROC programs, a Regional Extension Center has been integrated into the WCROC facility. The existing building is also in need of upgrading to address a variety of code and deferred maintenance issues. The core of what occurs at the WCROC still lies in animal husbandry, crop production, and horticulture. However, it has embraced environmental and social issues, realized the importance of economics in all program areas, and developed a regional horticultural garden and a new endeavor named the University of Minnesota Renewable Energy Research and Demonstration Center.

Project Executive: Gary Summerville **Project Manager:** Oliver Real Estate
A & E Firm: JLG Architects **Contractor:** JE Dunn
Budget: \$3,945,000
Schedule: Fall 2009 - Completion

- Construction Progress
 - The project is substantially complete
 - The building was occupied on January 4, 2010
 - AgCountry contributed \$160,000 to the project for the purchase of Auditorium furniture, A/V equipment and other amenities
 - A solar chiller and solar hot water alternative
 - energy demonstration was added to the project funded with a \$350,000 2009 appropriation and \$135,000 from the college and WCROC
- **The project is within budget and on schedule.**

Wind to Hydrogen to Ammonia



Description: The University of Minnesota Morris will construct a globally unique research and demonstration facility to foster the development of wind, hydrogen, and other renewable energy sources. To store wind energy, electricity is converted to hydrogen by electrolysis of water and stored in compressed gas cylinders. When demand calls, the hydrogen is burned in an internal combustion engine to run a generator. In addition, the hydrogen will be converted into anhydrous ammonia for use as a fertilizer within the local community. The facility will provide researchers opportunities to measure efficiencies and optimize of anhydrous ammonia fertilizer.

Project Executive:	Gary Summerville	Project Manager:	Oliver Real Estate
A & E Firm:	Sebesta Blomberg	Design/Builder:	Knutson Construction
Budget:	\$3.750,000		

- Schematic plans approved by the Regents
- Project as *initially* planned was significantly over budget (approx. 73%)
- The project has been scaled down to fit the budget
- An alternative project delivery method (Design/Build rather than a Construction Manager at Risk) was explored with a Minnesota based industrial contractor but not utilized, delaying the project 16 months
- The project was restarted in December 2009 on the scaled down re-design to be within budget for substantial completion by year-end 2010 utilizing the original engineering firm of Sebesta Blomberg and the construction manager at risk, Knutson Construction Services.
- Additional information on this is included in the Information Item for the Facilities Committee meeting.
- **The redesigned/scaled down project scope of work is being designed to meet the budget.**

University of Minnesota
Final Review of Capital Projects over \$5 Million
Akerman Hall Hangar & Mechanical Engineering Building Life Safety Renovation,
Twin Cities Campus, Project No. 01-266-09-1477

Policy Summary:

According to Board of Regents Policy *Reservation and Delegation of Authority*, Article I, Section VIII, Subdivision 9, "The Board reserves to itself the authority for a subsequent review of approved capital budget projects with a value greater than \$5,000,000 prior to the award of construction contracts."

Project Summary:

The Akerman Hall hangar will be completely repurposed to provide flexible light industrial research labs, office and collaborative space for the Department of Aerospace Engineering and Mechanics (approximately 7,700 square feet). The project will also include accessibility and code improvements. The hangar door will be replaced with a new aluminum glass curtain wall and energy efficient glazing and upgraded windows which will maintain the historic character.

The driveway outside of the hangar will be replaced with a new concrete pedestrian plaza which will provide an accessible entry from Union Street (approximately 2,000 square feet).

Renovation in the balance of Akerman Hall and Mechanical Engineering will be limited to the addition of fire protection sprinklers and fire alarms (approximately 200,000 square feet).

The project respects the historically significant elements in the building.

Board of Regents Approval Summary:

Capital Budget: FY 2009 Capital Budget and Amendment December 2009
Schematic Plans: December 2009

Project Team:

Design / Builder: M A Mortenson Construction
• Architect sub consultant: BWBR Architects

Project Budget:

Funding Identification	Total
2008 Lab Improvement Appropriation	\$ 570,000
Dept of Aerospace Engr. & Mechanics	\$ 300,000
Institute of Technology	\$ 500,000
Internal Loan (Repaid by Aerospace Engr. & Mech.)	\$ 650,000
2009 HEAPR Appropriation	\$ 3,200,000
Total	\$ 5,220,000

Project Schedule:

Begin Construction: Spring 2010
Substantial Completion: Fall 2010

Consistency of project with approved scope, schedule and budget:

Yes No