AGENDA

1. Real Estate Transactions - Action - K. O'Brien/S. Weinberg (pp. 3-6)
   A. Purchase of 617 S. Broadway, Rochester, Rochester Campus

2. Real Estate Transactions - Review/Action - K. O'Brien/C. Muscoplat/ S. Weinberg/K. Larson (pp. 7-22)
   A. Purchase of 527 Oak Street, Minneapolis, Twin Cities Campus
   B. 40-Year Lease to Dakota Aggregates, LLC Covering 1,722 Acres in Dakota County for Aggregate Mining (UMore Park)

   A. Mayo Garage Renovation – Nuclear Magnetic Resonance Facility Relocation Project, Twin Cities Campus - REVISED
   B. Eastcliff Renovations, Twin Cities Campus
   C. Wind Energy Conservation System Turbine Installation, Morris Campus

   A. Mayo Garage Renovation – Nuclear Magnetic Resonance Facility Relocation Project, Twin Cities Campus
   B. Eastcliff Renovations, Twin Cities Campus

6. Real Estate Transaction - Review - K. O’Brien/S. Weinberg (pp. 53-56)
   A. 20-Year Lease of 1802 18th Street NE, Willmar

7. Capital Budget Amendment - Review - K. O’Brien/M. Perkins/D. Johnson (pp. 57-61)
   A. Learning and Technical Media Laboratory, Twin Cities Campus


10. Information Items - K. O’Brien (pp. 131-132) - REVISED
Facilities Committee

November 11, 2010

Agenda Item: Real Estate Transactions

☐ review  ☐ review/action  ☒ action  ☐ discussion

Presenters: Vice President Kathleen O’Brien
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, recommend approval of the following real estate transaction:

A. Purchase of 617 S. Broadway, Rochester (Rochester Campus)

Outline of Key Points/Policy Issues:

The details of this transaction and its 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.”

The Board of Regents reviewed the purchase of 617 S. Broadway, Rochester, in February, 2010.

President's Recommendation for Action:

The President recommends approval of the following real estate transaction:

A. Purchase of 617 S. Broadway, 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 Avenue 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, adjacent to
the property at 701 Broadway Avenue South purchased by the University on June 25, 2010. 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. In the
interim, the property could be used for surface parking.

4. **Details of Transaction**

The owner of the property is Z’s American Properties, a Limited Liability Partnership in Texas. The
purchase price will be $1,190,000, with a closing to occur on or before December 20, 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 its environmental assessment of the site (soil, soil vapor and groundwater) and will be submitting the property into the Minnesota Pollution Control Agency’s (MPCA) Voluntary Investigation and Cleanup (VIC) and Petroleum Brownfields (PB) programs because of detected petroleum impacts and shallow soil impacts including VOCs and PAHs. The University will be requesting a No Association Determination Letter and a No Action Letter from the MPCA’s VIC program and a General Liability Letter and Closure Letter from its PB program.

7. Source of Funding

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

8. Recommendations

The above-described real estate transaction is appropriate:

[Signature] 10/29/10

Richard H. Pfutzenreuter III, Vice President and CFO

[Signature] 10/29/10

Stephen Lehmkuhle, Chancellor, Rochester Campus

[Signature] 10/29/10

Kathleen O’Brien, Vice President for University Services
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
Real Estate Office

Purchase of 617 Broadway Ave S
Rochester

- Property to be purchased
- University owned property
- University leased property
- Rochester Downtown Master Plan Research and Education District
Facilities Committee  
November 11, 2010

Agenda Item: Real Estate Transactions

☑ review/action  ☐ action  ☐ discussion  

Presenters:  
Vice President Kathleen O’Brien  
Charles Muscoplat, President, UMore Development LLC  
Susan Carlson Weinberg, Director of Real Estate  
Kenneth A. Larson, Associate General Counsel  

Purpose:

☑ 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 527 Oak Street SE, Minneapolis (Twin Cities Campus)

B. Forty-Year Lease to Dakota Aggregates, LLC for Phased Aggregate Mining of 1,722 Acres, Dakota County (UMore Park)

Outline of Key Points/Policy Issues:

The details of these 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.”

UMore Development LLC’s Recommendation for Action:

The Board of Governors of the UMore Development LLC recommends, following review of the proposed leasing agreement and supporting documentation at an October 19, 2010 meeting, that the University of Minnesota Board of Regents authorizes appropriate University administrative officers to execute a Mining Lease Agreement between the Regents of the University of Minnesota and Dakota Aggregates, LLC for aggregate mining and ancillary
operations on approximately 1,722 acres of the UMore Park property located in the City of Rosemount and Empire Township, Dakota County, Minnesota, that is substantially in accordance with the terms described in the Summary of Selected Terms dated October 14, 2010, and subject to the provision of an opinion from an independent auditor that confirms the financial soundness of Dakota Aggregates, LLC.

**President's Recommendation for Action:**

The President recommends approval of the following real estate transaction

A. Purchase of 527 Oak Street SE, Minneapolis (Twin Cities Campus)

B. Forty-Year Lease to Dakota Aggregates, LLC for Phased Aggregate Mining of 1,722 Acres, Dakota County (UMore Park)
PURCHASE OF 527 OAK STREET SE, MINNEAPOLIS
(TWINS CITIES CAMPUS)

1. Recommended Action

The President recommends that the appropriate administrative officers receive authorization to execute the appropriate documents providing for the purchase of 527 Oak Street SE, Minneapolis.

2. Location and Description of the Property

The property is located in the block south of the University’s Oak Street Parking Ramp, west of the block purchased from Dinnaken Properties’ Ontario Street LLC in 2004, and east of the Superblock (Territorial, Frontier, Centennial and Pioneer Halls). The property consists of 0.114 acre improved with a 2-story 4-unit apartment building constructed in 1906.

The legal description of the property is:

South 49.5 feet of the West 100 feet of Lot 10, Block 11 of Baker’s Addition to St. Anthony, Hennepin County, Minnesota

3. Basis for Request

The acquisition of this property provides an opportunity to serve a number of potential University needs in conjunction with future expansion of the Twin Cities-Minneapolis Campus. The subject property could be used in the short term for surface parking and/or a staging area for a construction project in the area.

The current building on the subject property has reached the end of its useful life. The University will demolish the building after its purchase of the property.

4. Details of Transaction

The University would pay $525,000 in cash for the property. Closing would occur on or before December 6, 2010. The seller is Joanne Finstad-Good.

5. Use of the Property

No specific long-term use of the property has been determined. The University’s Minneapolis-East Bank Campus is landlocked and additional land needed for expansion is very difficult and costly to acquire. This purchase is viewed as an opportunity purchase, providing land for University needs as they arise in the future. The existing
building will be demolished after acquisition of the property. In the short term, the property could be used for surface parking and/or a staging area for a construction project in the area.

6. Environmental

The University will be completing a Phase I environmental assessment and a Hazardous Materials and Asbestos surveys prior to closing to confirm the property is in acceptable environmental condition.

7. Source of Funding

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

8. Recommendations

The above-described real estate transaction is appropriate:

Richard H. Pfuntenreuter II, Vice President and CFO

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

Kathleen O'Brien, Vice President for University Services
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
MetroGIS, MNDNR, MNDOT

Purchase of 527 Oak Street SE
Minneapolis

Real Estate Office
University of Minnesota
FORTY-YEAR LEASE TO DAKOTA AGGREGATES, LLC, FOR PHASED AGGREGATE MINING OF 1,722 ACRES, DAKOTA COUNTY (UMORE PARK)

1. Recommended Action

The President recommends that the appropriate administrative officers receive authorization to execute a forty-year lease for phased aggregate mining of 1,722 acres at UMore Park to Dakota Aggregates, LLC.

2. Description of Leased Premises

The leased premises will consist of 1,722 acres in Rosemount and Empire Township, Dakota County, described as follows:

Part of Section 3 and all of Section 4, Township 114 North, Range 19 West; and
Part of Section 28, all of Section 33, and part of Section 34, Township 115 North, Range 19 West;
All in Dakota County, Minnesota.

The leased premises generally cover the westerly 1/3 of the UMore Park property. The Environmental Impact Statement (EIS) for UMore Park Sand and Gravel Resources indicates that the aggregate plant and ancillary facilities will be located in Section 34 abutting County Road 46. However, the processing plant, to be located on an area of approximately 200 acres, may be relocated to a part of the leased premises in Empire Township mutually agreeable to the University and the lessee.

Should the University decide to open other parts of UMore Park to aggregate mining in the future, Dakota Aggregates will have the right of first refusal to lease those areas for aggregate mining.

3. Basis for Request

The University will lease the 1,722 acres to Dakota Aggregates, LLC, which is owned by Cemstone Products Company and Ames Construction, both Minnesota companies, for mining, processing and stockpiling aggregate, sand, gravel and other materials in phases over a period of approximately 40 years. The aggregate mining phasing will reflect an Operations Plan approved by the University that is annually reviewed by the University, with the potential for more than one phase to be actively mined at any one time. At no point, however, will mining and reclamation activities extend to more than 160 acres. At the conclusion of each mining phase, the lessee is obligated to reclaim that mined area and following reclamation, the area is released from the lease and returned to the University. The University will be able to continue to use portions of the leased premises that are not being actively mined, reclaimed, or in use for lessee’s processing operations.
4. Details of Transaction

The subject lease will commence on the earliest of the following dates: (i) the date the Lessee begins mining operations; (ii) the date that the Lessee begins to install or construct improvements on the leased premises; or (iii) the date the Lessee receives its mining permits from either the City of Rosemount or Empire Township, and its processing plant permits from the City of Rosemount or Empire Township (if Lessee agrees to locate its processing plant in Empire Township). Lessee’s applications for the mining and processing plant permits must be submitted within 60 days of Board of Regents approval of the resolution determining the adequacy of the EIS for the mining project and the date/s the City of Rosemount and Empire Township amend their zoning ordinances to permit sand and gravel mining. Those amendments are under discussion but have not yet been presented for consideration by the City Council or Town Board. If the commencement date does not occur by the later of December, 31, 2012 or one year following the adequacy determination of the final EIS, then either the University or the lessee may terminate the lease. The lessee can delay termination by the University up to two years by paying $25,000 per month.

The lease will specify that the lessee is responsible for obtaining and complying with all local permits. The lease will permit the lessee to sublet portions of the area where the processing plant will be located to businesses that will consume materials mined at UMore Park.

The attached Summary of Selected Terms, Mining Lease Agreement, UMore Park, October 14, 2010, provides more detail on the terms and conditions of the subject aggregate mining lease, as well as a map showing the location of the 1,722-acre leased premises.

5. Lease Payments to the University

The lease requires the following payments by the Lessee:

**Initial Advanced Minimum Royalty** (total of $5 million) at certain times between execution of the lease and the lease commencement date.

**Annual Minimum Royalty**, after the first Lease Year, in the amounts of $425,000 in the second Lease Year; $600,000 in the third Lease Year; $700,000 in the fourth Lease Year, $800,000 in the fifth Lease Year; and thereafter the greater of $632,000 in the sixth Lease Year (increasing by 2.5 per year thereafter) or 55% of the average annual Production Royalty paid the immediately preceding five Lease Years.

**Production Royalty** each month for materials transported off the leased premises or used by the lessee on the leased premises to produce concrete, asphalt and similar products (excluding materials used to construct roads or other improvements on the leased premises) based on the type and tonnage of material transported or removed. The Production Royalty for each type of material is periodically adjusted to reflect changes in the Producer Price Index. The lessee receives a production royalty credit for any payments made by lessee to delay termination date, certain
reimbursements to the University described in the lease, and up to $300,000 for costs incurred for surveys and preparation of operations and plans.

Unrestricted Scholarship Fund Contribution of $.02 for each ton of material that lessee transports off the leased premises or uses on the premises to produce concrete, asphalt and similar products for students studying or researching geology, civil engineering, land use planning and similar and related disciplines.

Reimbursement to the University of certain out-of-pocket expenses incurred by the University after May 1, 2009 relating to the EIS and environmental, permit and other reviews in connection with the mining project.

All payments are guaranteed by Cemstone Products Company and Ames Construction.

6. Use of Funds Received by the University

All net proceeds, revenues, and income earned after deducting costs incurred by the University to manage and develop UMore Park will be deposited into the Legacy Fund previously established by the Board of Regents.

7. Recommendations

The above-described real estate transaction is appropriate:

Richard H. Pfutzenreuter, III, Vice President and CFO

Robert J. Jones, Senior Vice President for System Academic Administration

Kathleen O’Brien, Vice President for University Services
This document briefly summarizes certain provisions of the proposed Mining Lease Agreement draft dated October 7, 2010 (the “Lease”), between Regents of the University of Minnesota, a Minnesota constitutional corporation (“University”), and Dakota Aggregates, LLC, a Minnesota limited liability company (“Lessee”). This summary is furnished for convenience, and the Lease itself should be examined for a complete statement of its terms, especially as to provisions of particular importance or interest. Unless the context clearly indicates the contrary, capitalized terms used but not defined in this summary have the meanings assigned to them in the Lease.

<table>
<thead>
<tr>
<th>Lease Terms</th>
<th>Lease Section</th>
<th>Brief Summary</th>
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<tbody>
<tr>
<td>1. Lessor</td>
<td>Intro.</td>
<td>Regents of the University of Minnesota, a Minnesota constitutional corporation.</td>
</tr>
<tr>
<td>4. Premises</td>
<td>Recitals</td>
<td>Approximately 1,722 acres of University’s UMore Park property located in the City of Rosemount and Empire Township, Dakota County, Minnesota, and described as the “EIS Study Area” on Exhibit A attached hereto.</td>
</tr>
<tr>
<td>5. Commencement Date</td>
<td>Art. II; 4.19</td>
<td>The earliest of the following dates: (i) the date that Lessee begins mining operations on the Premises; (ii) the date that Lessee begins to install or construct any improvements on the Premises; or (iii) the date that (A) Lessee receives its mining permits from either Rosemount or Empire Township and (B) Lessee receives its processing plant permits from Rosemount or, if Lessee agrees to locate its processing plant in Empire Township, from Empire Township. Lessee must apply for mining and processing plant permits from Rosemount and Empire Township within 60 days after the later of the date University adopts a resolution determining the adequacy of the Environmental Impact Statement for the mining project (the “EIS”) and the date that Rosemount and Empire Township, respectively, amend their zoning ordinances to permit sand and gravel mining.</td>
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<tr>
<td>6. Term</td>
<td>Art. II</td>
<td>Approximately 40 years, beginning on the Commencement Date and ending on the first June 30th to occur after the 40th anniversary of the Commencement Date.</td>
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</table>
7. **Termination Right**  
**Art. II**
If the Commencement Date does not occur by December 31, 2012 (or, if later, by one year after the date that University makes a declaration determining the adequacy of the final EIS), then University or Lessee may terminate the Lease. Lessee may delay the December 31, 2012 termination date until as late as December 31, 2014, by paying to University $25,000 for each month of delay. In addition, Lessee and University may terminate the Lease with respect to limited areas of the Premises if either Rosemount or Empire Township does not issue mining permits by December 31, 2014, or if Rosemount does not issue processing plant permits by December 31, 2014.

8. **Additional Option to Terminate**  
**9.6**
Subject to certain conditions (including without limitation payment of a termination fee equal to up to 18 months of Annual Minimum Royalty), Lessee may terminate the Lease if (i) one of Lessee’s permits is not renewed, (ii) one of Lessee’s permits is suspended for more than 90 days, (iii) one of Lessee’s permits is revoked, (iv) Lessee determines that the conditions imposed by a governmental authority or by the EIS in connection with a permit renewal are not reasonable or are impracticable, or (v) Lessee mines all or substantially all of the Materials on the Premises (if Lessee terminates because the Materials have been mined, Lessee is not obligated to pay a termination fee).

9. **Permitted Use**  
**Art. I**
Lessee may use the Premises for mining, processing and stockpiling aggregate, sand, gravel and other materials (“Materials”). Lessee has no obligation to mine Materials from the Premises.

10. **Initial Advanced Minimum Royalty**  
**3.3(a)**
Lessee must pay to University an Initial Advanced Minimum Royalty of up to $5,000,000 as follows:  
- $50,000 prior to the date of the Lease (this has been paid);  
- $450,000 on the date of the Lease;  
- $500,000 within 30 days after Rosemount amends its zoning ordinance to permit sand and gravel mining;  
- $500,000 within 30 days after Empire Township amends its zoning ordinance to permit sand and gravel mining;  
- $1,150,000 within 30 days after Rosemount issues a permit to Lessee for mining, crushing and washing of aggregates;  
- $1,150,000 within 30 days after Empire Township issues a permit to Lessee for mining, crushing and washing of aggregates; and  
- $1,200,000 on the Commencement Date.

11. **Annual Minimum Royalty**  
**3.3(b)**
Each Lease Year, Lessee must pay to University an Annual Minimum Royalty. Lessee owes Annual Minimum Royalty, however, only to the extent that Lessee’s Production Royalty payments during a given Lease Year are less than the Annual Minimum Royalty due for that Lease Year. For the first five Lease Years, the Annual Minimum Royalty is as follows:  
(i) zero in the first Lease Year; (ii) $425,000 in the second
Lease Year; (iii) $600,000 in the third Lease Year; (iv) $700,000 in the fourth Lease Year; and (v) $800,000 in the fifth Lease Year. Thereafter, Annual Minimum Royalty equals the greater of (a) a Floor Amount specified in the Lease, and (b) 55% of the average annual Production Royalty paid in the immediately preceding five Lease Years (not including the first Lease Year). The Floor Amount starts at $632,000 in the sixth Lease Year and increases by 2.5% per year thereafter, except that the Floor Amount is zero in the last five Lease Years and zero in certain other Lease Years when metro-area sand, gravel and aggregate production drops by more than 15%. In any year in which the Floor Amount is zero, the Annual Minimum Royalty could also be zero but only if Lessee has not been mining at the Premises for several years. In the final three Lease Years, the Annual Minimum Royalty is reduced by a yet-to-be-agreed-upon percentage. If the market for sand and gravel in Dakota County declines by more than 50% in a Lease Year, Lessee and University must meet and discuss whether there should be an adjustment in the Annual Minimum Royalty.

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<th>12. Production Royalty</th>
<th>3.1, 3.2</th>
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<td>With certain exceptions, Lessee pays a Production Royalty each month Lessee transports Materials off the Premises or uses Materials on the Premises to produce concrete, asphalt and similar products. The amount of the Production Royalty is based on the type of Material involved (different Materials have different royalty rates) and the tonnage of Material transported off the Premises or used in production on the Premises. The royalty rates for the Materials are periodically adjusted throughout the Lease Term based on changes in certain producer price indexes. Lessee does not owe a Production Royalty for Materials used to construct roads and other improvements on the Premises.</td>
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<th>13. Credits Against Production Royalty</th>
<th>Art. II, Art. III</th>
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<td>Lessee receives various credits or offsets against its obligation to pay Production Royalty, including credits for the following:</td>
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<td>- $25,000 payments made to delay the termination date (see Item 7 above), subject to limitations on the timing of application of the credit;</td>
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<td>- Reimbursements paid to University as described in Item 15 below, subject to limitations on the timing of application of the credit;</td>
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<td>- Up to $300,000 of the costs incurred by the Guarantors to obtain surveys of the Premises and certain adjacent property and to prepare the operations and other plans for the project, subject to limitations on the timing of application of the credit; and</td>
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<td>- Annual Minimum Royalty, to the extent Annual Minimum Royalty payments in a given Lease Year exceeds Production Royalty payments in that Lease Year.</td>
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<td><strong>14. Contribution to Scholarship Fund</strong></td>
<td>3.7</td>
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<td><strong>15. Reimbursements</strong></td>
<td>3.4</td>
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<td><strong>16. Audit Rights</strong></td>
<td>4.12</td>
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<td><strong>17. Imported Products</strong></td>
<td>3.2</td>
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<td><strong>18. Taxes</strong></td>
<td>8.1</td>
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<td><strong>19. Conduct of Mining Operations</strong></td>
<td>4.1; 4.2</td>
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<td><strong>20. Reserved Rights</strong></td>
<td>4.2</td>
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<tr>
<td><strong>21. Improvements</strong></td>
<td>4.3</td>
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plants, and bagging plants, and related buildings and improvements. The exact location of the Plant Area will be determined later, but the Plant Area must be located somewhere within an agreed upon “potential plant area.” The Plant Area need not be a contiguous area. Lessee may also construct roads, pipelines, utility lines, landscaping, screening, buffering and other improvements necessary for its mining or plant operations. Lessee must obtain University’s consent before constructing or altering any improvements, but University may not unreasonably withhold its consent and improvements are deemed approved to the extent they are consistent with improvements shown in Lessee’s Operations Plan. Lessee must upgrade to a 10-ton design standard a portion of Akron Avenue, including certain intersection improvements.

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<td><strong>22. Public Roadway Improvements</strong></td>
<td>4.17</td>
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<tr>
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<td>Lessee must pay for all improvements and upgrades to public streets, roads and highways (including paving and construction of turning lanes and intersection improvements) required by any governmental authority in Lessee’s permits or under applicable laws. University may not request that any government authority require such improvements or upgrades, except for certain upgrades and improvements specified in the Lease.</td>
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<td><strong>23. Maintenance and Repair</strong></td>
<td>4.5; 4.16</td>
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<td>Lessee must maintain, repair and, when necessary, replace all of its improvements, all areas that are being actively mined or reclaimed, the Plant Area, and certain University roads that Lessee will be using in connection with its operations. Lessee must repair any damage that Lessee causes to University’s roads or other improvements.</td>
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<td><strong>24. Permits; Laws</strong></td>
<td>4.4; 4.9</td>
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<td>Lessee must obtain all permits and other approvals necessary or appropriate for its operations on the Premises and must comply with the same. Lessee must comply with applicable laws and with all requirements in the EIS and in any contingency plan approved by the Minnesota Pollution Control Agency.</td>
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<td><strong>25. Community Relations</strong></td>
<td>4.18</td>
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<td>Subject to certain limitations, Lessee must use good faith efforts to address comments and complaints regarding Lessee’s operations on the Premises received from members of surrounding communities.</td>
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<td><strong>26. Site Security</strong></td>
<td>4.19</td>
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<td>Lessee must monitor and secure the plants, Plant Area and areas of active mining and reclamation activity.</td>
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<td><strong>27. Sustainability</strong></td>
<td>4.20</td>
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<td>Subject to certain limitations, Lessee must use commercially reasonable efforts to cost-effectively minimize the amount and effect of carbon dioxide produced as a result of its operations on the Premises.</td>
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<td><strong>28. Assignment and Subletting</strong></td>
<td>10.1</td>
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<td>Without University’s prior consent, (i) Lessee may not assign, sublease or otherwise transfer its interest in the Lease or the Premises, (ii) no more than 25% of the ownership interests in Lessee or any Guarantor may be transferred and (iii) neither</td>
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</tbody>
</table>
Lessee nor any Guarantor may transfer all or substantially all of its assets. Subject to certain conditions, however, (a) Lessee may sublease portions of the Plant Area to certain affiliates without University’s consent; (b) Lessee may sublease portions of the Plant Area to users of the Materials under short-term subleases for no rent without University’s consent; (c) certain transfers of ownership interests do not require University’s consent; (d) University may not withhold its consent to other transfers of ownership interests, or to transfers of all or substantially all of Lessee’s or any Guarantor’s assets, if the transferee demonstrates a commitment to continue mining operations under the Lease, the transferee has sufficient net worth as demonstrated by an auditor’s opinion meeting the criteria set forth in the Lease, and the transferee has sufficient experience in the gravel mining industry or will maintain a management team with such experience; and (e) University may not withhold its consent to an assignment of the Lease if the assignee demonstrates a commitment to continue mining operations under the Lease, the assignee has sufficient net worth as demonstrated by an auditor’s opinion meeting the criteria set forth in the Lease, the assignee has sufficient experience in the gravel mining industry or will maintain a management team with such experience, the assignee assumes all of Lessee’s obligations under the Lease, and the principals of the assignee guarantee the assignee’s obligations under the Lease (or, if the assignee is one of the Guarantors, the other Guarantor meets a minimum net worth test).

29. **Insurance**  
   *Art. VII*  
   Lessee must maintain property, liability, automobile, workers’ compensation, employer’s liability and pollution liability insurance as described in the Lease.

30. **Casuality**  
   *10.4*  
   If Lessee’s improvements are damaged by fire or other casualty, Lessee must repair the damage and may not terminate the Lease and there is no abatement of amounts due under the Lease.

31. **Hazardous Materials**  
   *6.3; 6.4; Exhibit E; Exhibit F*  
   University is obligated to remediate existing environmental conditions as described in the Lease. If, however, University determines that it is not cost effective to perform such remediation, and if failure to perform such remediation will not materially and adversely affect Lessee’s mining and reclamation activities on a substantial portion of the remainder of the Premises, University may terminate the Lease with respect to the affected portion of the Premises without performing such remediation. University has broader termination rights with respect to the portion of the Premises impacted by an existing Metropolitan Council sanitary sewer interceptor pipeline, and Lessee and University agree to share in some of the costs of removing and disposing of the pipeline if University decides to proceed with removal. Lessee must comply with certain procedures described in the Lease in connection with the use or release of Hazardous Substances on
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>32.</td>
<td>Leasehold Mortgage</td>
<td>10.20</td>
<td>Lessee may mortgage its leasehold interest in the Lease as security for indebtedness obtained to finance its operations on the Premises with University’s prior consent, which University may not unreasonably withhold. University will not subordinate its ownership interest in the Premises to any leasehold mortgage.</td>
</tr>
<tr>
<td>33.</td>
<td>Events of Default</td>
<td>9.1</td>
<td>Events of Default under the Lease include without limitation Lessee’s failure to pay amounts due under the Lease, Lessee’s assignment or sublease in violation of the Lease, Lessee’s underpayment of Production Royalty by more than 5% in three out of ten years, Lessee’s breach of a Lease covenant beyond applicable notice and cure periods, and Lessee’s or any Guarantor’s insolvency or bankruptcy.</td>
</tr>
<tr>
<td>34.</td>
<td>Remedies</td>
<td>9.2</td>
<td>University’s remedies after an Event of Default include without limitation the right to cure the applicable default and charge the cost of curing (plus an administrative fee and interest) back to Lessee, the right to seek monetary damages, the right to seek injunctive relief or specific performance, and, in the case of certain specified “Material Defaults,” the right to terminate the Lease, terminate Lessee’s right of possession, and/or accelerate two years of Annual Minimum Royalty payments.</td>
</tr>
<tr>
<td>35.</td>
<td>Reclamation Obligations</td>
<td>4.10</td>
<td>After completing its mining operations in an area of the Premises, Lessee must reclaim the area as required by the permits, applicable laws, the EIS, and Lessee’s Operations Plan.</td>
</tr>
<tr>
<td>36.</td>
<td>Restoration Obligations</td>
<td>9.5</td>
<td>Upon the expiration or earlier termination of the Lease, Lessee must remove its plants, buildings, equipment and other property from the Premises and restore the Premises to the condition that existed prior to Lessee’s construction or installation of the same. Lessee has 18 months after the end of the Lease Term to remove its plants, except such removal period is reduced to six months (not including December, January or February) if the Lease is terminated because of Lessee’s Material Default.</td>
</tr>
<tr>
<td>37.</td>
<td>Removal of Stockpiles</td>
<td>9.5</td>
<td>Lessee has 18 months after the end of the Lease Term to remove Materials stockpiled on the Premises. Lessee must pay the Production Royalty due for such stockpiled Materials prior to removing the same.</td>
</tr>
<tr>
<td>38.</td>
<td>Guaranty</td>
<td>10.21; Exhibit I</td>
<td>Cemstone and Ames must guarantee Lessee’s obligations under the Lease pursuant to a guaranty agreement in the form attached to the Lease.</td>
</tr>
<tr>
<td>39.</td>
<td>Right of First Refusal</td>
<td>10.22</td>
<td>University grants to Lessee a right of first refusal to mine sand and gravel from the remainder of the UMore Park property during the Lease Term.</td>
</tr>
</tbody>
</table>
Facilities Committee

November 11, 2010

Agenda Item: Schematic Plans - REVISED

☐ review ☒ review/action ☐ action ☐ discussion

Presenters: [Vice President Kathleen O'Brien]
Senior Vice President Frank Cerra
Chancellor Jacqueline Johnson
Vice Chancellor Lowell Rasmussen
Associate Vice President Michael Perkins
Lyndel King, Director, Weisman Art Museum
Richard Johnson, Director, Biomedical Facilities Program

Purpose:

☐ policy ☐ background/context ☒ oversight ☐ strategic positioning

In accordance with Board of Regents Policy: Reservation and Delegation of Authority, and consistent with current practice for reviewing the design of major capital projects or review of the revised plans and funding changes for the following projects:

a. Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project – Twin Cities Campus - REVISED
b. Eastcliff Renovations – Twin Cities Campus
c. Wind Energy Conservation System Turbine Installation – Morris Campus

Outline of Key Points/Policy Issues:

Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project – Twin Cities Campus

This project is to renovate and relocate the Department of Biochemistry, Molecular Biology and Biophysics Nuclear Magnetic Resonance Facility from the first floor of Nils Hasselmo Hall to a remodeled Mayo Parking Garage. The primary motivation for such relocation is the operational continuity of the NMR facility and its research during the Central Corridor Light Rail construction and operation. The attached project data sheet addresses the basis for the request, project scope, pre-design cost estimate and schedule.

Eastcliff Renovations – Twin Cities Campus

These projects will address accessibility issues and facility deficiencies throughout the property. The projects are designed to be consistent with State Historic Preservation Office requirements and subject to their pending final approval. The project work is timed with the presidential transition so that the impact to the residents as well as the event schedule is minimized.

The projects are in conformance with the October 1997 Eastcliff Master Plan prepared by Miller Dunwiddie and the December 2000 Eastcliff Landscape Master Plan prepared by Damon Farber Associates.
Wind Energy Conservation System Turbine Installation – Morris Campus

The scope and funding for this project has changed since the Board of Regents originally reviewed the initial version of this project in October of 2009. The current scope of this project calls for one turbine versus the two turbines originally planned and in addition reduces funding from the original $7.4 million to our current request of $4.395 million.

Background Information:

Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project – Twin Cities Campus

The Central Corridor Light Rail Transit construction near NHH is scheduled to begin March 2012. Construction vibration and electromagnetic interference will disrupt NMR research. In order to mitigate these issues, we must begin construction immediately. Therefore, Schematic Design review and capital budget amendment approval for this project are being requested at this time.

Eastcliff Renovations – Twin Cities Campus

These projects will address accessibility issues and facility deficiencies throughout the property. The projects are designed to be consistent with State Historic Preservation Office requirements and subject to their pending final approval. The project work is timed with the presidential transition so that the impact to the residents as well as the event schedule is minimized.

Wind Energy Conservation System Turbine Installation – Morris Campus

The project presented in 2009 was for two turbines, the second turbine will not be implemented at this time. The primary source of the funding has been changed from CREB Bonds to an internal loan for the one turbine, project costs have been reduced accordingly from $7.4M to $4.395M.

President's Recommendation for Action:

The President recommends approval of schematic plans for the projects listed below and of the appropriate administrative officers proceeding with the authorization of contracts for the implementation and construction of these projects, subject to approval of the project as part of the annual capital budget or as a capital budget amendment:

- Mayo Garage Renovation –Nuclear Magnetic Resonance Facility Relocation Project for Twin Cities Campus
- Wind Energy Conservation System Turbine Installation, Morris Campus

The Eastcliff Technical Advisory Committee recommends approval of schematic plans for the Eastcliff Renovations, Twin Cities Campus, and of the appropriate administrative officers proceeding with the authorization of contracts for the implementation and construction, subject to approval of the project as part of the annual capital budget or as a capital budget amendment.
1. Basis for Request:

The Nuclear Magnetic Resonance (NMR) facility in the Department of Biochemistry, Molecular Biology and Biophysics is a facility whose goal is to make state-of-the-art instrumental resources available to researchers, providing a venue for them to pursue their projects and develop their experience in NMR methods. The resident expertise in the facility is available to facilitate NMR efforts and contribute to the scientific research efforts of users in the development of strategies for data collection and analysis. The application of NMR to structural biology employs some of the most complex and expensive instruments used in biological research.

The Nils Hasselmo Hall (NHH) NMR facility supports $110 million in grant funding from 160 researchers across 22 University departments as well as undergraduate and graduate teaching and workshops. The cutting edge research conducted in this facility has advanced discoveries and treatments in the areas of cancer, AIDS, heart disease, muscular dystrophy, paralysis, diabetes, stroke, infectious disease, bone disease, and Alzheimer’s. The facility also supports activities from the region through workshops/laboratory courses for graduate & undergraduate students, industry service samples, and consulting to smaller institutions especially in Duluth, Oklahoma, and Iowa.

A request is made for funds to renovate and relocate the University of Minnesota NMR facility from the first floor of NHH to a remodeled Mayo Parking Garage (MPG). The primary motivation for such relocation is the operational continuity of the NMR facility and its research during the CCLRT construction and operation.

The construction period involved with the LRT project will be May, 2011 through October, 2012. The close proximity of the Washington Avenue LRT project to the current facility (30’-50’) makes using equipment in the facility essentially impossible due to excessive vibration during construction. Indeed, the NMR manufacturers indicate that acceptable limits can be achieved if the facility is located in excess of 300 feet from the LRT line. Within the NMR facility in NHH, experiments run 24 hours per day for sometimes more than 7 straight days, such that “working around the construction” is not a viable option.

In addition to vibration, electromagnetic interference (EMI) as the result of LRT is a great concern to University. Our preliminary research indicates the expected EMI levels caused by the LRT at the existing location in NHH will exceed the acceptable levels required for use of the magnets. The instruments in NHH cannot be quickly relocated if the measures fail or be down while the problems are worked on. On average, it takes 6 months to relocate a single magnet into a space that is already constructed for this purpose.

Expansion space: The current NMR facility in NHH, which is at capacity, houses seven magnets used for solution and solid-state NMR experiments. The space allocated to the facility is limited vertically by the proposed LRT system and bedrock below. Expansion laterally suffers from the same vibration and EMI forces noted previously. New larger
technology magnets require higher vertical access (20+ feet) than is currently available in the facility. Moreover, the current footprint of the NHH facility is at maximum density. As such, the current facility cannot add new technology without eliminating machines. Newer machines cannot be installed due to height restrictions.

New technology acquisition: U of MN NMR specialists are currently traveling to Florida, Georgia and Wisconsin to use the most up-to-date magnets capable of making measurements on larger complexes and assemblies. The current NHH facility makes it impossible to acquire such magnets and therefore drives productive faculty elsewhere for data collection and analysis.

Research and Facility Support Space

Research and facility support that serves the AHC complex has grown significantly since the construction of the Mayo Garage in 1978. The lower level garage location for the receiving dock provides security and direct internal access to facilities throughout the AHC Complex. The renovation of the Mayo Garage to a NMR facility will necessitate the redesign of the receiving dock area.

Department of Environmental Health and Safety (DEHS)

The University of Minnesota’s Department of Environmental Health and Safety (DEHS) maintains three spaces in the Mayo Garage that are used to support research activities at the University, particularly the AHC Complex. The Mayo Garage is centrally located near the majority of DEHS clients and provides for easy access. The renovation of the Mayo Garage to a NMR facility will necessitate the redesign of the DEHS spaces to ensure that the research activities of the University are not disrupted.

2. Scope of Project:

The project consists of complete interior renovation of the current garage. The temporarily shored, structurally unsound upper parking deck will be removed. Construction will provide level floor surfaces and fully isolated (vibration) concrete slabs in the NMR lab.

Completely new building systems (Mechanical, Electrical, Life Safety, etc.) will be constructed to serve the repurposed building.

Improvements to the on-grade plaza have not been fully developed yet but will need to be fully constructed in the construction period of this project.

Summary of the program space:

The research lab will be planned for 12 NMR magnets: 6 magnets to be relocated from NHH; 3 new units have been identified for purchase; 3 future. Total project space is as follows:

- NMR Facility: 13,500 square feet
- Support areas: 25,625 square feet
- Mechanical/Electrical: 25,800 square feet
- Unassigned: 9,100 square feet
3. **Master Plan:**

This project is in compliance with the University of Minnesota Twin Cities Campus Master Plan: 2009. According to the plan, this project is a renovation of an existing building on an established site within the Academic Health Center.

4. **Environmental Issues:**

The University has completed a hazardous material survey of the existing conditions in the building affected by this project. Hazardous material located within the garage is limited to pipe insulation. This material will be removed by the University prior to construction.

5. **Cost Estimate:**

The pre-design cost estimate was established at $13.4 million. Due to changes in scope after pre-design, the estimated cost of this project is $23,546,000. The changes include waterproofing of the Mayo Plaza and purchase of additional magnets.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garage Repurposing</td>
<td>$11,496,000</td>
</tr>
<tr>
<td>Plaza Reconstruction</td>
<td>$2,085,000</td>
</tr>
<tr>
<td>Magnet Replacement</td>
<td>$7,800,000</td>
</tr>
<tr>
<td>Non Construction Cost</td>
<td>$2,165,000</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>$23,546,000</strong></td>
</tr>
</tbody>
</table>

6. **Capital Funding:**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 Laboratory Improvement Program</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>University Funds</td>
<td></td>
</tr>
<tr>
<td>Vice President for Research</td>
<td>$7,000,000</td>
</tr>
<tr>
<td>Parking and Transportation Services</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Repair and Replacement Fund</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Equipment Grants (pending)*</td>
<td>$2,100,000</td>
</tr>
<tr>
<td>2011 State Capital Appropriation **</td>
<td>$9,446,000</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>$23,546,000</strong></td>
</tr>
</tbody>
</table>

*The University anticipates full funding of its grant requests. In the event the grants are not fully funded, the University will issue a loan to be repaid by the appropriate academic department.

**The U of MN / Metropolitan Council LRT agreement recognizes $12.5 million of required capital improvements that are to be jointly requested from the State of Minnesota during the 2011 session to mitigate construction and operation impacts on University research laboratories.

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

Operating and maintenance cost include: Utilities (fuel/heat, electrical, water), maintenance, custodial, waste, grounds, and administrative.

The estimated annual operating and maintenance cost is $150,000.
8. **Time Schedule:**
   Complete Design
   Establish Construction Guaranteed Maximum Price
   Begin construction
   Complete construction

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

   Design Build Contractor: M.A. Mortenson, Minneapolis
   Architect: BWBR Architects, St. Paul
   Mechanical/Electrical Engineer: MEP Associates, Rochester
   Structural Engineer: Erickson Roed, St. Paul

10. **Recommendation:**

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

    [Signatures]

    Richard Pfunzenreiter, Vice President and Chief Financial Officer  11/10/10

    Dr. Frank Cerra, AHC Sr. VP and Dean of Med School  11/10/10

    Kathleen O'Brien, Vice President for University Services  11/10/10
1. **Basis for Request:**

Eastcliff serves as home to the University of Minnesota president and as the ceremonial center of the University. It is one of Minnesota’s great architectural treasures and is on the National Register of Historic Places. Each year, it hosts 150 events and welcomes 7,500 visitors, including public tours, local and international dignitaries, students, faculty, and even a community book club.

Eastcliff (so-named for its location high above the eastern banks of the Mississippi River) was built in 1922 as the private home of lumber baron Edward Brooks and his family. The home was designed by Clarence Johnston, who was the most sought after residential architect for two generations of St. Paul’s upper classes and also served as Minnesota’s State Architect for 30 years. Johnston’s design for the estate included a 10,000 square foot Colonial Revival style home, extensive gardens, walkways and a summer house. When the Brooks Family donated the two-acre estate to the University of Minnesota in 1958, Eastcliff became a public treasure to be enjoyed by the people of Minnesota.

These projects will address accessibility issues and facility deficiencies throughout the property. The projects are designed to be consistent with the State Historic Preservation Office requirements and subject to their pending final approval. The project work is timed with the presidential transition so that the impact to the residents as well as the event schedule is minimized.

**2011-2015 Capital Plan Metrics:**
Protecting public assets and investment by:
- Improving facility conditions, addressing code deficiencies, life safety and accessibility requirements

Recognize current extraordinary financial realities by:
- Honoring projects that have an identified source of payment for debt costs

2. **Scope of Project:**

The Eastcliff Technical Advisory Committee is responsible for guiding the improvement, maintenance, operation, and use of Eastcliff. The committee has approved the following projects:

- **Rehabilitation of the Historic Summer House:**
  Interior restoration of the Summer House includes a seating area, kitchenette, and an accessible shower / accessible restroom / accessible dressing room. The project addresses deficiencies with fire and life safety requirements. Also includes replacement of the deteriorated pool deck incorporating an accessible surface, and replacement of the pool piping and equipment.

- **Renovation for a kitchen in the private residence:**
  Convert existing underutilized space on the 2nd floor to provide a kitchen integral with the private residence. The existing family kitchen on the main floor is integrated into the catering kitchen and serving area and cannot be accessed easily or adequately by family during the many functions held at Eastcliff.

3. **Master Plan**

The projects are in conformance with the *October 1997 Eastcliff Master Plan prepared by Miller Dunwiddie* and the *December 2000 Eastcliff Landscape Master Plan prepared by Damon Farber Associates.*
4. **Environmental Issues:**
Any environmental issues encountered during the renovation work will be addressed as a part of the project.

5. **Cost Estimate:**

<table>
<thead>
<tr>
<th></th>
<th>Summer House</th>
<th>Kitchen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>$380,000</td>
<td>$80,000</td>
</tr>
<tr>
<td>Non-Construction</td>
<td>$70,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$450,000*</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

*Pending analysis and selection of Construction Manager; final cost and capital funding will be communicated at the November Facilities Committee meeting.

6. **Capital Funding:**

<table>
<thead>
<tr>
<th>Funds</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Minnesota</td>
<td>215,000</td>
</tr>
<tr>
<td>Private Donation</td>
<td>335,000</td>
</tr>
<tr>
<td>Total Funding</td>
<td>$550,000</td>
</tr>
</tbody>
</table>

No debt financing is required. The Brooks Family, who donated Eastcliff to the University has provided gifts for the summer house restoration. In addition, Friends of Eastcliff has raised funds over a number of years to support the summer house project. The total from the two entities is $335,000.

7. **Capital Budget Approvals:**
These projects will be approved as an amendment to the 2011 annual Capital Budget in December 2010.

8. **Annual Operating and Maintenance Cost and Source of Revenue:**
There is no change to the projected annual cost to operate and maintain the facility associated with this amendment.

9. **Time Schedule:**

<table>
<thead>
<tr>
<th></th>
<th>Winter 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete construction</td>
<td>Winter 2011</td>
</tr>
<tr>
<td>Occupancy</td>
<td>Spring 2011</td>
</tr>
</tbody>
</table>

10. **Architect / Construction Manager:**
Pending Request for Proposals

11. **Recommendation:**
The above described project scope of work, cost, funding, and schedule is appropriate:

Richard Pfutzenreuter, Vice President and Chief Financial Officer

Kathleen O'Brien, Vice President, University Services
Wind Energy Conservation System Turbine Installation
Morris Campus
Project No. 04-700-09-1372

1. Basis for Request:

Morris seeks one additional wind turbine on its campus for the following reasons:

- The additional turbine, combined with the existing turbine and with a series of other energy initiatives, are key components of our goal to address our carbon footprint as we move toward carbon neutrality and as we seek to become a campus that produces more energy than it consumes.
- Our work toward achieving this goal has to date contributed to our growing national leadership edge and reputation in renewable energy, which in turn promotes student recruitment (as evidenced in a significant increase in new students this fall) and philanthropic giving (which saw a 26% increase FY 09 compared to FY 10, even in the face of an economic downturn and a decrease overall in giving for the University of Minnesota).
- This goal is tied directly to our role as an undergraduate focused, living and learning community and laboratory within the University of Minnesota system—a community in which the curriculum, the co-curriculum, and facilities come together in ways unduplicated at other college campuses across the country—what one of our donors calls a “model community for the future.”
- The new turbine is part of the creative financial toolbox that Morris has created for its energy projects with the Morris’ Energy Service Contract (ESCO).
- The new turbine, along with the biomass plant at Morris, provide new revenue streams to support the ongoing fiscal stability of this campus—allowing us to use natural resources from the region to fill our energy needs. The partnerships we have formed here with other entities in the region and the ground laid for economic development in the new “green” economy” contribute to our role in supporting the University of Minnesota’s land grant mission. Given the decline in state support for higher education, a decline which is not likely to reverse and which has twice the impact on the Morris campus as it does on either Duluth or the Twin Cities, it is essential that we secure new revenue streams as a way of offsetting this decline.

Proceeding with the construction of this project is subject to the approval of the Financing Plan and Debt Issuance, which will be presented to the Board of Regents Finance Committee for action in November 2010.

2. Scope of Project:

The Wind Energy Conversion System (WECS) to be installed is part of an overall master plan for the University of Minnesota – Morris Campus to achieve its goal of developing sustainable and renewable energy generating assets. One new Vestas V82 1.65 MW Wind Turbine Generator (WTG) is proposed to be erected in addition to the existing Vestas V82 1.65 MW WTG which was installed in 2005. This will increase the total wind energy generating assets of the Morris Campus to 3.3 MW.

The electricity generated by these WTGs is intended to provide power directly to the Morris Campus whenever possible, and any excess energy generated will be sold to Otter Tail Power Company in accordance with the final negotiated terms of a Power Purchase Agreement (PPA) between the two parties. The University of Minnesota will realize the benefit of the avoided cost of electricity it would otherwise need to purchase at retail rates for the energy consumed on campus and the revenue from the PPA terms sold to Otter Tail Power Company.
The new WTG will be located approximately 1600-ft due south of the existing WTG at the West Central Research and Outreach Center (WCROC) on adjacent leased land. The WTG nacelle will be mounted on a tubular steel tower with an 80-meter (262-ft) hub height and three blades with an 82-meter (269-ft) rotor diameter.

A pad mounted electrical transformer will be located at the base of the WTG and an electrical collector system will be routed from the transformer at the electrical interconnect location for each WTG.

The WTG tower, nacelle, and blades will be painted white and an obstruction light will be mounted on the top of the nacelle in accordance with FAA, MN PUC, and MNDOT regulations.

3. Master Plan:

This project is in compliance with the Master Plan of University of Minnesota Morris.

4. Environmental Issues:

Utility scale WTGs are tall structures which can potentially interfere with flight aviation and wireless communications signals. The new WTG site has been studied and cleared of any potential FAA flight obstructions and FCC microwave beam interference.

Wind turbines generate audible noise during operation and idling. During operation, blades generate the most significant noise. Noise generated from the generators can be a concern if located within close enough proximity to any residential dwellings. The MN PUC, which has jurisdiction for LWECS projects (projects with a combined nameplate capacity of 5 MW or more), requires a minimum 500-ft setback from residential dwellings. The WTG must also meet Minnesota Noise Standards, Minnesota Rules Chapter 7030, at all residential receivers (homes); Residential noise standard NAC 1, L50 50 dBA during overnight hours.

A wind turbine may shed accumulated ice due to both gravity and centrifugal force of the rotating blades. Ice throw from the turbine blades can be another concern if the WTG is located close to public roads or trails. The MN PUC requires a minimum setback of 250-ft from the edge of public road rights-of-way. Some turbine manufacturers recommend distances as great as 1.5 X (hub height + rotor diameter) from occupied structures and roads to mitigate ice throw hazards. The wind turbine can be remotely deactivated if personnel detect ice accumulation or certain meteorological criteria are programmed in the wind turbine controller.

Wind turbines can impact wildlife and vegetation during the construction and operation of the project. Tubular tower designs provide fewer potential bird nesting sites than open lattice tower designs. The collector lines will be placed underground to minimize the collision risks to birds, bats, and other wildlife. The U.S. Fish & Wildlife Service can provide assistance if deemed necessary in determining if these turbines will have any significant detrimental impacts to birds or bats and their associated migration corridors.

A wind turbine will cast a shadow on surrounding areas. In addition, the rotating blades can cause a strobe effect (i.e. shadow flickers). Shadow casting can be modeled to predict the duration and surface coverage of shadow casting and flickers during the annual solar cycle.
The wind turbine foundation will be placed with the top surface at least four feet below surface elevation. This will minimize any effects to runoff and soil erosion. The structure can also be completely removed down to the top surface of the footing upon decommissioning of the facility and the site grades restored to original condition.

5. Cost Estimate:

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<tbody>
<tr>
<td>Construction Cost</td>
<td>$3,820,000</td>
</tr>
<tr>
<td>Non Construction Cost</td>
<td>$575,000</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>$4,395,000</strong></td>
</tr>
<tr>
<td></td>
<td>($2,664,000/MW)</td>
</tr>
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</table>

These numbers will be confirmed in the performa that HGA has finalized.

6. Capital Funding:

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>U of M Debt (repaid by UMM)</td>
<td>$3,600,000</td>
</tr>
<tr>
<td>UMM Utilities</td>
<td>310,372</td>
</tr>
<tr>
<td>UMM Internal Loan</td>
<td>64,028</td>
</tr>
<tr>
<td>Morris Campus 2009 HEAPR</td>
<td>420,000</td>
</tr>
<tr>
<td><strong>Morris Turbine #2 Total</strong></td>
<td><strong>$4,395,000</strong></td>
</tr>
</tbody>
</table>

7. Capital Budget Approvals:

Funding for this project was approved in June 2008 as a part of the Fiscal year 2009 Capital Budget.

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

These numbers will be confirmed in the performa that HGA has finalized.

9. Time Schedule:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Redesign</td>
<td>October 2010</td>
</tr>
<tr>
<td>Establish Construction</td>
<td>November 2010</td>
</tr>
<tr>
<td>Guaranteed Maximum Price</td>
<td></td>
</tr>
<tr>
<td>Begin construction</td>
<td>November 2010</td>
</tr>
<tr>
<td>Complete construction</td>
<td>May 2011</td>
</tr>
</tbody>
</table>

10. Architect and Construction Manager:

The Construction Manager at Risk project delivery method will be used to delivery this project.

Architect: Hammel Green and Abrahamson, Inc., Minneapolis
Construction Manager at Risk: Ryan Companies US, Inc.
11. Recommendation:

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

Richard Pfutzenreuter, Vice President and Chief Financial Officer

Jacqueline Johnson, Chancellor

Kathleen O'Brien, Vice President for University Services
Facilities Committee

November 11, 2010

Agenda Item: Capital Budget Amendments

☐ review  ☒ review/action  ☐ action  ☐ discussion

Presenters: Vice President Kathleen O’Brien
Senior Vice President Frank Cerra
Associate Vice President Michael Perkins
Lyndel King, Director, Weisman Art Museum
Richard Johnson, Director, Biomedical Facilities Program

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 Amendments:

   a. Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project – Twin Cities Campus
   b. Eastcliff Renovations – Twin Cities Campus

Outline of Key Points/Policy Issues:

Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project – Twin Cities Campus

This project is to renovate and relocate the Department of Biochemistry, Molecular Biology and Biophysics Nuclear Magnetic Resonance Facility from the first floor of Nils Hasselmo Hall (NHH) to a remodeled Mayo Parking Garage. The primary motivation for such relocation is the operational continuity of the NMR facility and its research during the Central Corridor Light Rail construction and operation. The attached project data sheet addresses the basis for the request, project scope, pre-design cost estimate and schedule.

Eastcliff Renovations – Twin Cities Campus

These projects will address accessibility issues and facility deficiencies throughout the property. The projects are designed to be consistent with State Historic Preservation Office requirements and subject to their pending final approval. The project work is timed with the presidential transition so that the impact to the residents as well as the event schedule is minimized.

The projects are in conformance with the October 1997 Eastcliff Master Plan prepared by Miller Dunwiddie and the December 2000 Eastcliff Landscape Master Plan prepared by Damon Farber Associates.
Background Information:

Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project – Twin Cities Campus

The Central Corridor Light Rail Transit construction near NHH is scheduled to begin March 2012. Construction vibration and electromagnetic interference will disrupt NMR research. In order to mitigate these issues, we must begin construction immediately. Therefore, Schematic Design review and capital budget amendment approval for this project are being requested at this time.

Eastcliff Renovations – Twin Cities Campus

These projects will address accessibility issues and facility deficiencies throughout the property. The projects are designed to be consistent with State Historic Preservation Office requirements and subject to their pending final approval. The project work is timed with the presidential transition so that the impact to the residents as well as the event schedule is minimized.

President's Recommendation for Action:

The President recommends approval of the following Capital Budget Amendment for the Mayo Garage Renovation-Nuclear Magnetic Resonance Facility Relocation Project on the Twin Cities Campus.

The Eastcliff Technical Advisory Committee recommends approval of the Capital Budget Amendment for the Eastcliff Renovations project on the Twin Cities Campus.
Agenda Item: Resolution Related to the Final Environmental Impact Statement for the UMore Park Sand and Gravel Resources Project

Presenters: Charles Muscoplat, UMore Development LLC President
Associate General Counsel Kenneth Larson

Purpose:
The purpose of this discussion is to review and act upon a Resolution by which the University, acting as Responsible Governmental Unit (RGU) related to the environmental review of the UMore Park Sand and Gravel Resources Project (the “Project”), approves the adequacy of the Environmental Impact Statement that has been prepared in connection with a proposal to mine and process sand and gravel on land owned by the University commonly known as UMore Park. The proposed Resolution is included in the docket materials.

Outline of Key Points/Policy Issues:
The University has completed a concept master plan for approximately 5,000 acres of land it owns in Dakota County, Minnesota, known as UMore Park. As part of the concept master planning process, the University completed an aggregate assessment in 2008 that identified the location, quality and quantity of sand and gravel resources at the property. The assessment indicated sand and gravel resources are present in commercially viable amounts. The University anticipates that a substantial part of the sand and gravel will be mined. Based on the size of the land area that could be affected by mining and the depth of the deposits, the University is required to complete an environmental review process that identifies and analyzes the potentially significant environmental effects of the mining before any mining can occur. The Project area consisting of approximately 1,722 acres of the UMore Park property located in the City of Rosemount and Empire Township, Dakota County, Minnesota, is depicted in the map available in the docket materials.

Background Information:

A. Prior Board of Regents Actions

On December 8, 2006 the Board adopted a Resolution that directed the Administration to undertake specific steps concerning the UMore Park property, including preparation of a plan for the extraction of sand and gravel at the site.
On April 11, 2008 the Board adopted a Resolution to act as the responsible Governmental Unit for the preparation of an Environmental Impact Statement (EIS) for the Project.

On June 12, 2009 the Board adopted a Resolution approving the Scoping Decision Document (SDD) identifying the alternatives and subject areas to be examined in depth in the EIS.

On June 10, 2010 the Board adopted a Resolution to amend the project boundaries and distribute the Draft Environmental Impact Statement for the Project.

B. Overview of the Environmental Review Process and Next Steps

Under state law, certain projects cannot be undertaken, financed or permitted by governmental units without first completing an environmental review. Among these projects is the extraction of sand or gravel affecting more than 160 acres. The purpose of the environmental review is to provide information to units of government, the proposer of the project (here the University) and other persons to enable evaluation of potentially significant environmental effects, to consider alternatives to the proposed project, and to explain methods for reducing adverse environmental effects.

The environmental review process does not result in the approval or disapproval of a project. Instead, it identifies and analyzes potentially significant environmental impacts of a project and the reasonable, prudent steps that may be taken to avoid or mitigate those adverse impacts.

In accordance with applicable law, the University prepared and distributed for public comment a draft EIS. Subsequently, based on the public input received and further study, the University prepared a final EIS and made it available for public comment. The final EIS includes a summary of mitigation measures for potential impacts that may result from the proposed sand and gravel mining. An Executive Summary that describes the contents, mitigative conclusions and public involvement of the final EIS is included in the docket materials. The complete final EIS document is on file in the Board of Regents office.

In accordance with the rules of the Minnesota Environmental Quality Board (EQB), Minnesota Rule 4410.2800, Subpart 1, it is the RGU’s responsibility to determine whether the final EIS is adequate.

If the Board of Regents, acting as the RGU, approves the adequacy of the final EIS in accordance with Minnesota Rules 4410.2800, Subpart 4, it will not be required to take further action with respect to the environmental review of the Project.

UMore Development LLC’s Recommendation for Action:

The Board of Governors of UMore Park Development LLC, following a status review of the Project at its October 19, 2010 meeting, has reviewed and concurs with the recommendation that the University of Minnesota Board of Regents, as the RGU, approve the Final Environmental Impact Statement (EIS) related to the Project.

President’s Recommendation for Action:

The President recommends that the Board approve the Resolution Related to the Final Environmental Impact Statement for the UMore Park Sand and Gravel Resources Project.
RESOLUTION RELATED TO THE ADEQUACY OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE UMORE PARK SAND AND GRAVEL RESOURCES PROJECT

WHEREAS, The Board of Regents of the University of Minnesota is the Responsible Governmental Unit for the purpose of conducting the environmental review related to the proposed mining of sand and gravel at UMore Park, located in the City of Rosemount and Empire Township, Dakota County, Minnesota; and

WHEREAS, in fulfillment of its responsibilities as the Responsible Governmental Unit, University staff, with the assistance of expert consultants, prepared and made available for public review and comment during the period between January 12, 2009 and February 16, 2009 a Draft Environmental Assessment Worksheet (EAW) and Draft Scoping Decision Document (SDD); and

WHEREAS, University staff with assistance from the expert consultants analyzed each of the public comments, prepared a written response to each, and revised the Draft SDD, where appropriate, consistent with the responses to the comments; and

WHEREAS, the Board of Regents of the University of Minnesota approved the Scoping Decision Document (“SDD”) on June 12, 2009 identifying the alternatives and subject areas to be examined in depth in the environmental impact statement; and

WHEREAS, University staff, with assistance from expert consultants, prepared a draft Environmental Impact Statement analyzing the environmental effects of the issues and alternatives identified in the SDD; and

WHEREAS, in the course of preparing the draft Environmental Impact Statement the Administration concluded that it was appropriate to modify the study area to include an additional 120 acres of land located adjacent to the eastern boundary of the original study area and immediately north of Dakota County Road 46 (160th Street) extending to Akron Avenue and the draft Environmental Impact Statement covers the additional acreage; and
WHEREAS, the Board of Regents of the University of Minnesota approved on June 10, 2010 a Resolution amending the project boundaries, and authorizing distribution of the draft Environmental Impact Statement, the holding of a public informational meeting and the acceptance of comments in accordance with applicable law; and

WHEREAS, during the thirty day comment period and at the public meeting conducted by the University on July 22, 2010 comments were received on the draft Environmental Impact Statement; and

WHEREAS, University staff and expert consultants analyzed each of the public comments on the draft Environmental Impact Statement, prepared written responses as required by law and, where appropriate, revised the draft Environmental Impact Statement consistent with the response to the public comments; and

WHEREAS, the revised draft Environmental Impact Statement was then designated the final Environmental Impact Statement for purposes of a ten day public comment period required by law; and

WHEREAS, (i) the final Environmental Impact Statement appropriately addresses the potentially significant issues and alternatives raised in the SDD; (ii) the final Environmental Impact Statement properly responds to the substantive public comments to the draft Environmental Impact Statement and final Environmental Impact Statement; and (iii) the University complied with all legal requirements in preparing the final Environmental Impact Statement, including those governing public participation; and

WHEREAS, the Board of Regents of the University of Minnesota has reviewed the final Environmental Impact Statement;

WHEREAS, the University has prepared a Record of Decision which documents compliance by the University with the Rules of the Minnesota Environmental Quality Board in the course of preparation of the Final Environmental Impact Statement for the Project, which Record of Decision is herein incorporated.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Regents of the University of Minnesota, does hereby affirm and determine that the final Environmental Impact Statement for the proposed mining of sand and gravel at UMore Park, located in the City of Rosemount and Empire Township, Dakota County, Minnesota, is adequate in accordance with Minnesota law governing its preparation and dissemination.
Final Environmental Impact Statement
for the
UMore Park Sand and Gravel Resources Project

Executive Summary

The University of Minnesota has prepared a Final Environmental Impact Statement (EIS) for the establishment of new aggregate mines and ancillary operations on approximately 1,722 acres of the UMore Park property located in the City of Rosemount and Empire Township, Dakota County, Minnesota. The area proposed for such action is hereafter referred to as the UMore Mining Area (UMA).

Prior to preparation of this Final EIS, a Draft EIS, a Scoping Decision Document (SDD) and a companion Scoping Environmental Assessment Worksheet (SEAW) were prepared for the UMore Park Sand and Gravel Resources Project.

The Draft EIS was prepared and distributed to all members on the current Environmental Quality Board (EQB) document review list as well as other local and regional agencies and interest groups. A Draft EIS Notice of Availability was published in the June 28, 2010 edition of the EQB Monitor and a public hearing was held on July 22, 2010. Comments on the Draft EIS were accepted through August 5, 2010.

The alternatives evaluated in this Final EIS include the Build (mining and ancillary uses on the UMA) condition and the No-Build condition. The subject areas analyzed include:

- Land Use
- Environmental Hazards
- Fish, Wildlife and Ecologically Sensitive Resources
- Threatened and Endangered Species
- Water Resources/Wetlands
- Surface Water Quality
- Groundwater
- Water Use
- Traffic
- Odors, Noise, and Dust
- Air Quality
- Infrastructure and Utilities
- Farmlands
- Social, Community, and Economic Effects
- Visual Impacts
- Archaeological, Historical, or Architectural Resources
- Cumulative Effects

The Final EIS also includes a summary of mitigation measures for potential impacts that may result from the proposed action. Many of these measures will be further refined as part of the permitting process that will occur prior to any mining operations.
Summary of Mitigative Measures

This section summarizes the mitigation measures that have been identified for addressing the adverse impacts of the UMore Park Sand and Gravel Resources Project.

Land Use
Mining operations will be set back a minimum of 350 feet from residential properties. The mining operations setback will range from 1,000 to 1,600 feet along the north and northwest portion of the project area. This expanded setback encompasses the majority of the residential land use adjacent to the UMA. In addition, berming will be constructed 10 feet high with a 5-foot wide top and 3:1 side slopes as indicated on the Mining Plan, which is available for review at the UMore Park Administrative Office. As mineral extraction transitions to lower elevations of depth, the equipment and the extraction area will not be visible to the adjacent residential properties on the north side of County Road 42.

Other activities that will ensure the operation complies with local planning initiatives include:

- The University will file a zoning amendment with Empire Township, and
- The University will file a zoning amendment with the City of Rosemount.

Environmental Hazards

Mercury Soil Interim Corrective Action
The mercury impacted soils were removed and disposed at a permitted solid waste disposal facility. Confirmation soil samples were collected from the excavation base and sidewalls and analyzed to verify that the remaining soils (adjacent to the excavation) did not contain mercury at concentrations above health risk-based standards for residential/unrestricted use. Approximately 47 cubic yards of soil were removed and disposed of off-site.

Clean-up Criteria and Environmental Contingency Plan Contents
In order to be protective of human health and the environment, the University has assumed that the MPCA’s most restrictive health risk-based soil screening criteria referred to as Tier 1 Soil Reference Values (SRVs) will apply to soils excavated in the UMA. This assumption is also intended to provide maximum operational flexibility so that once mining extraction begins the soil and gravel derived from the UMA can be managed without restrictions, consistent with typical mining operations.

The investigation results do not indicate any areas of wide-spread impacts from hazardous substances or petroleum constituents above the Tier 1 SRVs within the UMA. Based on the results of the investigations, the majority of the soil within the UMA is below the Tier 1 SRVs and is free of soil impacts that might interfere with mining operations.

Soil stripping and gravel excavation in these areas will be guided by an MPCA-approved ECP that will be used throughout mining operations.
Summary of Presumed Response Actions

The investigation results indicated that a few isolated areas of the UMA exhibit evidence of a release of petroleum products or hazardous substances. These areas may require additional investigation and specific MPCA-approved Response Action Plans (RAPs) where targeted soil clean up is needed. The actions are described below.

Sites of Concern (SOCs) 1-3 and 6-8
No additional investigation or remediation is required in these areas. Future mining operations in these areas will be performed in accordance with an ECP.

SOC 4
Additional investigation will be needed to document the extent of the debris and characterize the debris material for off-site disposal at a permitted solid waste disposal facility prior to the start of mining operations. The debris is not considered a significant threat to groundwater.

SOC 5
Additional soil and groundwater sampling within SOC 5 will be conducted prior to mining. Each of the areas within SOC 5 where soil sample results were above a Tier 1 SRV will be subjected to additional soil sampling so that appropriate response actions can be planned. The response actions in these areas will be addressed in a specific RAP for each area and approved by the MPCA.

Cover Types
Mitigation for changes in cover types will be addressed in greater detail as part of the reclamation plan. In refining the reclamation plan, the University will work with the City of Rosemount including their tree preservation ordinance. Based on the Draft Mining Plan, non-native grassland eliminated by mining will be replaced at twice the original acreage.

Fish, Wildlife, and Ecologically Sensitive Resources
The mitigation commitments identified will minimize potential impacts to fish, wildlife, and ecologically sensitive resources that may be impacts as a result of the proposed action.

Threatened and Endangered Species
No mitigation is required for Blanding’s turtle, mesic prairie, or the Vermillion River trout stream.

Wetlands
All wetland impacts will be mitigated following Minnesota Wetland Conservation Act (WCA) and MPCA replacement requirements. Wetland mitigation will consist of on-site replacement, off-site replacement, or purchase of wetland bank credits.

Surface Water Drainage
The analysis indicates the proposed UMore Sand and Gravel Resources Project will perform well in terms of controlling surface runoff rate and volume. The proposed mine lake will reduce offsite nutrient and sediment loadings compared to existing conditions. Pre- and post-project monitoring should be performed to measure (rather than estimate) discharge rates and pollutant loadings coming from the site under existing and proposed action conditions. In addition, the
nutrient concentrations in the mine lake should be monitored following the completion of the proposed mining project.

Unavoidable Adverse Impacts
This evaluation revealed no unavoidable significant adverse impacts from the UMore Sand and Gravel Resources Project. The proposed action would reduce storm water runoff rate and volume, and reduce nutrient and sediment loads leaving the UMA. Additionally onsite receiving water impacts would meet existing MPCA criteria for deep lakes.

Groundwater Flow Modeling
The predicted effect of a spill will be confined to the area immediately down gradient of the UMA within the UMore property boundary. Ancillary operations will be located in area underlain by a relatively thick unsaturated zone (relative to the active aggregate extraction areas) and the low permeability clay till. Potential for releases of hazardous substances or petroleum products will also be managed in accordance with appropriate spill prevention, control, and containment measures.

Water Use
Mitigation has been incorporated into the proposed mining operations to limit the use of groundwater. The potential effects of groundwater withdrawal will be mitigated primarily by use of a clay-lined wash basin, seepage from the basin to groundwater, and the intermittent pumping of the concrete production well. The mine lake itself would result in a net increase in water level elevation relative to current conditions. Although this effect may be significant, it is likely a positive effect and therefore is unlikely to result in environmental impact to other users or habitats that rely on groundwater.

Traffic
Several of the roads serving the UMA site are currently gravel roads. There is a concern about having a UMA access driveway on these gravel roads and mining trucks using these gravel roads. If a UMA access point is desired on a gravel road, how to handle the unpaved roadway near the proposed UMA access point will be included in the driveway permit required from the road authority. If UMA truck traffic is expected to be substantial, mitigation measures may include paving the section of the gravel road to be used by UMA site-generated traffic and prohibiting UMA truck traffic on certain sections of gravel roads.

Though traffic operations are not driving the need for improvements at most study intersections, safety concerns resulted in recommendations for turn lane safety improvements at access points to the UMA site. With mining trucks slowing down and possibly stopping on high speed and/or high volume mainline roads, left turn lane and right turn lane additions are recommended on paved mainline roads at the UMA access driveways.

The UMA site-generated traffic is not expected to have a substantial impact on traffic operations at most of the study intersections or on any of the study roadways.
Noise

Traffic-Related Noise Mitigation Options
Noise associated with increased heavy truck traffic from the mining activities over the duration of the project is minimal, based upon peak hour traffic increase calculations for the regional transportation system. This is illustrated in the noise modeling results that indicate there are no additional daytime or nighttime exceedances attributable to the proposed project. Therefore it can be concluded that the truck traffic from UMA operations is not likely to be extensive during nighttime hours and represents a small fraction of the total traffic noise along each of the analyzed roadways.

Mining-Related Noise Mitigation Options
Mining operations will be set back a minimum of 350 feet from residential properties. The mining operations setback will range from 1,000 to 1,600 feet along the north and northwest portion of the project area. This expanded setback encompasses the majority of the residential land use adjacent to the UMA.

During the duration of the mining operation, equipment, and hauling operations will occur at varying locations and elevations. Most often, with the setback provisions noted above, the distance from these operations to sensitive noise receptors will be sufficient, and substantial mitigation will not be needed. The 10-foot berm which will be constructed along the perimeter of the actively mined areas adjacent to residential land uses will further reduce operational noise levels.

Air Quality

Aggregate Processing and Handling Emissions
Mitigation of dust emissions from aggregate processing and handling operations includes two basic options: Reducing the number of processing and/or handling operations and applying dust control. There are a number of dust control techniques that will be applied within each of the on-site mining facilities, including general operational techniques and specific applications. These dust control techniques will reduce the particulate matter from the proposed mining operations.

Internal Haul Road Emissions
The haul roads contribute to a majority of the total projected emissions. This is typical of such operations. With respect to internal haul roads, there are two basic mitigation options: Shorten the length of haul roads, and/or apply dust control. The haul road distances at this time are estimates, but on average, are believed to be a half mile or less for a round trip. Any reduction in haul road distances will significantly reduce the haul road emissions.

Operations in the UMA will apply wet suppression (water application) to the unpaved haul roads. Water application keeps the road surface wet to control emissions. The control efficiency of unpaved road watering depends on: 1) the amount of water applied per unit area of road surface, 2) the time between reapplications, 3) traffic volume during that period, and 4) prevailing meteorological conditions during the period.
Concrete and Asphalt Plant Emissions
Baghouses (e.g. fabric filters) will be used to control particulate emissions from the asphalt plant and concrete plant operations since they have been proven to provide a high level of emission control for these types of operations. Mitigation approaches related to haul roads and material processing and handling discussed above also apply to handling raw materials and shipment of finished products associated with the asphalt and concrete plant operations.

Farmland
Site reclamation will occur as mining phases are completed and will include grading of slopes and replacement of topsoil to accommodate a return of the land use to agricultural production.

Social and Community
Mitigation measures that address visual quality, land use impacts, noise and air pollution and traffic will serve to mitigate any potential impacts related to social and community impacts.

Visual Quality
Mining operations will be set back a minimum of 350 feet from residential properties. The mining operations setback will range from 1,000 to 1,600 feet along the north and northwest portion of the project area. This expanded setback encompasses the majority of the residential land use adjacent to the UMA. As topsoil is stripped for each phase of the mining area, it will be stockpiled in a series of earthen berms that will serve as visual barriers along the property boundaries. The berming is proposed to be constructed approximately 10 feet high with a five-foot top and 3:1 side slopes. The berms will be seeded with a 340 native mix and maintained as needed. Other vegetative plantings (trees, shrubs, etc.) around the perimeter of the site will be determined with each phase of the mining activities.

Potential visibility impacts will be substantially mitigated through the construction of these earthen berms and vegetative plantings around the site. Furthermore, most of the mining activities will take place at a reduced elevation below the line of site from the viewers (travelers and neighbors). The buildings and operations associated with the AUF will be partially screened from travelers along County Road 46 through the preservation of existing trees along the north side of the roadway.

Public Involvement
The University of Minnesota is committed to public involvement/outreach at all levels in the project development process. The University will continue to engage area property owners, business owners, residents, and agencies representatives. The public involvement/outreach efforts have included the following:

- Public Meetings
- Draft EIS Public Hearing
- Technical Advisory Committee (TAC)
- Agency and Jurisdictional Coordination
- Project Web Site
Public Meetings
The University of Minnesota hosted two public meetings leading up to the preparation and publication of the Draft EIS. A preliminary scoping meeting was conducted on November 6, 2008 prior to the start of the scoping period to receive suggestions for the SEAW. The second public meeting was the February 5, 2009 Public Scoping Meeting. The scoping meeting focused on presenting the results of and receiving feedback on the Scoping EAW and SDD. The comments received in the scoping phase of the project and the information collected to address the comments were used in the preparation of the EIS.

Since publication of the Draft EIS, two neighborhood meetings were held, on August 25 and August 26, 2010, with neighborhood associations located north of County Road 42. The purpose of these meetings was to share information regarding the proposed mining operations and to receive feedback from area property owners.

Draft EIS Public Hearing
The Draft EIS was published on June 28, 2010, which also marked the beginning of the official public comment period. A public hearing was held on July 22, 2010 at the Rosemount Community Center. This meeting afforded an opportunity for stakeholders to provide comments on the Draft EIS. A presentation was given that outlined the findings of the Draft EIS. An open house was conducted in conjunction with the public hearing where attendees were allowed to review study materials and ask questions to staff. Attendees were able to submit comments for the official hearing record through oral testimony to a court reporter or through submitting a written comment card.

Comments received during the official comment period on the Draft EIS and at the Public Meeting/Hearing have been used to prepare the Final EIS.

Technical Advisory Committee (TAC)
The TAC was organized and convened by the University of Minnesota to meet periodically during the planning and design phases of the project. The group is comprised of state, county and local agency representatives. The TAC advises the University staff on issues related to potential impacts on or opportunities for communities adjacent to UMore Park and potential impacts on natural resources as a result of the Sand and Gravel Resources Project. Some of the organizations that have played important roles include:

- City of Rosemount
- Empire Township
- Dakota County
- Minnesota Pollution Control Agency
- Minnesota Department of Natural Resources
- Metropolitan Council
- Dakota County Technical College
**Project Web Site**

An information project web site has been established on the World Wide Web at [www.umorepark.umn.edu/Gravel_Resources_and_Assessment.html](http://www.umorepark.umn.edu/Gravel_Resources_and_Assessment.html). The site provides a means for distributing available information and gathering input with an e-mail reply feature. The site is periodically updated to reflect project developments and to address new issues.

**Media**

The University recognizes the importance of the media in conveying project information to the public. University staff is in regular contact with the various local media outlets (newspaper, television, radio) and the media has attended the previously mentioned public meetings.
Facilities Committee

November 11, 2010

Agenda Item: Real Estate Transaction

☑ review  ☐ review/action  ☐ action  ☐ discussion

Presenters: Vice President Kathleen O’Brien
Senior Vice President Robert Jones
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 the following real estate transaction:

A. Twenty-Year Sublease, 1802-18th Street NE, Willmar (Mid-Central Research and Outreach Center)

Outline of Key Points/Policy Issues:

The details of this transaction and its 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 transaction:

A. Twenty-Year Sublease, 1802-18th Street NE, Willmar (Mid-Central Research and Outreach Center)
TWENTY-YEAR SUBLEASE,
1802-18TH STREET NE, WILLMAR
(MID-CENTRAL RESEARCH AND OUTREACH CENTER)

1. **Recommended Action**

The President recommends that the appropriate administrative officers receive authorization to execute a twenty-year sublease agreement with five successive three-year renewal options for the building at 1802-18th Street NE, Willmar, Minnesota.

2. **Description of Leased Premises**

The subleased premises will consist of the entire building (Building) at 1802-18th Street NE, Willmar, Minnesota, located on the MinnWest Technology Campus (see attached map). The Building has three floors, 6,000 gross square feet per floor, for a total of 18,000 gross square feet. The Building is connected by tunnels to other buildings on the MinnWest campus.

3. **Basis for Request**

The University’s land grant mission has evolved over the past 160 years as the needs of the state have changed. The Mid-Central Research and Outreach Center (MCROC) in Willmar represents a new model for University public engagement that will rely upon partnerships among higher education, business and industry, government, and community organizations to serve mid-central and west-central Minnesota and give citizens and businesses greater access to University resources. The focus of the Mid-Central Research and Outreach Center will be multi-disciplinary bioscience, avian research and outreach.

The Bioscience Business Development Public Infrastructure Grant Program (Grant Program), funded by the Minnesota Department of Employment and Economic Development, includes $1,250,000 with a required match of $1,250,000, funded by the Building owner, for renovation of the Building to be completed by the Building owner prior to commencement of the University’s sublease, and some of the research equipment required for the University’s use of the Building. The purpose of the grant is to advance the bio-business collaboration between public and private institutions in Minnesota. The $2.5 million Building renovation project includes an offset of $475,000 for Building value, which allows a rent of $1.00 for the University’s 20-year sublease of the Building. The University will, however, pay all on-going operations and maintenance costs for the Building as well as annual depreciation for capital expenditures by the landlord related to the Building and equipment purchased with Grant Program funds.

The Building will include an office, laboratory, and support space for the University’s Pomeroy Chair in Avian Research; office and teaching space, including a teaching kitchen, for Extension faculty and educators from throughout the region; offices for an internship/workforce development
coordinator, laboratory manager, continuing education personnel, and student interns; flexible office space for visiting faculty and staff; a multi-media conference/training facility; and additional laboratory space, some constructed initially as shell space. Floor plans for the building renovation project are attached.

4. **Details of Transaction**

The owner of the building at 1802-18th Street NE, Willmar will lease the building to the City of Willmar and the City of Willmar will sublease the Building to the University for an initial term of 20 years. The University’s sublease will commence six months after the later of the date the University Board of Regents approves the lease transaction or the date the building owner receives all Grant Program approvals related to the building renovation. Approximately July 1, 2011 is the expected sublease commencement date. The University will have five (5) successive options of (3) years each to continue the sublease after the initial 20-year term provided the University’s use of the Building during the extended term continues to meet the requirements of the Grant Program. The University will have the right to terminate the lease at any time upon a one-year notice. In the event the Grant Program is terminated, the University’s sublease of the Building will also terminate.

5. **Lease Costs**

The rent for the use of the Building is $1.00. During the sublease, the University will pay all annual operating and maintenance costs associated with the Building and leased equipment within the Building, including insurance, estimated at $7.50 per gross square foot the first year the Building is expected to be fully operational, or $135,000 per year. The University will also pay the annual depreciation for all capital expenditures by landlord during the sublease related to the Building and leased equipment within the Building.

6. **Source of Funds**

University funds will pay all costs associated with the sublease of the Building.

7. **Recommendations:**

The above-described real estate transaction is appropriate:

[Signature]

Richard H. Pfutzenreuter, III, Vice President and CFO

[Signature]

Robert J. Jones, Senior Vice President for System Academic Administration

[Signature]

Kathleen O’Brien, Vice President for University Services

55
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, MetroGIS, MNDNR, MNDOT

1802 18th St SE
MinnWest Technology Campus
Willmar, Minnesota
Facilities Committee

November 11, 2010

Agenda Item: Capital Budget Amendment

☑ review □ review/action □ action □ discussion

Presenters: Vice President Kathleen O'Brien
Associate Vice President Michael Perkins
David Johnson, Associate Dean, College of Education and Human Development

Purpose:

□ policy □ background/context ☑ oversight □ strategic positioning

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

- Amend the Fiscal Year 2011 Capital Budget by $825,000 to fund the Learning Technologies Media Lab Remodeling project in the Vocational Technical Education Building located on the Saint Paul Campus.

Outline of Key Points/Policy Issues:

**Learning Technologies Media Lab Remodeling Project**

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

This project is the renovation of suites 210, 250 and 260 in the Vocational and Technical Education Building for the College of Education and Human Development. CEHD is investing in a new research and development initiative to advance learning technologies with a cadre of interdisciplinary faculty, staff and graduate students. The renovation of existing CEHD space will provide new state of the art multimedia teaching classrooms, seminar rooms and office space.

Background Information:

**Learning Technologies Media Lab Remodeling Project**

Technology that supports teaching and learning is one of the dean’s priorities and areas targeted for advancement and investment in CEHD. Learning technologies is an expanding field that supports the CEHD goal of preparing educational and human service professionals to carry the values and knowledge discovered here into the world. It is also at the forefront of much of the current thinking related to transforming education and the traditional methods of delivery and research, and it is imperative that the college be a leader in this field of discovery.

President’s Recommendation for Action:

The President recommends approval of the following Capital Budget Amendment:

- Amend the Fiscal Year 2011 Capital Budget by $825,000 to fund design and construction services for the Learning Technologies Media Lab project.
1. Basis for Request:

This project is the renovation of suites 210, 250 and 260 within the Vocational and Technical Education (VoTech) Building on the St. Paul Campus for the new Learning Technology Media Lab (LTML), a program within the College of Education and Human Development (CEHD). The project includes faculty office space, media lab space, graduate assistants office, and meeting/classroom space using multi-media interactive technology.

CEHD is investing in a new research and development initiative to advance learning technologies with a cadre of interdisciplinary faculty, staff and graduate students. The field of learning technologies is highly competitive and CEHD intends to provide state-of-the-art space and equipment to support the work of our faculty, staff and students. The lead faculty have a significant and positive track record securing extramural grants and contracts to support their research and the research of their graduate students, and this investment is expected to lead to additional and alternative sources of increased support.

Learning Technologies (LT) faculty members and their students are at the forefront of innovation in their quest to enhance teaching and learning experiences while challenging education’s traditional boundaries. From real-time adventure learning via Arctic expeditions, to app development for mobile devices, to innovative K12 technology integration and models for meaningful online education, LT is truly changing the way teachers teach and students learn with technology.

Technology that supports teaching and learning is one of the dean’s priorities and areas targeted for advancement and investment in CEHD. Learning technologies is an expanding field that supports the CEHD goal of preparing educational and human service professionals to carry the values and knowledge discovered here into the world. It is also at the forefront of much of the current thinking related to transforming education and the traditional methods of delivery and research, and it is imperative that the college be a leader in this field of discovery.

The Learning Technologies (LT) academic area and its new research and design center, The Learning Technologies Media Lab, are situated at the nexus of education, technology, teaching and learning. Collectively, the mission of LT and LTML is to inspire and create opportunities for global collaboration in addressing humanity’s most pressing educational, social and environmental issues by designing and evaluating innovative technology-mediated solutions for learners, educators, researchers, and organizations.

Appropriate space for the interactive media laboratories is not available in current CEHD configurations. The faculty involved in this project are currently officed in Peik Hall (Minneapolis campus), a building that does not have space that can support the vision and research programs of the new LTML.
2. Scope of Project:

This project is the renovation of suites 210, 250 and 260, approximately 5,600 gross square feet, within the VoTech Building on the St. Paul Campus. The construction work will demolish selective portions of the spaces, but the majority of the walls remain. The spaces will receive new finishes. The existing ventilation system will be extended. Two small air conditioning units will be added to cool the classroom and the A/V equipment room. New light fixtures, electrical power and low voltage for A/V and data will be installed throughout. The entire project will have cutting edge technology such as touch screen monitors, Smart Boards and A/V projection systems.

3. Master Plan:

Project Impact Report: No impact to Master Plan

4. Environmental Issues:

None

5. Cost Estimate:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Cost</td>
<td>$375,000</td>
<td>$70/SF</td>
</tr>
<tr>
<td>Non Construction Cost</td>
<td>450,000</td>
<td>$80/SF</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$825,000</td>
<td>$150/SF</td>
</tr>
</tbody>
</table>

6. Capital Funding:

Funds for this work will come from a combination of ICR and Operations and Maintenance funds in CEHD for investment in targeted priority areas, which includes Learning Technology.

7. Capital Budget Approvals:

The college is in the process of reconfiguring CEHD spaces in VoTech as it creates the Centers for Interdisciplinary Research on Education and Human Development to further advance an already highly productive and significant research mission. CEHD was not in a position to identify the full level of investment needed to create the LTML facility prior to summer, 2010. We are advancing this proposal now as the lead LT faculty continue to pursue their programs of research and secure external funding for projects that require use of technologies that this facility provides. As stated before, we are confident that this investment will lead to additional and alternative sources of increased support.

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

Operating and maintenance cost funded by Facilities Management will remain approximately the same as the project involves the renovation of currently occupied space.

9. Time Schedule:

<table>
<thead>
<tr>
<th>Event</th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin construction</td>
<td>December</td>
<td>2010</td>
</tr>
<tr>
<td>Complete construction</td>
<td>March</td>
<td>2011</td>
</tr>
</tbody>
</table>
10. Architect: Collaborative Design Group

11. Change in Project Since Approved:
   N/A

12. Recommendation:

   The above described project cost and funding is appropriate.

   [Signature]
   10/29/10
   Richard Pfutzenreuter, Associate Vice President, Chief Financial Officer and Treasurer

   [Signature]
   11/11/10
   E. Thomas Sullivan, Senior Vice President for Academic Affairs and Provost

   [Signature]
   10/29/10
   Kathleen O'Brien, Vice President for University Services
VOCATIONAL AND TECHNICAL EDUCATION BUILDING

SAINT PAUL CAMPUS

Learning Technologies Media Lab
Saint Paul Campus
Facilities Committee

November 11, 2010

Agenda Item: Annual Report on Sustainability and Energy Efficiency Policy: Goals and Metrics

☐ review ☐ review/action ☐ action ☒ discussion

Presenters: [Vice President Kathleen O'Brien]
[Chancellor Jacqueline Johnson, University of Minnesota, Morris]

Purpose:

☐ policy ☒ background/context ☐ oversight ☐ strategic positioning

The purpose of this item is to provide an annual update to the Board on the University's efforts to advance the Board of Regents Policy: Sustainability and Energy Efficiency.

Outline of Key Points/Policy Issues:

Sustainability is a continuous effort integrating environmental, social, and economic goals through design, planning and operational organization to meet current needs without compromising the ability of future generations to meet their own needs. The presentation will update the Board on the following items:

President Bruininks Charge to the University of Minnesota Strategic Sustainability Committee.
The Strategic Sustainability Committee charge is to advance the implementation of the Board of Regents Policy: Sustainability and Energy Efficiency by developing strategies to guide sustainability integration across the University's mission. The areas of the charge include:

- Strategy: Set direction and provide input to each campus regarding systemwide sustainability priorities, areas of focus and key messages regarding meeting the goals outlined in the report, University of Minnesota Systemwide Sustainability: Goals, Outcomes, Measure, Progress.

- Enterprise Solutions for Success: Support enterprise solutions to advance sustainability while also recognizing individual campus contributions and solutions, and unique regional approaches.

- Measurement System and Key Metrics: Identify key systemwide measures aligning to existing campus programs and commitments. Ensure consolidated systemwide reporting.

- Assessing Progress: Assess systemwide progress and overall impact of sustainability efforts on the university, and community beyond.

- Communications: Ensure communications that improve transparency, awareness and strengthen U-wide engagement.
The Committee is co-chaired by Vice President for University Services Kathleen O'Brien and Chancellor Jacque Johnson, University of Minnesota Morris. The membership includes faculty, staff and students and is responsible for facilitating implementation of the policy. The committee kicked off their work in late April, and held workshops in August and September.

**Signing of the American College and University Presidents Climate Commitment**

Colleges and universities are committed to exercise leadership in their communities and throughout society by modeling ways to eliminate global warming emissions, and by providing the knowledge and the educated graduates to achieve climate neutrality. To date, 675 colleges and universities have signed the commitment. President Bruininks signed this commitment in January 2008. The commitment implementation will be integrated into the efforts to implement the Regents policy. Each campus is responsible for developing a greenhouse gas inventory and climate action plan that takes into account campus specific needs.

**Association for the Advancement of Sustainability in Higher Education, Sustainability Tracking and Reporting System (AASHE STARS)**

Morris, Duluth and Twin Cities campuses are Charter members of AASHE STARS, a peer-reviewed measurement system that is being implemented as a way to self-assess progress in various sustainability categories. The use of this metrics and reporting system is intended to compliment the need for establishing performance measures outlined in the 2009 Systemwide Sustainability Goals and Outcomes Report.

**2009 Campus Sustainability Report**

This year the campuses continued their work to become more sustainable. Reports from each campus are presented to highlight a few examples of where we are on our path to becoming a stronger and more sustainable institution. Some key activities are also identified that have a systemwide component.

**Background Information:**

In July 2004, the Board adopted Board of Regents Policy: *Sustainability and Energy Efficiency*. Periodic updates on sustainability have been provided to the Board of Regents. The most recent update was October 2009.

Refer to:
Board of Regents Policy: *Sustainability and Energy Efficiency*
http://www1.umn.edu/regents/policies/administrative/Sustain_Energy_Efficiency.pdf

2009 U of MN Systemwide Sustainability: Goals Outcomes Measures Progress Report

New Environment and Sustainability Portal highlights our Systemwide commitment and is organized along the lines of the Policy Guiding Principles. http://portal.environment.umn.edu/
University of Minnesota

2009 Campus Sustainability Reports

November 2010

Report to the Board of Regents

from

University of Minnesota Strategic Sustainability Committee Co-Chairs

Chancellor Jacqueline Johnson, U of M Morris

and

Vice President Kathleen O’Brien, University Services
2009 Campus Sustainability Reports

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A. University of Minnesota Systemwide Sustainability Goals

B. Campus Sustainability Committee Information

C. Preliminary Assessment Goals Progress by Campus
“Sustainability is a continuous effort integrating environmental, social, and economic goals through design, planning, and operational organization to meet current needs without compromising the ability of future generations to meet their own needs.”

Introduction

In 2009, the report *University of Minnesota Systemwide Sustainability: Goals, Outcomes, Measures, Process* was presented to the Board of Regents. Each campus also provided an overview of their sustainability programs. During the past year the work on each campus has continued and the attached reports highlight a few program activities. The goals from the report are presented in Appendix A.

In 2010, President Bruininks charged a new standing Systemwide committee, the *University of Minnesota Strategic Sustainability Committee* to align implementation of the Regent's policy across the university system. Committee membership is presented in Appendix B. This is a unique effort aimed at systemwide strategy and coordination. The committee is comprised of faculty, students and staff from across our campuses. One of the recommendations of the Systemwide Sustainability report was to have regular updates to the Board of Regents on progress. The information presented here provides a few examples of where we are on our path to becoming a stronger and more sustainable institution – whether it is through modeling solutions in our campus operations, by contributing to our communities through education or in our research focused on the big vexing problems facing our society and our world.

The comprehensive nature of the Regents’ policy supports decisions that will create healthier communities for the people of the state of Minnesota through a balance of our social, economic and environmental needs. The University of Minnesota campuses are as diverse as our state. The people, places and priorities reflect a convergence similar to the four biomes of our state - prairie, deciduous forest, boreal forest, tall grass aspen forest. Environmental stewardship is a strong existing foundation that will help us integrate the more complex aspects of sustainability into our land grant mission. The Board of Regents Policy: *Sustainability and Energy Efficiency* provides the guiding principles to help move us more thoughtfully together while ensuring that campus priorities are met. The policy guides us and has also become a model for other institutions around the country seeking to take a more comprehensive system approach to their sustainability programs.

During the past year, the University of Minnesota campuses continued their work to become more sustainable campuses. Understanding and communicating the work we are doing remains one of our challenges.

The reports presented have a strong emphasis on operational aspects. In many ways, we recognize this information is easier to measure and report. Some campus operations metric systems are mature due to existing data gathering and reporting. For example, our energy use greenhouse gas emissions are verified by third party review for Chicago Climate Exchange participation. Estimates of other type of emissions – for example, commuter data - are less rigorous.

Like other campuses around the country, gathering comprehensive information to report on areas of research and education that integrate sustainability concepts is a challenge, in part due to our size and decentralized nature, in part due to the absence of clear and simple systems for “counting” curriculum...
and co-curriculum initiatives, and in part due to the absence of agreed upon categories for coding sustainability research. Even with these challenges, there is considerable evidence to demonstrate the presence of curriculum, co-curriculum, research and outreach activities related to sustainability in the University of Minnesota system. Here are a few examples:

Curriculum Highlights

- A sustainability minor on the Twin Cities campus and under consideration at Crookston
- A graduate sustainability program is in early stages of development on the Twin Cities campus
- Environmental Studies and Environmental Science majors at Morris and at Duluth
- A Natural Resources major at Crookston
- Numerous majors in various schools on the Twin Cities campus related to the environment, environmental design, engineering, etc
- Opportunities to consider the relationship between the environment and health at Rochester
- Biomass/gasification course in Morris, developed in partnership with MNSCU technical college faculty and researchers at the West Central Research and Outreach Center and USDA Soils Lab
- An assessment for a Sustainability Certificate program has been initiated in Duluth and at Twin Cities through the College of Continuing Education
- A multidisciplinary group of faculty in Duluth are working on a Sustainable Operations graduate program, which was approved as an Interdisciplinary Graduate Group

Co-curriculum Highlights

- Undergraduate research opportunities available in environmental, renewable energy, and sustainability areas on four out of five campuses
- Minnesota GreenCorps programs at Crookston, Duluth, and Morris
- A host of student organizations focused on environmental and sustainability issues on all campuses
- Students engaged in conservation and recycling efforts on all campuses
- Student artistic production related to sustainability and climate change—video, theater, and art—at Morris
- Sustainability themes are infused into Welcome Week at Duluth and Twin Cities
- Duluth holds a Sustainability Fair each semester focusing on topics such as energy, food systems, art and design, transportation, and more

Research Highlights

- $24.8 Million for renewable energy efforts from the Institute on the Environment and the Institute for Renewable Energy Initiatives, supporting research across the University system, including the Outreach Centers
- Research to support the development of “nature nooks” at Crookston
- Wind policy and other renewable energy research at Morris
• Engineering, science, design, and architectural research on Twin Cities campus
• Law School program on energy policy
• The Malosky Stadium Solar Research Project in Duluth was led by undergraduate students in Duluth's Electrical Engineering program
• The Center for Water and the Environment at Duluth's Natural Resources Research Institute is a regional leader in water research
• Duluth launched a Sustainable Development Research Opportunity Program (SDROP) to provide students an opportunity to work closely with northeastern Minnesota communities on projects

Outreach Highlights

• Efforts to support home owner energy audits on the Twin Cities campus
• Morris’ new “Carbon College”, an umbrella concept that covers a host of activities, credit bearing and non-credit bearing intended to provide educational opportunities for interested citizens
• Crookston’s partnership with community on energy audits
• Duluth is an active partner in the Regional Stormwater Protection Team, through UMD Facilities Management, Sea Grant, and Natural Resources Research Institute
• The Center for Water and the Environment at Duluth's Natural Resources Research Institute is a regional leader in watershed and stormwater outreach
• The Regional Sustainable Development Partnerships and Clean Energy Resource teams support successful Community – University partnerships working on local food economy and community energy reduction, such as MN Schools Cutting Carbon

Additional details are provided for each campus in the summaries provided with this report. The summaries highlight campus specific programs that support the goals proposed in the 2009 report, University of Minnesota Systemwide Sustainability: Goals, Outcomes, Measures, Process. These goals were developed to help implement the Regents policy; alignment with key goals is noted in the reports.

In addition to providing these campus reports, a preliminary analysis of the focus of current work underway at each campus in relation to the goals was initiated. This preliminary analysis is presented separately in Appendix C. It is a starting point for our committee in filling in gaps of information especially related to the great work being done in our research and education areas.
System Highlights

Climate Action Planning
This year our campuses are developing the initial climate action plans that will influence our work for
the next 40 years. This is a significant effort at all our campuses, with widespread impacts and
completion of this task is a 2010 priority for our sustainability and energy management teams.

In 2008, President Bruininks signed the American College and University Presidents Climate
Commitment (ACUPCC), which commits the University to achieve climate neutrality as soon as possible.
Jacqueline Johnson, Chancellor at the Morris campus was a charter signatory, signing before March
2007. This commitment is aligned closely with the direction set by the Board of Regents Policy:
Sustainability and Energy Efficiency along with work of the Institute of the Environment and energy-
focused research at IREE (Initiative on Renewable Energy and the Environment). University Presidents
around the country united around the scientific consensus regarding the anticipated serious adverse
impacts of global warming. The commitment acknowledges the important role for universities to play in
research, education and modeling solutions to help achieve significant reductions in greenhouse gas
emissions.

The largest source of our university’s greenhouse gas emissions are from the combined electricity
purchases and onsite energy generation, so our work in energy conservation and the investments we
make in energy research are critical to our success. State and federal policies related to expanding
renewable electricity generation and transmission are also a factor in meeting these goals. Additional
tables following the Introduction show the relative greenhouse gas emission by type and also weighted
for building square footage.

The University of Minnesota campuses are still defining all the practical and innovative actions needed
to meet this commitment. However many schools around the country have completed plans that
include conserving energy, installing renewable energy options, generating energy through onsite
energy production, sequestration projects using owned land and also creating offsets through local
community investments. There are student and community groups with interests in specific aspects of
our climate action plan - for example, the use of coal as a flexible fuel source. The path to achieving
climate neutrality has regulatory, policy, budgetary and personal implications that will require
innovative research and creative solutions over many years. Initial climate action plans are being
developed at all our campuses with input from our campus communities and beyond.
ACUPCC Milestones and Information

<table>
<thead>
<tr>
<th>Campus</th>
<th>Initial Greenhouse Gas Emission Inventory (Data year)</th>
<th>Est. Greenhouse Gas Emissions Reported (Metric Tons CO2 equivalent)</th>
<th>Climate Action Plan Status and Climate Neutrality Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crookston</td>
<td>Complete (2009)</td>
<td>12,500</td>
<td>Complete Climate Neutrality Target 2030</td>
</tr>
<tr>
<td>Duluth</td>
<td>Complete (2009)</td>
<td>56,500</td>
<td>In process</td>
</tr>
<tr>
<td>Morris</td>
<td>Complete (2007)</td>
<td>11,900</td>
<td>Complete Climate Neutrality Target 2010</td>
</tr>
<tr>
<td>Rochester</td>
<td>Complete (2009)</td>
<td>200</td>
<td>Complete Target date to be determined</td>
</tr>
<tr>
<td>Twin Cities</td>
<td>Complete (2008)</td>
<td>643,000</td>
<td>In process</td>
</tr>
</tbody>
</table>

Source and more details found at: [http://acupcc.aashe.org/](http://acupcc.aashe.org/)

Green Building Highlights

Energy conservation and design for energy efficiency are critical elements of climate action planning. Space utilization and even reducing the number of buildings on campus is part of our conversation in how to reach these goals. When new buildings are needed, how we build them is just as important.

On the Twin Cities campus alone, building space has grown by nearly 20 percent in the past ten years, while maintaining a fairly flat carbon footprint. This has been done through dedicated energy conservation programs and ensuring new buildings are as energy efficient as possible. The State of Minnesota requires higher energy standards for bonded buildings. These standards, targeted to the unique regional cold weather conditions, are called B3 standards and generally require buildings to perform at least 30 percent better than a building built to code. The B3 standards were developed at the University of Minnesota’s Center for Sustainable Building Research.

A third party verification system called Leadership in Energy and Environmental Design (LEED) developed by the US Green Building Council (USGBC) has received high visibility and attention around the country as a way to demonstrate adherence to green building standards. Many states without their own standards have adopted LEED as their system for green building construction. At the University of Minnesota, a case by case decision has been made for LEED certification based upon local campus situations. Cost is one consideration to consider when applying for LEED certification, however there are examples of successful LEED projects that have managed the process with on campus LEED – certified resources and stayed within budget. While there are several LEED certified buildings, buildings that are not LEED certified may also incorporate features that go beyond LEED which are important to the campus locale – such as a glass feature intended to help reduce bird impacts. Recent published assessments of building performance show LEED certification does not guarantee the building performs
as designed. Moving forward, the University of Minnesota intends to better communicate our state and university building standards to individuals, media and survey institutions that are familiar with LEED. (See Green Buildings Table at the end of the Introduction)

We do not need to look far to find expertise in energy policy or energy technology across our university system. Likewise resources for green buildings are found on our Twin Cities campus and serve both the Twin Cities and communities around the state. The Center for Sustainable Building Research (CSBR) and the College of Design are recognized for their expertise and programs such as the community resilience design programs that support communities around the state. The Sustainability Track of the Masters of Science program in Architecture is an example of curriculum integration of sustainability and providing future graduate with knowledge about designing more sustainable buildings.

**Minnesota GreenCorps Jobs**
In 2009, the University of Minnesota Morris campus and the Minnesota Pollution Control Agency (MPCA), in partnership with AmeriCorps and ServeMinnesota launched a new program to protect and preserve Minnesota’s environment while developing the next generation of environmental professionals. Minnesota GreenCorps, an environmentally focused AmeriCorps program administered by MPCA, helps communities conserve energy, reduce waste, and, through proper recycling and conservation education, reduce the amount of toxic chemicals discarded. As of 2010, GreenCorps positions are also located on the Crookston and Duluth campuses. These environmental professionals are working on projects both on campus and in the surrounding communities and towns – supporting the education and outreach mission of our university.

**Measurement**
One of the goals of our systemwide sustainability effort is to establish metrics to track our progress. The report to the Regents contains 35 goals and 95 proposed measures and outcomes. A more comprehensive measurement system also will communicate about our programs and progress.

The Association for the Advancement of Sustainability in Higher Education (AASHE) is a resource of schools around the country and has taken on a challenge from their membership to develop a metric system for sustainability in higher education to help schools deal with the numerous subjective surveys coming from various third party organizations. AASHE developed a peer-reviewed transparent metric system that was piloted at over 60 schools in the past two years. The metrics system, Sustainability Tracking and Reporting System (STARS) was launched at the beginning of 2010 to help campuses deal with the growing number of surveys and requests for data about campus sustainability programs.

While not perfect, and acknowledged to be dynamic with updates occurring every two years, this metric system provides an initial mean to begin to gather data and report it on a campus specific basis. Many of the areas reported in STARS align directly with our goals and outcomes. One advantage of participating in this existing online reporting system is to help us determine where data is available or requires more robust systems to meet our long term reporting needs. Another advantage is that it will encourage development of common units of measure - current metrics across the campuses are difficult
to consolidate because the metrics are not always reported similarly. Twin Cities, Duluth and Morris are formally participating in the program to test it out and determine areas that may require improvement.

This effort is a significant resource priority for our campuses and requires the support of various department staff to provide the data for reporting. Much of the operations data is available while curriculum and research information requires more development.

**Research, Education and Outreach Metrics**

One of the first conversations of our University of Minnesota Strategic Sustainability Committee acknowledged that the available metrics and reports from our campuses were strongly focused on operations. The committee members note that the reports need to be broadened to provide a better view of our education, research and outreach on our campuses, at our Research and Outreach Centers, through our Extension Services, etc. While our faculty have received numerous awards and recognition and we have many stories and examples of work underway across our state, and even globally, there is not a good system for gathering and reporting this information. The AASHE STARS metrics also includes Education, Research and Outreach categories for reporting. However these metrics are not well-defined for a school of our size and breadth. One of our largest challenges in the next year is to find a way to gather and report this information and to provide feedback to AASHE about better ways to measure progress in these areas.

**Communications**

As noted, one of our challenges as a university and working as a system is how to communicate our work. There are efforts underway for a more coordinated communication approach – only two are highlighted here.

With content input from the systemwide sustainability team and aligned with the key guiding principles of our policy, a portal was developed by resources at the Institute on the Environment to aid in identifying university sustainability and environmental programs. This portal was launched in August 2010 with links to existing campus web sites on sustainability and will continue to be improved with input from across the university system. [http://portal.environment.umn.edu/](http://portal.environment.umn.edu/)

The University’s reputation as a sustainability leader is growing. In addition to key research areas of energy technologies, environment, policy, agriculture, water resources, biofuels, global land use, transportation and many other areas, our campuses have been given high marks and recognition in various surveys. Our sustainability staff is also being recognized for their knowledge and expertise. At the recent nationwide AASHE conference, from a field of about 725 submissions, eleven students and staff from Twin Cities, Duluth and Morris were accepted for presentations, posters and panels. [http://environment.umn.edu/news_events/press_releases/pressrelease_aashe10112010.html](http://environment.umn.edu/news_events/press_releases/pressrelease_aashe10112010.html)
Moving Forward

The U of MN Strategic Sustainability Committee met in May, August and September of this year. Through these meetings the group is becoming more familiar with the overall system efforts in the area of sustainability. The committee is in the process of defining and establishing teams to do the work identified as high priority for the next year.

The following initial priority areas and work plans ideas were proposed in the last meeting:

- **Learning and Curriculum**
  - Determine crucial outcomes, determine how to be useful and exciting to faculty, create pilots of richly experiential learning, develop a sustainability program to leverage the strengths of our systemwide approach

- **Communications**
  - Develop a communication plan that will include reporting the work of our committee, sharing certain information across campuses and help develop tools to gather information about our work across education, research and outreach
  - Initiate a more thorough conversation with representatives from our University research community to understand the breadth of work and identify synergies to achieve sustainability goals

- **Renewable Energy**
  - Increasing renewable energy use on campus

- **Purchasing**
  - For example, leverage purchasing across our system for bigger impact and cost savings related to green products

- **Student Engagement**
  - Define how students can encounter sustainability every day; identify and provide student leadership opportunities.

The newly formed committee is already a cohesive and energetic group committed to making a difference and encouraging the use of the principles of sustainability to help create a stronger institution for the future. This is the beginning of a journey to implement the policy.

As committee co-chairs, we are pleased to highlight a few key areas that have received and will continue to receive attention during the year. The attached campus reports highlight additional accomplishments.

Jacqueline Johnson, Chancellor of University of Minnesota Morris,
Kathleen O’Brien, Vice President of University Services
# Additional Campus Sustainability Metrics

## Green Building Examples

<table>
<thead>
<tr>
<th>Campus</th>
<th>Building</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crookston</td>
<td>Evergreen</td>
<td>First LEED-certified residence building in U of MN system</td>
</tr>
<tr>
<td>Duluth</td>
<td>Life Sciences</td>
<td>LEED – Silver</td>
</tr>
<tr>
<td></td>
<td>Labovitz</td>
<td>LEED – Gold. First LEED certified new higher education building in the state of MN.</td>
</tr>
<tr>
<td></td>
<td>School of Business and Economics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swenson Civil Engineering</td>
<td>LEED – Gold</td>
</tr>
<tr>
<td></td>
<td>Bagley Outdoor Classroom</td>
<td>First LEED Platinum building in the U of MN System, also followed Passivhaus energy efficiency standard</td>
</tr>
<tr>
<td>Morris</td>
<td>Welcome Center</td>
<td>Applied for LEED - Platinum certification; anticipated to be first Platinum Building on the National Register of Historic Places</td>
</tr>
<tr>
<td>Rochester</td>
<td>318 Commons</td>
<td>City Partnership through combined University and Commercial Space in city for positive community impacts</td>
</tr>
<tr>
<td></td>
<td>(Includes Student Housing)</td>
<td></td>
</tr>
<tr>
<td>Twin Cities</td>
<td>TCF Stadium</td>
<td>LEED - Silver; First collegiate or professional LEED stadium in the country</td>
</tr>
<tr>
<td></td>
<td>Science Teaching and Student Services</td>
<td>Applied for LEED – Gold. Pending</td>
</tr>
</tbody>
</table>

Note: Leadership in Energy and Environmental Design (LEED)
### University of Minnesota Greenhouse Gas Emissions
#### Energy Sources Only
(Metric Tons CO₂ equivalent/1000 sq ft, 2007 to 2008)

![Bar chart showing greenhouse gas emissions by scope for different campuses.]

### Greenhouse Gas Emissions by Scope
(Percent of Total Campus Greenhouse Gas Emissions)

<table>
<thead>
<tr>
<th>Campus</th>
<th>Scope 1</th>
<th>Scope 2</th>
<th>Scope 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crookston</td>
<td>61.7%</td>
<td>32.8%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Morris</td>
<td>44.0%</td>
<td>39.2%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Rochester</td>
<td>3.1%</td>
<td>57.6%</td>
<td>39.3%</td>
</tr>
<tr>
<td>Duluth</td>
<td>34.5%</td>
<td>58.3%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Twin Cities</td>
<td>31.5%</td>
<td>53.2%</td>
<td>15.3%</td>
</tr>
</tbody>
</table>

**Note:**
Scope 1 = emissions related to on-campus energy and fleet  
Scope 2 = emissions related to purchased electricity, energy  
Scope 3 = emissions related to operating campus – commuter, air travel, etc.
# Waste Diversion Rates
(Percent Recycled Materials per Total Waste, by weight)

<table>
<thead>
<tr>
<th>Campus</th>
<th>Diversion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crookston</td>
<td>Not Available</td>
</tr>
<tr>
<td>Morris</td>
<td>20%</td>
</tr>
<tr>
<td>Rochester</td>
<td>In Process with Mall Owner</td>
</tr>
<tr>
<td>Duluth</td>
<td>42%</td>
</tr>
<tr>
<td>Twin Cities</td>
<td>40%</td>
</tr>
</tbody>
</table>
Introduction and Campus Overview
The Crookston campus is located in the Red River Valley, a prime agricultural region of northwest Minnesota, near where the prairie biome meets the forest to the east. The first development at the current site was an agricultural experiment station in 1895 followed by the establishment of a residential, agricultural high school in 1905. In 1966, the high school phased out and a two-year technical college was established, building on the experiential learning tradition. The agricultural experiment station continues to be co-located with the college and is currently known as the Northwest Research and Outreach Center, conducting research and outreach in agronomy, soils, plant pathology, and natural resources. The technical college transitioned to a baccalaureate institution in 1993 and has a current enrollment of 1,420. There are four academic departments: Agriculture and Natural Resources; Business; Math, Science, and Technology; and Liberal Arts and Education. The predominance of students are majoring in Agriculture, Natural Resources, and Business programs. Recent programs have been added in Biology, Criminal Justice, and Environmental Science. The smaller campus size facilitates collaborative teaching and students having an awareness of other disciplines and majors that may not be as obvious on a larger campus. Additionally, about 10 percent of on-campus students are international which can broaden the global perspective of the campus. There is a very active service learning program on campus which engages students with the broader community and makes education real.

The campus mission is; “The University of Minnesota, Crookston (UMC) is integral to the University's statewide land grant mission. The college provides its unique contribution through applied, career-oriented learning programs that combine theory, practice and experimentation in a technologically rich environment. UMC connects its teaching, research and outreach to serve the public good.”

The campus vision is: “The University of Minnesota, Crookston is unique in the region, providing access to world renowned teaching and research and serving as a regional hub for:

- undergraduate education leading to a University of Minnesota diploma
- technology applications in higher education
- innovation, entrepreneurship, and regional sustainability
- leadership development
- global and diverse cultural experience”
The comprehensive principles of the **Campus Master Plan** approved in 2010 are:

- Changes to campus lands and practices will achieve sustainability in design, construction, and operations activity.
- Investments in campus facilities will allow the campus to flourish as a complete community and a resource to the region.
  
  Campus growth will be balanced between financial resources and goals for academic and environmental leadership.”  

(Underlining added for emphasis)

**Chronology of Campus Events Related to Sustainability**

2005  
Fabian Pommier, French graduate student, conducts first campus energy audit. Sustainable Development Conference hosted on campus. Students conducted research projects with a sustainability theme. Strong campus support for sustainability initiatives by Linda Kingery, Executive Director – NW Regional Sustainable Development Partnership (NW RSDP) and is on-going.


2007. Biofuels and renewable energy major established.

2008. Chancellor Casey appoints Sustainability Committee with work groups in: Local foods; Recycling; Curriculum; Communication and Outreach; and Physical Operations. Moodle site established to communicate activities of Committee. Chris Waltz hired to complete Green House Inventory as part of American College and University Presidents’ Climate Commitment (ACUPCC) agreement signed by President Bruininks in 2008. UMC students form Crookston Students for Sustainable Development (CSSD), obtained $8,000 Clean Energy Resource Teams (CERTS) grant for planning of the new residence hall to be constructed according to LEED standards and sponsorship of sustainability speakers, establish “green fee” to fund student sustainability assistant, and support retreat for Crookston Student Association officers. Peter Phaiah conducts research on food waste effects of going tray-less in Food Service and commenced the promotion of recycling efforts which is on-going. UMC Students in Free Enterprise (SIFE) begins increased activity since sustainability is included in two of their required organizational themes to enter regional competition. Recycling bin management is begun by different student clubs.

2009. Greenhouse Gas (GHG) report completed in May 2009. Release time grant awarded for faculty landscape architect (Eric Castle) and an engineer (Brenda Miller) to complete campus stormwater management plan. Funding procured for climate neutrality plan preparation from NW RSDP – CERTS grant, UMC Chancellor’s office, and NW Minnesota Foundation. Chancellor Casey establishes Center for Sustainability. Evergreen Hall dedicated as first LEED-certified residence hall in U of MN system. UMC chosen to partner with Otter Tail Power Company for a Campus Energy Challenge to reduce campus energy use by 10-15 percent over a one and one half year period. UMC named a host site for inaugural
GreenCorps program and an energy conservation specialist was appointed (Chris Waltz). First student sustainability assistant hired (Lisa Gentele). Recyclemania engagement is coordinated by Peter Phaiah.

2010. Proposal to establish sustainability minor was developed and considered. Campus Master Plan approved with sustainability one of three comprehensive principles. UMC represented at Upper Midwest Association for Sustainability Conference in April at River Falls, WI. Action Plan for Climate Neutrality and Sustainability completed by U of MN Center for Sustainable Building Design and is awaiting Chancellor approval. UMC awarded host site for GreenCorps program – Green infrastructure, stormwater emphasis. Sustainability Committee being proposed as a standing committee of Campus Assembly. Energy Star appliance policy being considered. Separate building meters being installed to better monitor energy usage. Power profiler added to web site to display campus energy use.

The UMC Center for Sustainability
An overarching principle is that sustainability is definitely not status quo or stagnation; it is growth and vitality but operating in a sustainable fashion. The Center for Sustainability, in conjunction with the Northwest Regional Sustainable Development Partnership, will provide a focus for creative, interdisciplinary thinking about sustainability and innovation across the Crookston campus with students, administration, faculty, and staff. The operating principles are empowerment, inclusiveness, and synergy. The Center strives to provide assistance in sustainability best practices, curriculum integration of sustainability, and efficient energy use. The Center promotes grant writing to obtain extramural funding to support interdisciplinary, sustainability related education, research, and outreach programs; contributes to system-wide sustainability coordination and reporting requirements; provides sustainability outreach and liaison to the community; provides input to campus master planning to ensure the incorporation of sustainability principles in design and development; sponsors guest speakers and conferences to stimulate integrative, holistic thinking; and serves as a clearing house for sustainability information in the “Green Library” in Hill 109 and on the Sustainability web page. The Center will collaborate within the University of Minnesota system (U of MN Systemwide Sustainability- Goals, Outcomes, Measures, and Process Report, September 2009), other academic institutions, and the greater community; and with a sustainability focus of applied research, service learning, outreach, and campus infrastructure. With this expanded view, UMC will still be the best of what it has been, and is, but even more. We will ensure that our graduates have an academic experience that is forward thinking to prepare them for a changing, culturally diverse, and interconnected world; but in a campus community that physically and philosophically demonstrates sustainability. The campus will actively incorporate “sustainability into its teaching, research, and outreach and the operations that support them” (Regent’s Policy on Sustainability and Energy Efficiency, adopted 7/04).

Sustainability as a Unifying “Communiversity”1 Theme for UMC

1 Communiversity is a composite term including a community and its university and suggests a sharing of resources and a striving for synergy in meeting the needs of its citizens and students.
Sustainability is broad in its application and ranges from saving energy, to promoting local food, and to promoting and teaching about renewable energy. The latter increases our independence as a nation while improving our balance of trade and reducing pollution which can improve public health and the biotic integrity of our world. UMC continues to increase synergistic relationships with the local community through service learning, assisting with community development initiatives, and by its presence serving as an economic engine. For example, GreenCorps energy specialist, Chris Waltz helped the city of Crookston garner nearly $100,000 to offset the cost of installing energy-saving LED street lights. Similarly, he assisted with identifying lighting changes in UMC’s gymnasium, livestock facility, greenhouse, and fitness center which will result in substantial energy saving with a payback around two years. New state regulations are being proposed regarding stormwater management and discussions are in progress with the city of Crookston to evaluate the use of stormwater retention basins and rain gardens to address a problem while providing community amenities. This will be the focus of UMC’s newest GreenCorps specialist along with working with a campus stormwater plan. UMC is already engaged in cooperative, sustainability initiatives with the community that are noteworthy and perhaps theme-worthy as we consider ways to promote and unify our “communiversity.” Public engagement is an increasing priority within the University and these are bragging points of real world examples which we can promote to students and our constituency as we strive for relevant education. Students like to be involved in making a difference.
Introduction
The University of Minnesota Duluth is located at the western edge of Lake Superior in northeastern Minnesota. The area’s climate demands a long heating season of the campus heating plant, which is powered by natural gas boilers. The air conditioning season is shorter, but campus chillers are electrically powered. Electricity is supplied by Minnesota Power and mainly generated by coal-fired power plants. Electricity purchases are the largest source of greenhouse gas emissions for the campus; natural gas is second. The energy used to heat, cool, and power buildings on campus contributes over 90 percent of the campus carbon footprint; therefore, buildings are a large priority for sustainability activities at UMD.

Executive Summary
Energy conservation and energy efficiency are high priorities for UMD in their quest to reducing the energy intensity and greenhouse gas emissions from campus buildings. Starting in the 1980's with a visit from Amory Lovins, an energy efficiency expert, UMD began conserving energy by scheduling and operating buildings more efficiently. Energy retrofits for buildings followed: lights, fans, windows, and rooftops. These efforts continue today, with leadership from staff in both the Building Systems Operation Center and UMD Facilities Management. [Energy Efficiency Goals 1, 2, and 3]

With a nearly 40 percent increase in campus square footage in the past decade, building energy-efficient buildings has been a necessity to keep energy use and greenhouse gas emissions in check. With leadership from Facilities Management, the campus gained its fourth LEED certified building, the Bagley Outdoor Classroom, a building that also met the rigorous Passivhaus energy efficiency standards. [Operations Goal 3; Leadership and Modeling Goal 1, 3]

Engaging the campus in energy conservation makes a difference. Over the 2008-2009 winter break, UMD leadership asked the campus community to pitch in by encouraging staff to take vacation and reporting departments that were closed over the entire break. Buildings were scheduled to be cooler and less ventilated, so people who planned to be on campus were asked to prepare for cooler temperatures. Students have also led carbon reduction activities, ranging from taking part in a solar research project at Malosky stadium, attending sustainability fairs and events, volunteering on the Student Sustainability Coalition- including an energy audit of three UMD buildings and Bike-to-School events, working on class projects focused on campus operations, or interning/working with the UMD Office of Sustainability on resource conservation. The UMD Sustainability website, AddingUptoZero.com
blog, and campus announcements all help to keep the entire campus community informed and engaged. [Energy Goal 1, 2, 3; Communication Goal 1; Research Goal 5]

Stormwater management is a leadership area for UMD. The campus location—set in two Lake Superior tributary watersheds, one of which is a trout stream—makes controlling runoff and pollution important. In 2005, a large rain garden was built on campus that is a popular destination for stormwater professionals and community members to learn about stormwater best management practices. Additional rain gardens and runoff treatment methods (green roofs, pervious pavers, biofiltration, underground storage) have been added, along with continued partnership with the Regional Stormwater Protection Team and the LakeSuperiorStreams.org website. [Operations Goal 1]

In addition to energy and stormwater, the UPASS program is a popular and sustainable transportation option with UMD students. The UPASS allows ridership of all full-time students, staff, and faculty on the Duluth Transportation Authority bus system. The UPASS is currently provided to free-of-charge. [Operations Goal 3]

Key successes for UMD Sustainability

- Reflective of efforts to conserve energy, treat stormwater runoff, purchase green materials, and minimize water use, UMD earned LEED certification for new construction for the four most current buildings to be opened on campus: Life Sciences: LEED Silver, Labovitz School of Business and Economics: LEED Gold, Swenson Civil Engineering: LEED Gold, Bagley Outdoor Classroom: LEED Platinum. [Operations Goal 1]

- While total greenhouse gas emissions has increased slightly from 2007 until 2009 (3.2 percent increase), the intensity of energy (per 1,000 net square feet of campus buildings) has decreased slightly (-3.32 percent.) See UMD Greenhouse Gas Emission Intensity graph below. [Energy Goals 1, 2, 3]

- Over the 2008-2009 winter break, UMD realized $18,399 in utility savings over the 11-day period due to curtailment of energy use by turning down building heat and ventilation that were either unoccupied or sparsely occupied over break. [Energy Goals 1, 2, 3]
  - Natural gas use in the campus heating plant was reduced by 2,151 million cubic feet: a reduction of 113 metric ton of greenhouse gases- or 13 percent - over the same period last year. Electricity use was reduced during this period by 79,196 kilowatt-hours, a reduction of 65 metric tons of greenhouse gases, 6.3 percent below the same period the previous year.

- The Bagley Outdoor Classroom building was built to meet a remarkable level of energy efficiency, water conservation, and waste reduction. The building is used as a base for education and research for many UMD classes (biology, environmental science, outdoor education, etc), however the building itself is a teaching tool as it has many unique and sustainable features. See http://www.duluth.umn.edu/sustain/green_buildings/bagley_tour.pdf [Leadership and Modeling Goal 3]

- UPASS ridership grew quickly and reached a sustained level of nearly 100,000 rides per month during the busiest season. Total ridership on the Duluth Transit Authority through the UPASS
has exceeded three million, contributing to nearly 50 percent of total student commuting miles being by bus instead of single-occupant vehicles. [Operational Improvements Goal 3]

Future progress at UMD will include the creation of a climate action plan (UMD Energy Plan), through the UMD Sustainability Committee, which will outline a path for the campus to reduce energy use and greenhouse gas emissions (expected submission date to the American College and University Presidents Climate Commitment: December, 2010.) Challenges for progress at UMD include the long heating season, the electricity use for air conditioning of buildings, the need to meter individual buildings (difficult for the connected layout of the UMD campus), and reducing energy use despite a growth in student enrollment and an increase in square footage of campus. Funding for energy efficiency projects in the past has been provided by UMD Facilities Management and the Higher Education Asset Preservation and Replacement funds; however future energy reduction projects will require additional funding sources.

Metrics for UMD Sustainability


Other metrics:

- Total square footage of LEED-certified buildings at UMD:
  - 192,260 sq. feet
- Student modal split (in miles driven) for 2007
  - Single Occupant Car: 2,715,339 miles
  - Bus: 2,018,445 miles
- Energy use for 2009
  - Electricity use: 40,426,642 kWh,
  - Natural Gas (heating plant): 361,884 MMBTU
- Greenhouse gas emissions per student (in metric tons of CO2-equivalent):
  - 5.0 metric tons of CO2-equivalent per student
UMD Campus Waste 2007
- Recyclables: 40%
- Solid Waste: 60%

UMD Campus Waste 2008
- Recyclables: 35%
- Solid Waste: 65%

UMD Campus Waste 2009
- Recyclables: 42%
- Solid Waste: 58%

Note: Food waste recycling data not included for 2007-2009 recycling numbers
UMD 2007 Commuting

- Students: 2,018,445
- Faculty/staff: 146,503

Facility: 1,371,471
University of Minnesota Morris
Campus Sustainability Report

Introduction
The University of Minnesota, Morris, is situated in a unique location in west-central Minnesota. The City of Morris is the county seat of Stevens County and is on the Minnesota prairie. The region has many important assets. The soil is young and productive despite the short Minnesota growing season, and if you visit in summer you will see corn and soybeans from horizon-to-horizon in each direction. To reach Morris, you would travel Interstate 94 for about one-and-a-half hours northwest to Sauk Centre, and then travel west on a county road for one hour. From a distance outside of Morris, you would see a glance of the University of Minnesota wind turbine, situated on a glacial ridge above the Pomme de Terre River, located at the U of M West Central Research and Outreach Center. The region is rich in natural resources, great soil, abundant biomass and sun, and winds that spin turbine blades and discourage mosquitoes.

The history of this region and campus are equally rich. Since the late 1800s, this campus has been a place of learning. It began life as an industrial boarding school for American Indians, under the auspices of the Sisters of Mercy. The experiment of integration began to falter in the early 1900s and the federal government stepped in to continue it until about 1910. During the next fifty years, the land and buildings became home to the West Central School of Agriculture, transmitting important skill and knowledge to regional youth for decades. Many graduates of the WCSA are still living in the region and proud of its heritage. In 1960, the educational experiment in Morris evolved again, and the lands became the University of Minnesota’s first and only public liberal arts college. For the past forty years, the University of Minnesota, Morris has served a dedicated population of students seeking a small, residential college experience with a focus on teaching excellence. Today the Morris campus serves about 1700 students seeking an undergraduate education. The campus does not offer any masters or doctoral degrees. We have the highest percentage students of color in the U of M system. Our student body is 20 percent students of color, 12 percent of whom are American Indian. Our student body travels widely and has been nationally recognized for their adventurousness. Our students are serious scholars, with large percentages of the body taking part in undergraduate research, scholarly and creative work and eventually, attending graduate schools to pursue their educations.

In the past decade, the connections between how we live, how we treat our land and natural resources, and how intertwined these considerations are has never been clearer. In our 1973-1975 bulletin, it reads, “UMM is in the continual condition of “becoming,” changing as the vision of its participants changes, reflecting as an institution the ceaseless learning which is life both to community and to
educated women and men.” Today this learning has come full circle and connects liberal arts learning to the themes of sustainability. Our new campus tagline for Morris campus reads, “A renewable, sustainable education.” As a campus community we are working to infuse our curriculum, co-curriculum and campus life with opportunities to ask big questions, and find big solutions. Together, our history and regional abundance provide a unique opportunity and place for students to explore these questions, the ethic of sustainability, and their own educational and personal development.

Executive Summary and Narrative

There are several drivers that have helped to advance sustainability efforts. A shared campus governance process at Morris engages members from our entire community. Students, faculty and staff are all involved with helping to shape the campus culture and identify priorities. We have had excellent relationships across these groups, and excellent leadership emerging from all of these groups. In total, our sustainability initiatives on campus touch nearly all aspects of campus life.

Leadership and Modeling

Morris campus has taken a leadership role in helping to demonstrate and promote sustainability, energy production and conservation, and producing sustainability leaders. The Morris campus strategic and master plans feature sustainability and energy production and conservation components. Morris campus is a charter signatory of the American College and University Presidents Climate Commitment. Morris campus was pilot site and is charter signatory of Association for the Advancement of Sustainability in Higher Education STARS program, a sustainability tracking and rating system. Morris participated in a Rocky Mountain Institute Advancing Campus Climate Initiatives project and was featured as a campus leader. In 2006, Morris campus hired the first sustainability coordinator in the U of M system. Morris campus Chancellor Jacquie Johnson is a member of the AASHE Board of Directors. Vice-Chancellor Lowell Rasmussen is a board member of the American Council on Renewable Energy Higher Education Steering Committee. Morris campus Center for Small Towns collaborated with MPCA to create a new AmeriCorps program in Minnesota, the GreenCorps. Morris campus is a charter member of the Pride of the Prairie, one of the longest running local food programs in Minnesota Higher Education. We are currently advancing a Morris Healthy Eating Initiative to bring even more local, sustainable food to the table of students and citizens. And our students are actively engaged in all of these initiatives and creating new ones. [Leadership and Modeling Goals 1, 2, 3, 4, 5, 6]

Operations and Energy Efficiency

Our operational work has examined everything from what we eat, to how we heat, to what we drive. Morris is currently implementing an energy service contract (ESCO) to improve the campus’s conservation efforts, which includes building improvements, equipment upgrades, more efficient lighting and windows, and new renewable energy technologies. At Morris you can see and experience, wind, biomass, solar thermal, solar PV systems, and more. Our newly renovated and historic (it is on the National Registry of Historic Places) Welcome Center is on track to becoming a LEED-Platinum certified building, which would make it one-of-a-kind. We have plans to build a green residence hall in the near future, the Green Prairie Living and Learning Residence Hall. We are converting our transportation fleet
over to hybrids to conserve fuel and lower greenhouse gas (GHG) emissions. And we continue to improve our food system, we have no trays in the dining hall at Morris, and we continually are increasing our local food supply. [Operations Goals 1, 2, 3, 4]

Research
Morris faculty and students are engaged in a variety of research areas that connect to our sustainability mission. In the past few years, Morris has launched a new Environmental Studies and Environmental Science programs to encourage multidisciplinary collaboration. Recently, the Morris Environmental Studies department participated in the Engaged Department Program through the U of M system, identifying ways that their research could impact community needs. One faculty member in Environmental Studies and Economics and Management, Dr. Arne Kildegaard has realigned some of his research to help understand the benefits and tradeoffs of community versus corporate wind projects. He was sought by the Minnesota Legislature to give testimony about this topic. Faculty members have performed other community engaged research in collaboration with the Center for Small Towns addressing pressing needs of communities. A sampling of other research at Morris includes: investigations into antibacterial resistance at organic versus conventional dairies, synthesis of new materials for LEDs, new synthetic paths for making ammonia, nature inspired poetry and other creative works, investigations into the effects of climate change on the prairie, local food systems, and more. [Research Goals 1, 2, 4, 5]

Education and Outreach
Our outreach and educational work continues to evolve. Morris offers green energy tours to many visitors each year from both educational and business sectors. We have made sustainability and energy a part of our everyday activities, incorporated into our new faculty and student orientation experiences on campus. Students and student groups have played a catalyst role in creating new opportunities that reflect this change. Students help lead our on campus recycling program. We have a sustainability floor in our residence halls. Our students lead a month-long sustainability-themed February each year. Morris has developed new educational opportunities, too. The past two years we offered a renewable energy course focused on biomass gasification and this year added an industry short course on biomass gasification. And we have helped launch a new GreenCorps program. Morris was the first campus in Minnesota to engage undergraduate students in this GreenCorps program. This program engages with schools and local units of government to improve their environmental performance. Finally, engaged students in 2010-2011 have helped to write grants and secure funding for a solar thermal system on the Regional Fitness Center in Morris. [Education and Outreach Goals 1, 2, 3, 4]

Communications
Morris has worked to improve sustainability messaging across campus and with outside audiences. We have developed a new sustainability piece that will help communicate our efforts with new and existing students and other audiences. Recent marketing work about Morris students and alumni has led to a
new rebranding effort, featuring sustainability. And students helped to lead a sustainability messaging campaign on campus with support from Beautiful U. We are working to improve our website and available information about our efforts. [Communication Goals 2, 3]

Metrics for UMM Sustainability

![2004 UM Morris Campus Energy Source Breakdown](chart)

- Purchased Electricity, mmbtu delivered: 22%
- Oil Use, mmbtu: 2%
- Gas Use, mmbtu: 76%
2008 UM Morris Campus Energy Source Breakdown

- Biomass, mmbtu: 65%
- WT-1 Generated Electric, mmbtu out: 15%
- Purchased Electricity, mmbtu delivered: 14%
- Oil Use, mmbtu: 2%
- Gas Use, mmbtu: 4%

2010 UM Morris Campus Energy Source Breakdown

- Biomass, mmbtu: 58%
- WT-1 Generated Electric, mmbtu out: 12%
- ST-1 Generated Electric, mmbtu out: 5%
- WT-2 Generated Electric, mmbtu out: 12%
- Purchased Electricity, mmbtu delivered: 7%
- Oil Use, mmbtu: 2%
- Gas Use, mmbtu: 4%
Note:
Scope 1 (darkest green) = emissions related to on-campus energy and fleet
Scope 2 (mid level green) = emissions related to purchased electricity, energy
Scope 3 (lightest green) = emissions related to operating campus – commuter, air travel, etc.
University of Minnesota Rochester
Campus Sustainability Report

Mission Statement
The University of Minnesota Rochester community strongly believes in the importance of gathering information with the intent of informing immediate and long-term practices that contribute to responsible resource utilization and environmental sustainability. UMR, as the newest campus in the University of Minnesota system, exists physically in leased space. Although we have limited control over decisions impacting our physical space, we strive to create sustainable policies and activities as we are able. Certainly, we have the unique ability to completely build and maintain our future campus within the new world of sustainable mindfulness.

Greenhouse Gas Emissions Mitigation Plan
The University of Minnesota Rochester has an excellent record of contributing extremely low amounts of carbon to the atmosphere. In 2009, UMR contributed 0.6 metric tons of CO2e per full-time enrollment and 4.0 metric tons of CO2e per 1000 square feet. UMR is a new campus beginning only its second year of undergraduate education. Currently, we lease space in a shopping mall and utilize existing community resources for our needs. Our hope is that as we grow, we can protect the policies and initiatives that give us our current low-carbon status. Those policies/initiatives include:

- Continue to use community resources and infra-structure. For example, why should we build a dining hall when there are many varied food options within walking distance of our campus? UMR has also partnered with the Rochester Family Y to provide students with recreational and student activities space, along with student work/study employment.
- Continue to utilize technology to decrease our need to travel to other University of Minnesota campuses. We are part of a system; this requires us to pursue relationships with four other campuses. Fortunately, UMR has more ITV equipped rooms than any campus in the University of Minnesota system. In addition, we can easily communicate with others using UMConnect and PolyCom; we discourage driving to other campuses unless there is no other technological option.
- Continue to use only hybrid technology if driving is necessary. Also, we will continue to utilize an online reservation system to facilitate carpooling to off-campus meetings.
- Continue to purchase furniture made largely of recycled materials.
• Continue to use automatic light switches in all common areas.
• Continue our aluminum, plastic and paper recycling plan. We will work within the mall where UMR is located to expand recycling opportunities beyond UMR’s borders.
• Continue to utilize a state-of-the-art heating and cooling system of pumps to regulate temperatures over a 24-hour period.
• Continue to work with interested and energetic students.

And, the most important policy/initiative:

• Continue to plan future building and expansion with sustainability as a major factor. For example, UMR has entered into a public/private partnership with a local firm to develop a mixed-use retail, office, classroom and residential development.

UMR will have a master lease for six-floors of residential housing and two floors of classroom, office and student life activity space. The remainder of the building will house retail opportunities and one floor of non-UMR residential housing.

The construction began in May 2010 with completion scheduled for July 2011. The HGA (architects) design team is leading a process to achieve LEED certification for the facility. The LEED designation level will not be known until construction is complete and the review process finalized. The initial goal is to achieve the Silver level of certification.

The classroom and office furniture currently being considered for the 318 Commons academic and office space are Steelcase products. Each of the products under consideration is 74-95 percent recyclable and is made from 33-58 percent recycled material. UMR is also responsible for furniture in the outdoor plaza of the new building. It is currently considering outdoor furniture, trash bins and recycling bins made entirely from recycled plastic milk jugs.

The University of Minnesota Rochester has been working closely with community leaders, including the City of Rochester, to plan a downtown community to encourage living, working and learning in the downtown area. The effort, known as the Rochester Downtown Master Plan, includes elements designed to promote a reduced dependency on the automobile, establishment of open and green connected spaces for community health, and provide for a walkable downtown.

The plan recommends that these goals, and others, can be achieved through investments in a dedicated mass transit system to lessen the traffic pressure and parking requirements in the downtown core, uncoupling parking space requirements from downtown development to further encouraging integrating living, commercial and retail properties, as well as the redesigning of streetscapes and traffic flows to better accommodate walking and biking commutes.
Environmental Research

UMR is in its infancy in developing a research agenda. As of Fall 2010 UMR is in its second year of employing tenure-track faculty in its first degree program - the Bachelor of Science in Health Sciences (BSHS). The faculty have three components of concentration; education, research, and outreach. The research component’s primary focus for all tenure-track faculty is teaching and learning, with a secondary focus on disciplinary research. The faculty’s chief agenda through the 2012-2013 academic year is developing the curriculum for the BSHS program. A few of the faculty are beginning to explore research opportunities in teaching and learning and their focus on disciplinary research will begin in the future. UMR will report in each successive update to our Climate Action Plan on the status of current or future research being undertaken that focuses on climate neutrality and sustainability.

Sustainability and Health Science Education

Our signature undergraduate program, the Bachelor of Science in Health Sciences, is built with an integrated curriculum design model as a foundational principle. One of the themes that is used as an integration point is 'Environment and Health". Courses across the curriculum plan to coordinate content delivery on multiple aspects of the relationship between the environment (all dimensions: cultural, psychological, social, natural, physical), public health, individual health, politics of health, public policy and sustainability. For example, a topic such as "chemical toxins" might be addressed in chemistry, biology, sociology, history, statistics and ethics.

It is hoped that the broad curricular context in which this material is delivered will inform a broader contextual understanding of the issues related to the concept of environment in general and the natural environment specifically. From this perspective, students will develop a better understanding of the effects that global warming and other pressing environmental issues have on various aspects of their daily lives. They will understand that issues concerning the environment and sustainability are not simply outside of themselves and have little direct impact. Rather, the students should develop an appreciation of the direct effect that these phenomena and concepts have on their daily lives and personal health. Furthermore, the interdisciplinary approach to addressing environmental issues will assist student understanding of the variety of approaches that could be used to address these problems. Solutions and courses of action will be informed by student understanding that carbon neutrality and sustainability can and should be approached from disciplinary perspectives beyond biology.

Our educational model does not end at the classroom door. Once students appreciate the variety of steps that they could take, we will provide them with opportunities to form student organizations dedicated to contributing to decisions and actions. These organizations will provide a contact point to help educate other students, faculty, staff and members of the local community on carbon neutrality and sustainability.
(Intentionally Blank)
University of Minnesota Twin Cities
Campus Sustainability Report

Introduction
The University of Minnesota Twin Cities (UMTC or Twin Cities) campus is among the largest public research universities in the country, offering undergraduate, graduate, and professionals many opportunities for research and education. The campus is the oldest and largest part of the University of Minnesota system and is located in an urban setting in a major metropolitan area. UMTC is a small city with nearly 70,000 students, faculty, and staff. The Twin Cities campus is actually comprised of three distinct areas: East Bank, West Bank and St. Paul. The East and West Banks are on either side of the Mississippi River in Minneapolis. Four historic neighborhoods border the University and these neighborhoods along with businesses, neighborhood volunteers and university staff work together as part of the University District Alliance to help create a vibrant, safe, healthy and sustainable community. The St. Paul Campus is located in suburban city of Falcon Heights and with more green space that provides unique opportunities for sustainable campus practices. There are many long standing Twin Cities programs grounded in environmental stewardship. Three key successful operational programs that reflect our unique campus setting are in the areas of waste reduction, transportation and energy efficiency. The first recycling pilot started at the Twin Cities campus in 1983. The “quad” system implemented later was intended to make recycling easy while providing the greatest opportunity for high value return on recyclables. Currently 40 percent of waste is diverted to recycling or other uses. Transportation has also been a critical component of the Twin Cities campus operations for many years. More than 80,000 visitors are estimated at the Twin Cities campus each day – making it the third largest traffic generator in the state. Energy use reduction is a significant program due to the number of buildings and type of buildings – research laboratory buildings have a high energy use. In 2009, the annual energy/electricity cost for the Twin cities campus was $45 Million dollars. Natural gas (over 70 percent) is the primary fuel source for steam production on campus. Coal is second at about 23 percent. Oat Hulls (3 percent) are also burned at the Minneapolis steam plant.

Summary
UMTC campus has demonstrated its commitment to sustainability and has made significant strides in implementing the Board of Regents policy. In a campus this large, with numerous and diverse activities underway, this summary report provides a snapshot of a few key achievements.
Administrative

The University of Minnesota System-wide Sustainability: Goals, Outcomes, Measures, Process Report was presented to the Board of Regents in late 2009. A result of a University-wide effort engaging students, faculty and staff from across the system, it presents goals and proposed measures to incorporate sustainability across the university’s mission. Key metrics are still in development - such as energy reduction – that will be reported regularly through the committee and to the President and the Board of Regents. The Twin Cities campus will establish baseline measurements using Association for Advancement of Sustainability in Higher Education Sustainability Tracking and Reporting System (AASHE STARS) as a framework. (http://stars.aashe.org/pages/about/) The University of Minnesota Sustainability Committee, Twin Cities Campus was formed to implement these sustainability goals at the Twin Cities campus. The two initial priorities for the UMTC Sustainability Committee are completion of the campus climate action plan to ACUPCC and metrics reports to AASHE.  

[Leadership and Modeling Goal 4]

External Recognition

The Twin Cities campus received the highest 2011 grade awarded in the Sustainable Endowments Institute (SEI) College Sustainability Report Card (A) and was one of only three schools to receive straight A’s in all nine categories. In 2010, the Twin Cities campus was named a 2010 Campus Sustainability Leader and in 2009, the Clean Energy Resource Teams of the Regional Sustainable Development Partnerships received the Champions of Sustainability in Communities award.  

[Leadership and Modeling Goal 1]

<table>
<thead>
<tr>
<th></th>
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<th>2008</th>
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<th>2010</th>
<th>2011</th>
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<td>B-</td>
<td>B</td>
<td>B+</td>
<td>A-</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>(highest grade awarded, highest grade in Big 10)</td>
<td>(out of over 300 schools, only 7 received at least one A grade; U of M received 9 A grades)</td>
<td></td>
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</tbody>
</table>

Interdisciplinary Research Example

The Institute on the Environment annually provides over $9 Million for interdisciplinary research related to renewable energy, global land use, freshwater and more. Since 2003, the Initiative for Renewable Energy and the Environment (IREE), a signature program of the Institute on the Environment, has provided nearly $24.8 Million for renewable energy research at the University of Minnesota. These funds have been used to leverage an additional $59 Million from a variety of sources including federal granting agencies, state government, and business and industry.  

[Leadership and Modeling Goal 2]

Operations

These are a few examples of operations sustainability initiatives. A new Purchasing Services Sustainability Policy leverages buyer power and supplier relationships across the university to encourage and increase purchasing that reflects the University's commitment to sustainability and promote
environmental factors.

University Dining Services (UDS) and Housing and Residential Life (HRL) are working on programs to increase use of locally purchased foods, recycling, and composting (including biodegradable packaging). Twenty percent of total food purchases in UDS are local; and 12 out of 35 dining facilities participate in composting. Sustainability initiatives already implemented in HRL include in-room recycling bins, energy and water conservation, and recycling/reuse during move-in and move out. HRL provides suggestions to incoming students on purchasing products with less packaging waste and energy efficient electronics.

Parking and Transportation increased transit ridership by 200 percent since 2000 by offering students, faculty, and staff subsidized low-cost, unlimited ride transit pass that is good on every bus and rail route in the Twin Cities. The program has been a tremendous success with more than 21,000 students using the U-Pass program every semester and 2,000 faculty and staff using the MetroPass, reducing more than 50,000 vehicle miles and saving more than 2,000 gallons of gasoline daily. The reduced driving also eliminates more than 400 tons of carbon monoxide and 4,500 tons of carbon dioxide emissions annually.

In the past year, the TCF Bank Stadium and Science Teaching and Student Services building were opened. The TCF Bank Stadium has an extensive stormwater control stem to reduce pollutants to the river – obtained LEED (Leadership in Energy and Environmental Design) silver certification. STSS was constructed to LEED Gold and contains innovative features like the energy recovery wheel. A sustainability tour map and signage was added in STSS to raise awareness of the sustainable building features.

[Operations Goals 1, 2, 3, 4]

Energy Efficiency

During the past year, significant effort was made to expand and focus the work already underway to implement energy conservation and energy efficiency measures. Students, staff and faculty showed a strong interest in energy matters. Facilities Management on the Twin Cities campus set a two year 5 percent energy use reduction goal, targeting $2.25 Million savings, by June 2010 and met it ahead of target. Over 25,000 tons of carbon dioxide equivalents were saved by the actions taken. 25,000 tons of carbon is approximately equivalent to twice the U of M Morris campus greenhouse gas emissions levels, or about the same as a campus the size of Macalester. The goal was met primarily through building recommissioning energy efficiency projects. An energy conservation goal for 10,000 pledges was set and reached. Nearly 400 unit/department pledges were also made. A new goal to save $2 Million dollars in the next year has been established. Several student groups self organized to form an Energy Efficiency Student Alliance to work with staff on building energy awareness. The students measure office energy use for each employee’s office and raise awareness about the energy use and vampire power. EESA has presented at regional and national conference, being recognized as leaders and a model for other schools. An Energy Conservation Operations Team was formed and is reducing energy use through various initiatives: green computing, lab hood standards, space utilization etc.
The successful “It All Adds Up” campaign was expanded to include recycling and waste reduction and launched on Beautiful U Day 2010. A 5 percent increase in recycling rate has been set for 2012 - an additional 450 tons of recyclables. Student volunteers organized to help raise awareness about discarded recyclables in trash with a large scale garbage sort event at Coffman Memorial Union that received local regional and national press. [Energy Goals 1, 2, 3; Operations Goal 4; Leadership and Modeling Goal 1; Communications Goal 2]

Climate Action Planning
In 2008, the University of Minnesota committed to become climate neutral as a signatory of the American Universities and Colleges Presidents Climate Commitment (ACUPCC) but was already committed to reduce carbon emissions as a member of Chicago Climate Exchange since 2004. The UMTC has one of the largest carbon footprints of ACUPCC signatories. These emission levels are directly impacted by the type fuel used (coal, natural gas, biomass etc) and the number and types of buildings on campus. Greenhouse gas emissions are expressed in terms of Metrics Tons of Carbon Dioxide equivalents and reflect total energy use and energy mix (renewable vs. carbon based fuels). Standard protocols typically divide emissions into three categories called Scopes. Scope 1 are emissions directly owned or operated by the University; Scope 2 are emissions purchased or consumed by the University and Scope 3 are difficult to assess indirect emissions resulting from activities such as air travel and commuting. Figure 1 below shows the current split of emissions by Scope for UMTC.

Scope 2 emissions are currently the largest portion of UMTC’s greenhouse gas emission inventory due to the amount of electricity used and because our region gets a large part of electricity from coal. Scope 2 emissions are not under the University's control. They reflect the amount of electricity used and also factors like the state's renewable energy goals – increasing wind and solar energy in the state. The University has numerous active programs to reduce Scope 1 and Scope 2 emissions in energy conservation, energy efficiency and is also investigating renewable and alternative energy fuel source options. Currently over 70 percent of fuel is natural gas. Scope 1 and Scope 2 emissions are reported, normalized for building square footage as a university metric. In Figure 2, Scope 1 is referenced as U of M Generated Steam and Scope 2 is called Xcel Generated Electricity. [Energy Goal 2, 3]

Education and Outreach
Office of Student Affairs, Orientation and First Year Programs is working with University Services and the Sustainability staff (in Education and Operations) to focus on communicating and modeling key sustainability practices during Welcome Week through workshops, and also by integrating them into events - zero waste lunch, getting students on bus and connector, working with corporate sponsors for more "sustainable" giveaways. In 2009 students and staff presented on the following areas - energy and energy conservation pledge tables, bike safety/bike courtesy workshop, living green on campus, info on alternative transportation - Zip Car, ZimRide, U-Pass, dining services composting and recycling and to provide student tabling to make connections with student groups as part of the Institute on the Environment Open House. There are approximately 20 student groups engaged in environmental and sustainability topics on campus, in the community and globally.
The Sustainability Studies Minor is one of the fastest growing on campus with over 300 students. Projects and internships support the living laboratory goals by providing service learning projects with university operations, community and local businesses. [Education and Outreach Goals 1, 2; Communications Goal 2; Operations Goals 3, 4]

Community Sustainability Partnerships
The University District Alliance which partners with the UMTC Minneapolis campus neighborhoods has partnered with Center for Energy and Environment Community Energy Services to help kick off a program of homeowner energy audits. As of Sept 2010, 118 home visits have been made in the University District neighborhoods. [Education and Outreach Goal 2]

Communications
One of the challenges faced at the Twin Cities campus is effectively communicating sustainability program successes and progress. In a smaller more intimate campus community those messages and events are prominent and may more easily receive high visibility in overall campus message. With high level administrative support and resources, the “It All Adds Up” campaign has become the cornerstone of communicating how the UMTC community can contribute to operational sustainability goals. Initiated as an energy campaign on Beautiful U day 2009, it was expanded to include recycling in 2010 and the next phase is planned to have Alternative Transportation goals.

Recognizing the challenge of ensuring a cohesive sustainability message to external audiences, in 2009 a priority was to establish a portal for the University. An Environment and Sustainability Portal was launched for fall semester 2010, development led by Institute on the Environment. Other media used for sustainability messages and event communication across the system is the University of Minnesota Sustainability Facebook™ page set up through University Services. Each campus was given administrative capability to add information to the page. Improved communications will continue as a focus in the next year including online feedback and input on climate action planning and other initiatives. [Communications Goal 1]
Metrics for UMTC Sustainability

Note:
Scope 1 = emissions related to on-campus energy and fleet
Scope 2 = emissions related to purchased electricity, energy
Scope 3 = emissions related to operating campus – commuter, air travel, etc.

Figure 1: UMTC Greenhouse Gas emission, by Scope
Figure 2: Greenhouse gas emission, as metric Tons CO2, per 1000 Gross Square Footage (Red line shows campus growth as Million GSF)

**Population Density - Students, Staff, Faculty combined**
- 30% live within two miles of campus
- 18% live within two to five miles of campus
- 52% live more than five miles away from campus

**Travel Modes**

<table>
<thead>
<tr>
<th>Mode</th>
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<td>Bike</td>
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</tr>
<tr>
<td>Carpool</td>
<td>8%</td>
</tr>
<tr>
<td>Bus</td>
<td>27%</td>
</tr>
<tr>
<td>Walk</td>
<td>23%</td>
</tr>
<tr>
<td>Drive alone</td>
<td>32%</td>
</tr>
</tbody>
</table>

*(October 2009 data)*

Figure 3: UMTC Transportation – 2008-2009 Travel Modes; [http://www1.umn.edu/pts/files/FactsFigures.pdf](http://www1.umn.edu/pts/files/FactsFigures.pdf)
Appendix A: University of Minnesota Systemwide Sustainability Goals

Leadership and Modeling
Goal 1: Be a national leader and pioneering model for sustainability and energy efficient operations among large public research land-grant institutions
Goal 2: Actively advance the transition to a sustainable world economy through research, teaching, outreach, and operations
Goal 3: Inspire and influence the community, nation, and world through innovative sustainable research and practices
Goal 4: Make significant continuous achievements toward sustainability goals and commitments
Goal 5: Embrace an organizational culture and individual decisions that support an inclusive, engaged, active, and sustainable healthy community
Goal 6: Meet all regulatory requirements and support the development of future regulations and policies through technical review, academic study, and practical experience

Operational Improvements
Goal 1: Plan, program, design, construct, and operate University of Minnesota facilities throughout their life cycle to provide restorative impacts to the natural environment and a healthy indoor environment for the University community
Goal 2: Integrate environmental, economic, and social priorities into purchasing and contract decisions
Goal 3: Use lower impact transportation alternatives that increase fuel efficiency, provide more sustainable fuel options, and help reduce the miles traveled on campus, to campus, and as part of the University of Minnesota enterprise
Goal 4: Manage resources for their highest end use by reducing consumption, minimizing waste, and strongly supporting the reuse and highest value recycling of unwanted materials

Energy Efficiency
Goal 1: Reduce energy use
Goal 2: Engage the University of Minnesota community in energy conservation
Goal 3: Pursue climate neutrality and energy efficient operations across the University of Minnesota
Goal 4: Adopt energy-related financial policies which enable the University of Minnesota to be socially, environmentally, and fiscally informed
Goal 5: Contribute to the development of progressive state and federal energy policies

Research
Goal 1: To advance sustainability, nurture cross-disciplinary collaboration and sharing of ideas and perspectives within and beyond the University
Goal 2: To advance sustainability, promote civically engaged, socially informed, and community responsive research and scholarship
Goal 3: To advance sustainability, instill sustainability principles in the research culture of the University of Minnesota; all levels of University leadership should embrace sustainability as a core pillar of the University’s mission
Goal 4: To advance sustainability, eliminate institutional barriers and disincentives to interdisciplinary and collaborative sustainability research
Goal 5: To advance sustainability, transform the University of Minnesota into a living laboratory for sustainability

Education and Outreach
Goal 1: Capture the land-grant mission: Sustainability is part of the educational or campus experience of each and every University of Minnesota student
Goal 2: Integrate service learning into the undergraduate and graduate experience, linking students, faculty, University of Minnesota Extension and community partners
Goal 3: Create and implement curricula and educational programs that address the interface of environment, society, and economy
Goal 4: Develop outreach programs for sustainability education of working professionals in the public and private sector

Communication
Goal 1: Create opportunity for dialogue to discuss global and local sustainability challenges, opportunities available, and the work of the University to advance sustainability
Goal 2: Develop and implement marketing/promotion efforts to engage those who may not be aware of sustainability-focused education, outreach, and research opportunities
Goal 3: Develop and maintain a transparent data management information system to enable decisions utilizing environmental, economic, and social factors
High Level Goals

The following high-level goals are distilled from the 27 work team goals and reflect key themes that repeatedly surfaced in the work teams’ reports.

1. Leadership
As a large public research land-grant university, the University of Minnesota will strive to be a leader in sustainability and energy efficiency.

2. Living Laboratory
The University of Minnesota will serve as a living laboratory as we integrate sustainability across operations, education, research, and outreach.

3. Engagement
The pursuit of sustainability will actively engage all dimensions of the University, and the University will promote activism and engagement related to sustainability.

4. Communication
Transparent and abundant communication will help build awareness of the what, why, and how of sustainability throughout the University of Minnesota community. The University will encourage communication, marketing, and transparency to build awareness and participation.

5. Policies
Uniform policies will help departments and programs adopt best practices for sustainability. The University will establish policies that make best practices (energy, purchasing, etc.) the most desirable choice for all departments.

6. Culture Change
The University of Minnesota community will undergo a fundamental culture change as sustainability is integrated through our programs and practices. The University will nurture a culture that views sustainability as an integral component of all we do.

7. Community Impact
The University of Minnesota’s pursuit of sustainability will enhance awareness and adoption of sustainable practices in the broader community. The University will create mechanisms for measuring impacts on campus and beyond. (How does our work change the world?)

8. Integration
The University of Minnesota will integrate sustainability into operational and financial decisions, teaching, research, and outreach.

Review the Systemwide Sustainability Report located at:
Appendix B: Sustainability Committee Information

University of Minnesota Strategic Sustainability Committee

Chairs: Kathleen O’Brien and Jacqueline Johnson
Staff to Committee: Amy Short
Representation from all campuses - faculty, students and staff

**University of Minnesota Systemwide**

**Systemwide Sustainability Committee:**
Kathleen O’Brien, Vice President, University Services, Co-Chair
Jacqueline Johnson, Chancellor, University of Minnesota, Morris, Co-Chair
Britta Anderson, undergraduate student, UMTC
Leslie Bowman, Executive Director, Contract Administration, Auxiliary Services
Tom Cariveau, undergraduate student, UMD
Jeffrey Corney, Managing Director, Cedar Creek Ecosystem Science Reserve, UMTC
Robert Dunbar, Associate Professor, Biology, UMR
Ken Gilbertson, Associate Professor, Health, Physical Education and Recreation, Director, Center for Environmental Education, UMD

**Crookston Sustainability Committee**
Chair: Daniel Svedarsky

**Duluth Sustainability Committee**
Chair: Tom Ferguson
Sustainability Coordinator: Mindy Granley

**Morris**
Chair: Troy Goodnough

**Rochester**
Sustainability Contact: Michael Frigden

**Twin Cities Sustainability Committee**
Chairs: Mike Berthelsen, Emily Hoover
Staff to Committee: Shane Stennes

Subcommittees:
- Research
- Education & Outreach
- Energy & Operations
Task Groups:
- Waste Stream
- Dining
- Landcare
- Transportation
- Utilities
- Energy Demand

Working Groups:
- Communications & Outreach
- Curricular
- Foods
- Physical Operations
- Recycling
- Water & Landscape
Mary Guzowski, Associate Professor, Architecture, College of Design, UMTC
Nick Jordan, Professor, Agronomy & Plant Genetics Department, UMTC
Linda Kingery, Executive Director, Regional Sustainable Development Partnership, UMC
Alexandra Klass, Associate Professor of Law, UMTC
Jerome Malmquist, Director, Energy Management, Facilities Management
Orlyn Miller, Director, Planning & Architecture, Capital Planning and Project Management
Craig Moody, Director, Department of Environmental Health and Safety
Karen Mumford, Assistant Professor of Biology & Environmental Studies, UMM
Kayla Pridmore, Undergraduate Student and Sustainability Student Intern, UMM
Amy Short, Sustainability Coordinator and Staff to the Committee
Dan Svedarsky, Director, Center for Sustainability, UMC & Northwest Research and Outreach Center
Lauren Snively, Undergraduate Student, UMC
David Bael, Graduate Student, HHH Institute of Public Affairs, UMTC

Staff to the committee:
Michael Fridgen, Assistant to the Vice Chancellor for Academic Affairs, UMR
Troy Goodnough, Sustainability Coordinator, UMM
Mindy Granley, Sustainability Coordinator, UMD
Anne Rittgers, Sustainability Student Assistant, UMD
Beth Mercer-Taylor, Sustainability Education Coordinator, UMTC
Shane Stennes, Sustainability Coordinator, UMTC

University of Minnesota Crookston

Crookston Sustainability Committee:
Daniel Svedarsky, Professor and Director of Sustainability, Chair
Paul Aakre, Faculty
Jason Brantner, Research Fellow (NWROC)
Kent Freberg, Faculty
Shawn Friedland, Student
Pat Kelly, Crookston Public Works
Linda Kingery, Program Director (Minnesota Extension)
Douglas Langer, Senior Operating Engineer
Martin Lundell, Faculty
Rachel McCoppin, Faculty
Tim Norton, Director of Facilities and Operations
Peter Phaiah, Associate Vice Chancellor for Student Affairs
Christo Robberts, Faculty
Tricia Sanders, Finance Director
Jon Steiner, Polk County Environmental Services Officer
Ben Sullivan, Student
Chris Waltz, CERTS Coordinator
Ben Williams, Student
Chris Winjum, Asst to Chancellor
Working Groups:

Recycling Working Group
Jenna Benoit, Student
Brian Christensen, General Maintenance Supervisor
Shawn Friedland, Student
Thomas Melhorn, Student
Melanie Meyer, Student
Peter Phaiah, Associate Vice Chancellor for Student Affairs
Chris Waltz, Student
Andrew "A.J." Wilson, Student

Curricular Working Group
Paul Aakre, Faculty
Martin Lundell, Faculty
Katy Smith, Faculty
Dan Svedarsky, Faculty
Chris Waltz, Student

Foods Working Group
Natalie Brown, Director of Dining Services
Eric Castle, Faculty
Linda Kingery, Program Director (Minnesota Extension)
Harouna Maiga, Faculty
Ken Myers, Faculty
Terry Nennich, Minnesota Extension
Anna Ogaard, Student
Peter Phaiah, Associate Vice Chancellor for Student Affairs
Sharon Stewart, Faculty
Deborah Zak, Minnesota Extension

Communication and Outreach Working Group
Amber Bailey, E-Communications Manager
Amber Evans-Dailey, Co-Chair/Director of Admissions
Heather Donati, Lewis Student
Kate Holmquist, Student
Linda Kingery, Program Director (Minnesota Extension)
Rachel Lundbohm, Faculty - Marketing
Rachel McCoppin, Faculty - Communication
Ben Sullivan, Student
Dan Svedarsky, Faculty
Elizabeth Tollefson, Co-Chair/Assistant Director of Communications
Ben Williams, Student

Physical Operations Working Group
Paul Aakre, Faculty
Donn Anderson, Operating Engineer
Jason Brantner, Research Fellow (NWROC)
Kent Freberg, Faculty
Douglas Langer, Senior Operating Engineer
Tim Norton, Director of Facilities & Operations

Water and Landscape Working Group
Eric Castle, Faculty
Michael Knudson, GreenCorps Coordinator

University of Minnesota Duluth

Duluth Sustainability Committee:
Tom Ferguson, Visiting Professor Electrical/Computer Eng
Rod Leivano, Professor Finance/Management Info Services
Mike Mageau, Assistant Professor Geography
Tim Bates, Adjunct Instructor Outdoor Program
Terry Brown, Research Associate
Rich Axler, Senior Research Associate
Stacey Stark, Coordinator Geography, GIS Lab
John Sawyer, Principal Engineer Supervisor
Tim Bushnell, Principal Food Operations Manager  
Karl Novek, Maintenance Planner/Scheduler  
Nate Haugen, Student  
Cliff Tanner, City of Duluth Human Resources  
John King, VCFO/Director FM  
Mindy Granley, Campus Sustainability Coordinator  
Cheryl Anderson, Finance and Operations  
Stacy Gerth, Student  
Mahjoub Labyad, Environmental Health & Safety

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**University of Minnesota Morris**

**Green Team**
Troy Goodnough, Chair, Sustainability Coordinator  
Lisa Harris, David Aronson, Facilities Staff  
Tom Ladner, Office of Residential Life  
Margaret Kuchenreuther, faculty  
TBD Representation from the students (2—to be appointed in consultation with MCSA)  
Kate Newland, food Services  
Christine Mahoney, communications

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**University of Minnesota Rochester**

For more information, contact Michael Fridgen, Assistant to the Vice Chancellor for Academic Affairs.

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**University of Minnesota Twin Cities**

**Twin Cities Sustainability Committee:**
Mike Berthelsen, Associate Vice President, Facilities Management, Co-chair  
Emily Hoover, Professor and Head, Department of Horticultural Science, Co-chair  
Todd Arnold, Associate Professor, Department of Fisheries, Wildlife, & Conservation Biology  
Nick Deffley, Program Manager, Capital Planning & Project Management  
Jim Green, Assistant Directory, Energy Management, Facilities Management  
Raymond Hozalski, Associate Professor & Director of Graduate Studies, Civil Engineering  
Cindy McComas, Director, MN Technical Assistance Program  
Heather Mentgen Dickson, Marketing Manager, University Dining Services  
Beth Mercer Taylor, Education Sustainability Coordinator, Institute on the Environment  
Ned Mohan, Professor, Electrical & Computer Engineering  
Lance Neckar, Professor, Department of Landscape Architecture  
Christy Newell, Undergraduate, Environmental Science and Policy Management  
Andrew Phelan, Assistant Director, Department of Environmental Health & Safety  
William K. Roberts, Associate Director, Parking and Transportation  
Amy Short, Sustainability Director, University Services
Virajita Singh, Senior Research Fellow, Center for Sustainable Building Research
Tim Smith, Associate Professor Bioproducts/Biosystems Engineering and Director of the Northstar Initiative for Sustainable Enterprise at the Institute on the Environment
Deb Swackhamer, Charles M. Denny Chair of Science, Technology, and Public Policy, Humphrey and Professor Environmental Health Sciences, School of Public Health and Co-director Water Resources Center
Brian Swanson, Budget Officer, Office of Budget & Finance
Connie Thompson, Assistant Director, Housing and Residential Life
George Weiblen, Associate Professor, Department of Plant Biology
Amelious Whyte, Chief of Staff, Office for Student Affairs
Donovan Woldt, Undergraduate, Aerospace Engineering and IT student group representative to MSA
David Smith, Graduate Student, Applied Economics

Subcommittees and Task Groups:

Energy and Operations Subcommittee
Mike Berthelsen, Facilities Management
George Weiblen, Associate Professor
David Crane, Classroom Facilities Coordination Manager
Nick Deffley, Capital Planning & Project Management
Jim Green, Associate Director Energy Management
Brad Hoff, Facilities Management
Judith Martin, Senate Committee for Finance & Planning Representative
Cindy McComas, MN Technical Assistance Program
Laurie McGinnis, Center for Transportation Studies
Heather Mentgen-Dickson, University Dining Services
Andy Phelan, Department of Environmental Health & Safety
Bill Roberts, Parking & Transportation Services
David Smith, Graduate Student
Connie Thompson, Housing & Residential Life
Donovan Woldt, Undergraduate
Shane Stennes, Sustainability Coordinator
Energy/Ops Task Groups:
Waste Stream: Stacey White
Dining: Leslie Bowman
Landcare: Les Potts
Utilities: Mike Nagel
Energy Demand: Jim Green

Research
Fotis Sotiropoulos, St. Anthony Falls Laboratory
Richard A. Hemmingsen, IREE, Institute on the Environment
Raymond Hozalski, Associate Professor & Director of Graduate Studies
Ryan Kennedy, Graduate Representative, GAPSA
Ned Mohan, Professor
Lance Neckar, Professor
Tim Smith, Associate Professor

Education and Outreach
Emily Hoover, Professor
Beth Mercer-Taylor, Education Sustainability Coordinator
Todd Arnold, Associate Professor
Norman Chervany, Senate Committee for Education Policy Representative
Ben Falter, Housing and Residential Life
Laurel Hirt, Career/Community Service-Learning Center
Peter Hudleston, Professor
Cody Mikl, Senate Committee for Education Policy Representative
Christy Newell, Undergraduate
Virajita Singh, Senior Research Fellow, Center for Sustainable Building Research
Amy Short, University Services
Amelious Whyte, Office for Student Affairs
Appendix C:
Preliminary Assessment Goals Progress by Campus

The University of Minnesota Strategic Sustainability Committee is charged with helping align implementation of the Regent’s sustainability policy across the university system. This is a unique effort aimed at systemwide strategy and coordination. The earlier charged Sustainability Goals and Outcomes Committee developed U of MN Systemwide Sustainability Goals, Outcomes, Measures, and Process in 2009. They are listed below as organized in that 2009 report.

The following table is a preliminary assessment of the focus areas at each campus this year as related to the University’s Sustainability Goals and Outcomes. Based upon available information, the level of activity was rated on each goal as low or no (L), medium (M), or high (H). There are also some references by campuses as "don't know" (DK) and "Not Met." There was no attempt to establish a rating relative between campuses, it only reflects an initial self assessment at each campus. In many instances, data need to assess progress is not available in a centralized way.

<table>
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<th>Preliminary Assessment Goals Progress by Campus, 2009-2010</th>
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<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
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<td><strong>Leadership and Modeling Goal 1.</strong> Be a national leader and pioneering model for sustainability and energy efficient operations among large public research land-grant institutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>See Climate Action Plan/Report</td>
</tr>
<tr>
<td>LM1a. The University graduates the largest number of green leaders</td>
<td>H</td>
<td></td>
<td>H</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td>LM1ai. Students graduate with community experience related to sustainability</td>
<td>H- CST, GreenCorps, Office of Community Engagement, Office of Sustainability offer options/is it quality or quantity or both?</td>
<td>Request stats from our Office of Civic Engagement folks</td>
<td></td>
<td>M</td>
<td>M- there isn’t a specific measure but student leaders are organized and visible with sustainability activities; Green Job Expo - student led; Power Police, EESA; Sarita student</td>
</tr>
<tr>
<td>LM1aii. Students are more aware of sustainability issues and behave in a more sustainable manner than before they came to the U</td>
<td>M (need survey)</td>
<td></td>
<td>Not Met: we should all partner on campuses to get one question on the entrance and exit surveys.</td>
<td>M</td>
<td>M - difficult to measure - no current survey</td>
</tr>
<tr>
<td>LM1b. The University undergoes external sustainability assessments, and peer review, recognition, and rankings show progress toward sustainability (for example, the University of Minnesota has achieved a top ranking in reports on green campuses)</td>
<td>STARS, CCX, ACUPCC, (other rankings?)</td>
<td>AASHE STARS</td>
<td></td>
<td></td>
<td>H- SEI = Progressing each year and identified as a Sustainability Leader; participating in AASHE STARS</td>
</tr>
</tbody>
</table>
### Appendix C:
Preliminary Assessment Goals Progress by Campus

<table>
<thead>
<tr>
<th>Preliminary Assessment Goals Progress by Campus, 2009-2010</th>
<th>Morris</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership and Modeling Goal 2.</strong> Actively advance the transition to a sustainable world economy through research, teaching, outreach, and operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LM2a. Financial, academic, and operational planning and decisions take a long-term lifecycle view and integrate environment, economy, social equity—also known as the “triple bottom line”</td>
<td>M</td>
<td>H for green cleaning, and construction purchasing.</td>
<td>L</td>
<td>L - Some H (green cleaners); RFP for green cleaner system, Coke machine efficiency project. Need to get UMD Coke rep to respond.</td>
<td></td>
</tr>
<tr>
<td>LM2b. More research and education focuses on a green economy</td>
<td>H - (but needs more definition, is it quality/quantity? UMM has done biomass course development, MN GreenCorps fix green jobs descriptions)</td>
<td>UMD Labovitz school of business is starting a Sustainable Operations Graduate group, and they have sustainability as a part of their mission.</td>
<td>M</td>
<td>H - Institute on the Environment, Center for Transportation Studies, Center for Sustainable Building Research; College of Design &amp; many other examples.</td>
<td></td>
</tr>
<tr>
<td>LM2bi. The University of Minnesota is aligned with the Minnesota Green Jobs programs and new federal energy economy and green jobs programs</td>
<td>H - see above</td>
<td>L - Green Corps</td>
<td>L - Green Corps</td>
<td></td>
<td>L - H in some areas; students organized a green jobs event with over 250 attendees; Engineers Without Borders and other programs provide practical real experiences.</td>
</tr>
<tr>
<td>LM2c. By including sustainability, celebrations and events model transformative activities</td>
<td>H- sus has been included in celebrations, orientations, and events</td>
<td>UMD includes sustainability as part of welcome week, catering offers local food options and composting at large events. Sustainability office is present at campus events, including fairs, farmers market, etc.</td>
<td>M</td>
<td></td>
<td>M- Beautiful U Day, Welcome Week integration of sustainability into events along with Institute on the Environment Open House; Student Groups are organizing various events.</td>
</tr>
<tr>
<td><strong>Leadership and Modeling Goal 3.</strong> Inspire and influence the community, nation, and world through innovative sustainable research and practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LM3a. Institutional efforts support community, social ethic, and economic transitions toward a sustainable community</td>
<td>H- in local food and energy we are working</td>
<td>L</td>
<td></td>
<td>M- HECUA, MNTP, CERTS</td>
<td></td>
</tr>
<tr>
<td>LM3b. The University demonstrates that sustainable practices work, save money, and improve the community</td>
<td>M (some projects are more risky, some less, we are also trying to innovate)</td>
<td>H</td>
<td>M</td>
<td>H - Energy Efficiency, Energy programs, salt-use reduction program, waste reduction and other examples exist.</td>
<td></td>
</tr>
<tr>
<td>LM3c. The University measures innovation and provides recognition for leaders and achievements in sustainability</td>
<td>L (we should have more awards, on campus, and U wide)</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
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<td>Preliminary Assessment Goals Progress by Campus, 2009-2010</td>
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</tr>
<tr>
<td><strong>Leadership and Modeling Goal 4.</strong></td>
<td></td>
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</tr>
<tr>
<td>Make significant continuous achievements toward sustainability goals and commitments</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>LM4a. The University reviews sustainability goals and assesses progress annually and reports on progress</td>
<td>H- (with a new U-wide committee, and other commitments)</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>Leadership and Modeling Goal 5.</strong></td>
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</tr>
<tr>
<td>Embrace an organization and individual decision that support an inclusive, engaged, active and sustainable healthy community</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>LM5a. Communication goals are met to ensure transparency about sustainable practices</td>
<td>M- (Communication seems to be the ongoing challenge, where it should be put, etc. We work with our website, kiosks, signage, other to get the word out)</td>
<td>Sustainability website created, sustainability blog updated weekly, working with campus newspaper, university relations, and local media to spread the word.</td>
<td>M</td>
<td>M- New system portal in place, but UMTC site needs updating. Difficult to get U Svc/U Relations to pick up sust message; working w/ Facebook. It All Adds up is good operation focused marketing</td>
<td></td>
</tr>
<tr>
<td>LM5b. Incentive rewards support sustainable choices</td>
<td>L</td>
<td>not met</td>
<td>L</td>
<td>L - It All Adds Up program is one example</td>
<td></td>
</tr>
<tr>
<td>LM5c. The University measures social shifts related to sustainability</td>
<td>L</td>
<td>not met</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td><strong>Leadership and Modeling Goal 6.</strong></td>
<td></td>
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</tr>
<tr>
<td>Meet all regulatory requirements and support the development of future regulations and policies through technical review, academic study, and practical experience</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>LM6a. Operations track regulatory requirements</td>
<td>H: example is Stormwater program</td>
<td>H</td>
<td>H</td>
<td>stormwater, air permitting and air quality, compliance with B3 being extended to projects outside of those that are bonded</td>
<td></td>
</tr>
<tr>
<td>LM6b. University forums provide regular exchange of ideas and knowledge between academic, operations, and community sustainability leaders in policy areas of interest</td>
<td>M (campus forums address sus, we could be more specific and intentional, if we wanted)</td>
<td>M</td>
<td>L</td>
<td>M - Examples of policy presentations - Humphrey and Institute for Advanced Studies, also Stormwater Linkage annual meetings</td>
<td></td>
</tr>
<tr>
<td><strong>Operational Improvements Goal 1.</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Plan, program, design, construct, and operate University of Minnesota facilities throughout their life cycle to provide restorative impacts to the natural environment and a healthy indoor environment for the University community</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>ST&amp;SS, Biomedical (not LEED) check data</td>
<td></td>
</tr>
<tr>
<td><strong>Energy and lighting impacts</strong></td>
<td></td>
<td></td>
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<tr>
<td>OI1a. Operating energy from buildings is reduced</td>
<td>M- (ongoing work, need baseline, and data)</td>
<td>Not met: overall usage has increased slightly for UMD, but efficiency has reduced the intensity of our energy use and GHG emissions (per 1,000 sq. ft. energy is decreasing)</td>
<td>M</td>
<td>H - Building recommissionings have reduced individual building energy levels and related ghg emissions.</td>
<td></td>
</tr>
<tr>
<td>OI1b. Greenhouse gas emissions from buildings are reduced</td>
<td>M (complicated, by conservation or generation)</td>
<td>see above: Per 1,000 sq ft reduced, but overall campus increased</td>
<td>L</td>
<td>See above</td>
<td></td>
</tr>
<tr>
<td>OI1c Heat island impacts are reduced</td>
<td>L -(we haven't removed large amounts of parking, for example)</td>
<td>Green roofs on Civil and Bagley, rooftops painted white on Civil and Bagley, vegetable gardening on roof near Life Sciences.</td>
<td>No</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>OI1d. Night sky radiation is reduced</td>
<td>M - (we've started to address)</td>
<td>L</td>
<td>No</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>Water resource impacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OI1f. Potable water use is reduced</td>
<td>M</td>
<td>MINDY_ RESEARCH USAGE</td>
<td>No</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>OI1g. Wastewater is reduced</td>
<td>DK</td>
<td>MINDY_ RESEARCH USAGE</td>
<td>No</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>OI1h. Stormwater is managed to reduce runoff quantity, rate and pollution</td>
<td>DK</td>
<td>H</td>
<td>L</td>
<td>M; TCF and ST&amp;SS design, raingardens St. Paul, Sarita needs improved quality</td>
<td></td>
</tr>
<tr>
<td>Building materials, design and usage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OI1i. Life cycle impacts of building materials are reduced</td>
<td>M</td>
<td>Through LEED: Civil, Bagley, Life Science, LSBE</td>
<td>L</td>
<td>M - emphasize use of materials with low VOC's and formaldehyde, recyclable content, etc. in new construction and at Housing and Residential Life; recycle waste products (ex. Carpeting)</td>
<td></td>
</tr>
<tr>
<td>OI1j. Our indoor environments are healthy</td>
<td>M</td>
<td>Green Cleaning, building renovations and HVAC upgrades, LEED for new construction</td>
<td>H</td>
<td>M - new construction especially. Need more information</td>
<td></td>
</tr>
<tr>
<td>OI1k. Total campus square footage is optimized</td>
<td>DK</td>
<td>?</td>
<td>M</td>
<td>L - Space Utilization work team formed</td>
<td></td>
</tr>
<tr>
<td>OI1l. Construction waste is recycled</td>
<td>DK</td>
<td>H: 95% at Bagley!</td>
<td>L</td>
<td>M - large projects have high rate of diversion (70% plus); smaller projects less but improving.</td>
<td></td>
</tr>
<tr>
<td>Ground and siting</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
## Preliminary Assessment Goals Progress by Campus, 2009-2010

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</tr>
</thead>
<tbody>
<tr>
<td>OI1m Pervious surface use is increased</td>
<td>L</td>
<td>Meeting: pervious pavers, green roofs</td>
<td>L</td>
<td>L - areas of concrete were removed on Beautiful U Day, other?</td>
<td></td>
</tr>
<tr>
<td>OI1n. Flora and fauna are maximized on building sites</td>
<td>M-(we have a lot of prairie plantings, and other traditional plantings. Lots of indoor plants, too. Landscaping is a leader, but we still have work to do)</td>
<td>Meeting: new Civil example</td>
<td>L</td>
<td>Bioswales at TCF; Building removal is resulting in more green space; Need alignment with Master planning goals.</td>
<td></td>
</tr>
<tr>
<td>OI1o. Soil conservation is maximized</td>
<td>DK</td>
<td>Meeting: yes, through stormwater program</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
</tbody>
</table>

### Operational Improvements Goal 2. Integrate environmental, economic, and social priorities into purchasing and contract decisions

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>OI2a. An environmentally preferable purchasing (EPP) policy is developed and implemented with criteria that align with social and economic criteria currently used by University buyers</td>
<td>DK</td>
<td>??</td>
<td>L</td>
<td>M - new purchasing sustainability policy adopted, vendor surveys are in process.</td>
<td></td>
</tr>
<tr>
<td>OI2b. Sustainability is part of the University vendor code of conduct</td>
<td>DK</td>
<td>Vendor code of conduct form is being used for certain purchases...</td>
<td>University wide?</td>
<td>L- In Progress</td>
<td></td>
</tr>
</tbody>
</table>

### Operational Improvements Goal 3. Use lower impact transportation alternatives that increase fuel efficiency, provide more sustainable fuel options, and help reduce the miles traveled on campus, to campus, and as part of the University of Minnesota enterprise

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<thead>
<tr>
<th>Operational Improvements Goal 3. Use lower impact transportation alternatives that increase fuel efficiency, provide more sustainable fuel options, and help reduce the miles traveled on campus, to campus, and as part of the University of Minnesota enterprise</th>
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</thead>
<tbody>
<tr>
<td>OI3a. Alternative transportation is increasingly available and use of mass transit is increasingly encouraged.</td>
<td>M - (we have biking programs in the work, a small transit system, but mostly residential for students, our fac and staff are a concern)</td>
<td>H</td>
<td>NA</td>
<td>H - subsidized bus passes, connectors/circulators; Car share and car pool; New bike share program,</td>
<td></td>
</tr>
<tr>
<td>OI3b. Everyone on campus has a wide array of transportation options; safety and convenience for all modes of travel, including walking and bicycling, has increased</td>
<td>M - need more racks, safe routes</td>
<td>H</td>
<td>L</td>
<td>H - continue to improve. Light rail agreement reached</td>
<td></td>
</tr>
<tr>
<td>OI3c. Housing alternatives for students, faculty, and staff near campus have been encouraged</td>
<td>DK</td>
<td>L</td>
<td>M</td>
<td>H- District Alliance - Boot your Commute</td>
<td></td>
</tr>
<tr>
<td>OI3d. Meeting and distance learning technologies are supported</td>
<td>DK</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>
### Preliminary Assessment Goals Progress by Campus, 2009-2010

<table>
<thead>
<tr>
<th>OI3e. Proper maintenance of fleet and operations vehicles, purchase of fuel efficient or alternatively fueled vehicles, and access to technology to reduce unnecessary travel has increased campus fleet efficiency</th>
<th>Morris</th>
<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-(our fleet is increasingly converting to hybrids/high MPG)</td>
<td></td>
<td>H</td>
<td>M</td>
<td>L to M - not consistent across university</td>
<td></td>
</tr>
</tbody>
</table>

**Operational Improvements Goal 4. Manage resources for their highest end use by reducing consumption, minimizing waste, and strongly supporting the reuse and highest value recycling of unwanted materials**

<table>
<thead>
<tr>
<th>OI4a. Informed purchasing and resource use decisions reduce consumption of materials</th>
<th>Morris</th>
<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK</td>
<td>L</td>
<td>M</td>
<td>L - Need more information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OI4ai. Fewer goods and services are purchased by University operations</th>
<th>Morris</th>
<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>OI4b. Rethinking the processes which produces waste, reduces waste</th>
<th>Morris</th>
<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
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</thead>
<tbody>
<tr>
<td>DK</td>
<td>??</td>
<td>?</td>
<td>L</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OI4c. Reuse of existing resources by individuals and institutional reuse programs is supported</th>
<th>Morris</th>
<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>H -(anecdotally, we don't throw much)</td>
<td>L</td>
<td>M</td>
<td>H</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OI4d. Recycling of a wide range of materials is supported</th>
<th>Morris</th>
<th>Duluth</th>
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<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>H- (we have recycling everywhere, and many options)</td>
<td>H</td>
<td>M</td>
<td>H</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Energy Efficiency Goal 1. Reduce energy use**

<table>
<thead>
<tr>
<th>EE1a. Energy use is 5% below FY 2008 levels by the end of 2010</th>
<th>Morris</th>
<th>Duluth</th>
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<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>DK</td>
<td>Review 2010 trend needed</td>
<td>?</td>
<td>H- Met - 2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EE1b. Each campus has unique long-term energy goals and energy plan by 2010</th>
<th>Morris</th>
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</tr>
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<tbody>
<tr>
<td>H- (we have a campus carbon master plan in place)</td>
<td>In progress.</td>
<td>H</td>
<td>M- In progress- 2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Energy Efficiency Goal 2. Engage the University of Minnesota community in energy conservation**

<table>
<thead>
<tr>
<th>EE2a. Low carbon instructional delivery programs are evaluated by measuring the credit hours per carbon input</th>
<th>Morris</th>
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</tr>
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<tbody>
<tr>
<td>L</td>
<td>??</td>
<td>L</td>
<td>L</td>
<td></td>
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</tr>
</tbody>
</table>

**Energy Efficiency Goal 3. Pursue climate neutrality and energy efficient operations across the University of Minnesota**

<table>
<thead>
<tr>
<th>EE3a. University carbon reduction and renewable energy commitment and requirements are met</th>
<th>Morris</th>
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<tr>
<td>In progress</td>
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<tr>
<td><strong>EE3ai. ACUPCC goals are met, including developing a comprehensive plan to achieve climate neutrality, inventorying greenhouse gas emissions, and establishing an action plan for becoming climate neutral with short-term and interim goals</strong></td>
<td>In progress</td>
<td>In progress</td>
<td>H</td>
<td>In progress</td>
<td></td>
</tr>
<tr>
<td><strong>EE3a.ii. The CCX requirement to reduce CO2 6% below baseline by 2010 is met</strong></td>
<td>H-our wind and biomass efforts should offset traditional fossil fuel by 80-90%</td>
<td>Met by system</td>
<td>L</td>
<td>H- Met - 2010</td>
<td></td>
</tr>
<tr>
<td><strong>EE3a.iii. State and federal goals, including Minnesota’s 25% by 2025 renewable energy standard, are met</strong></td>
<td>DK</td>
<td>tbd - 2025</td>
<td>tbd - 2025</td>
<td>TBD - 2025</td>
<td></td>
</tr>
<tr>
<td><strong>EE3b. By the end of 2010, a University-wide energy master plan has been created that identifies the most effective approach and strategy toward improving energy efficiency of campus buildings and infrastructure and reducing campus carbon footprint, including establishing an energy working committee to review current master plans and develop recommendations on how to migrate to a more comprehensive energy master plan</strong></td>
<td>DK</td>
<td>In progress</td>
<td>?</td>
<td>M- In progress (climate action plan) - 2010</td>
<td></td>
</tr>
<tr>
<td><strong>EE3c. Common auditable measures for energy consumption across all campuses have been established, with all buildings metered by 2012, norms for each campus, and a data warehouse for all energy data</strong></td>
<td>DK - we have been working on increased energy monitoring options</td>
<td>Not met- metering expensive but we are working on this, new buildings and renovated buildings are submetered.</td>
<td>M</td>
<td>M- Not met - Status needed-believe snapshot measures serve need - 2012</td>
<td></td>
</tr>
<tr>
<td><strong>Energy Efficiency Goal 4. Adopt energy-related financial policies which enable the University of Minnesota to be socially, environmentally, and fiscally informed</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EE4a. The U of M measures CO2 in cost-benefit analyses and assigns a value to CO2 tied to an aggressive world CO2 index</strong></td>
<td>DK</td>
<td>NM</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td><strong>EE4b. The University has adopted minimum and recommended carbon reduction techniques to be incorporated in new and recommissioned building project with ROI (return on investment) calculations up to 15 years. A minimum payback period at which energy initiatives must be incorporated into capital projects has been adopted and measured</strong></td>
<td>DK- when projects are bundled as is often done in ESCOs, this may be more complicated</td>
<td>NM</td>
<td>L</td>
<td>M- Not met - Input needed</td>
<td></td>
</tr>
</tbody>
</table>
## Preliminary Assessment Goals Progress by Campus, 2009-2010

<table>
<thead>
<tr>
<th>Energy Efficiency Goal 5. Contribute to the development of progressive state and federal energy policies</th>
<th>Morris</th>
<th>Duluth</th>
<th>Crookston</th>
<th>UMTC</th>
<th>Rochester</th>
</tr>
</thead>
<tbody>
<tr>
<td>EESa. A legislative briefing group has been established to discuss pending or future energy-related legislative initiatives with U of M legislative relations staff</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td>L - Informal and by topic; so far</td>
<td></td>
</tr>
<tr>
<td>EESb. The U of M will demonstrate how to utilize state resources such as Higher Education Asset Preservation and Replacement (HEAPR) funding to enhance energy efficiency, reduce carbon, and work toward sustainability goals</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>H - utilizing funding but could communicate better about the programs as related to goals.</td>
<td></td>
</tr>
</tbody>
</table>

### Research Goal 1. To advance sustainability, nurture cross-disciplinary collaboration and sharing of ideas and perspectives within and beyond the University

| R1a. Publication of peer-reviewed collaborative research publications addressing interdisciplinary sustainability issues and involving researchers from multiple colleges, departments, and units has increased | L - I don't think this has been done. | ?? | L | Difficult to assess and track in a centralized manner. Papers are often reported on IonE portal news. |
| R1b. The U of M has hosted a premier interdisciplinary sustainability research symposium | DK | | M | L |
| R1c. An online "knowledge map" of people and projects related to sustainability research has been inventoried and created | DK | ?? | M | L - Env. research resources on Environmental and Sustainability Portal |
| R1d. Researchers partner with University Services and with sustainability education efforts to use campus facilities for case studies of sustainability issues | M - we have been increasingly using the campus as a laboratory, we have more work to do. | In progress: increase of student research projects concentrating on operations at UMD: Example: Malosky solar, thermal dynamics class, anthropology senior seminar, etc | M | L - Some examples, Living lab "process" focus for 2011. |

### Research Goal 2. To advance sustainability, promote civically engaged, socially informed, and community responsive research and scholarship
### Appendix C:
Preliminary Assessment Goals Progress by Campus

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<tr>
<td><strong>R2a. The sustainability focus and efforts of research and outreach centers, University of Minnesota Extension offices, Regional Sustainable Development Partnerships, and other outreach and public engagement arms of the U of M have increased to gain input and participation from citizens</strong></td>
<td>H - Morris has a lot of public engagement taking place, in conjunction with WCROC, WCRSDP, WC CERTS (Troy is a board member) and other groups</td>
<td>Mindy is on the board of the NMRSDP, so are faculty from UMD</td>
<td>M</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td><strong>R2b. Diverse cultures and socioeconomic groups within the Twin Cities and across Minnesota are increasingly engaged around sustainability issues</strong></td>
<td>L</td>
<td>??</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td><strong>R2c. Connections between the Office of Public Engagement and Office of Research have increased</strong></td>
<td>DK</td>
<td>H for UMD, we co-applied for Greencorps member for 2010</td>
<td>L</td>
<td>Unknown.</td>
<td></td>
</tr>
<tr>
<td><strong>Research Goal 3.</strong> Instill sustainability principles in the research culture of the University of Minnesota; all levels of University leadership should embrace sustainability as a core pillar of the University’s mission**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R3a. A long-term sustainability research committee is established and supported to enhance sustainability research</strong></td>
<td>DK</td>
<td>?</td>
<td>M</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td><strong>R3b. An upper-level administrative office for sustainability is established</strong></td>
<td>DK - what is upper-level? A provost position?</td>
<td>?</td>
<td>H</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td><strong>R3c. The number and profile of research projects, symposia, peer-reviewed publications, graduate theses, and external grants related to sustainability have increased</strong></td>
<td>H - we have a lot of grant activity in areas we would strongly identify as sustainability-focused</td>
<td>How to measure?</td>
<td>L</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td><strong>Research Goal 4.</strong> To advance sustainability, eliminate institutional barriers and disincentives to interdisciplinary and collaborative sustainability research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R4a. Sustainability is a significant criterion for hiring faculty in relevant departments and sustainability research and teaching are recognized as positive criteria for performance evaluation in tenure review</strong></td>
<td>DK</td>
<td>Not met</td>
<td>L</td>
<td>Not met</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix C:
Preliminary Assessment Goals Progress by Campus

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<tr>
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</thead>
<tbody>
<tr>
<td>R4b. Research standards for sustainability have been adopted, and research projects are evaluated according to their relevance to and impact on sustainability</td>
<td>DK</td>
<td>Not met</td>
<td>L</td>
<td>Not met</td>
<td></td>
</tr>
<tr>
<td>R4c. New programs train the next generation of sustainability researchers by facilitating and funding undergraduate and graduate research and discussion focused on sustainability</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td><strong>Research Goal 5. Transform the University of Minnesota into a living laboratory for sustainability</strong></td>
<td></td>
<td>In process</td>
<td>In process - UMTC Sust Committee 2011 focus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R5a. Publication of peer-reviewed collaborative research related to sustainability issues in urban, exurban, rural, terrestrial, and aquatic socio-ecological systems across Minnesota and around the world has increased</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td>DK</td>
<td></td>
</tr>
<tr>
<td>R5b. The use of U of M property for sustainability research and education is coordinated through standing committees at all major campuses and centers</td>
<td>M- our campus governance and administration are working to increase the amount of education and research in sustainability done at Morris</td>
<td>?</td>
<td>M</td>
<td>L - Currently several groups are involved in coordinating projects; the UMTC Sustainability Committee is charged with this role.</td>
<td></td>
</tr>
<tr>
<td><strong>Education and Outreach Goal 1. Capture the land-grant mission: Sustainability is part of the educational or campus experience of each and every University of Minnesota student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EO1a. Systemwide initiatives are created that include academic and operational sustainability internships</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>EO1b. A systemwide summit is held by 2010 for students, faculty, extension, community partners, etc.</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td>L</td>
<td></td>
</tr>
<tr>
<td>EO1c. Graduate and undergraduate sustainability-related minors on multiple campuses and first-year and graduate sustainability seminars are established by 2010</td>
<td>DK</td>
<td>?</td>
<td>H</td>
<td>M - Undergraduate Sustainability Minor in place; A graduate program is bing developed</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>EO1d.</strong> For residents, sustainability is an explicit aspect of living in student housing and being on campus</td>
<td>M - we have a sustainability floor, community-advisors receive some training, etc.</td>
<td>In progress: working with housing on energy and water conservation outreach</td>
<td>H</td>
<td>M - IN process - Resources and training for CA's was developed and a Sustainability Committee supports efforts. Housing makes purchases of Energy Star, sustainable materials/furniture. Improved communications about work needed.</td>
<td></td>
</tr>
<tr>
<td><strong>Education and Outreach Goal 2. Integrate service learning into the undergraduate and graduate experience, linking students, faculty, University of Minnesota Extension, and community partners</strong></td>
<td></td>
<td>??</td>
<td></td>
<td>H</td>
<td></td>
</tr>
<tr>
<td><strong>EO2a.</strong> Service learning and undergraduate research projects related to sustainability are extended by 2012. Student assignments are linked to U of M operational needs</td>
<td>H - sustainability service learning and projects are a focus of our efforts</td>
<td>M</td>
<td></td>
<td>M - (in some areas) - New internships in Sustainability Minor working on operations projects</td>
<td></td>
</tr>
<tr>
<td><strong>EO2b.</strong> The sustainability focus of service learning projects increases each year to reach 25% by 2020; research and outreach centers are used for service learning</td>
<td>DK</td>
<td>M</td>
<td></td>
<td>L - Working to expand HECLA program; Who measures? - 2010</td>
<td></td>
</tr>
<tr>
<td><strong>EO2c.</strong> Undergraduate research projects and applied research projects that address sustainability challenges increase each year to reach 25% by 2020</td>
<td>DK</td>
<td>M</td>
<td></td>
<td>L - Who measures? - 2010</td>
<td></td>
</tr>
<tr>
<td><strong>EO2d.</strong> By 2012, service-learning relationships with organizations are identified and formalized, building especially on the experience of the Regional Sustainable Development Partnerships, service learning coordinators, and faculty</td>
<td>H - we have well-established relationships with WCRSDP, WROC, WCCERTs</td>
<td>M</td>
<td></td>
<td>L - 2012</td>
<td></td>
</tr>
<tr>
<td><strong>Education and Outreach Goal 3. Create and implement curricula and educational programs that address the interface of environment, society, and economy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td><strong>EO3a.</strong> Capacity is in place for creating and implementing sustainability-focused curricula and educational programs</td>
<td>M - we are working to address traditional barriers, and each year we see new courses and programs added</td>
<td>M</td>
<td></td>
<td>Not known - Assessment underway as part of AASHE metrics</td>
<td></td>
</tr>
<tr>
<td><strong>EO3b.</strong> Each campus has an academic sustainability coordinator</td>
<td>L</td>
<td>Not met</td>
<td>Yes</td>
<td>Yes and added new position</td>
<td></td>
</tr>
</tbody>
</table>
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</thead>
<tbody>
<tr>
<td><strong>Education and Outreach Goal 4.</strong> Develop outreach programs for sustainability education of working professionals in the public and private sector</td>
<td>EO4a. By 2010, existing U of M sustainability-related training programs are catalogued, a needs assessment has been conducted to determine what training and certificate programs would be most effective, and programs are prioritized.</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>Not known</td>
</tr>
<tr>
<td>EO4b. First education programs for working professionals are established with program completion by first cohorts (e.g., certificates) by 2011.</td>
<td>DK</td>
<td>?</td>
<td>H</td>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>EO4c. A mechanism is in place for fostering interaction among past participants and connecting them with current students interested in internship opportunities.</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td></td>
<td>L</td>
</tr>
<tr>
<td><strong>Communication Goal 1. Create opportunity for dialogue to discuss global and local sustainability challenges, opportunities available, and the work of the University to advance sustainability</strong></td>
<td>C1a. Communication tools and tracking systems make data related to sustainable practices available to the U community</td>
<td>L</td>
<td>?</td>
<td>M</td>
<td>M - IAAU, Momentum; SUST Committee Website, Facebook (several)</td>
</tr>
<tr>
<td>C1ai. Building energy use is measured and kiosks inform occupants about ways to reduce energy consumption</td>
<td>L</td>
<td>Civil Eng. Has display about energy and water use</td>
<td>L</td>
<td></td>
<td>M - In process through IAAU, needs to be easier to locate</td>
</tr>
<tr>
<td>C1aii Operational priorities are communicated</td>
<td>M</td>
<td>?</td>
<td>M</td>
<td></td>
<td>M - better coordination needed</td>
</tr>
<tr>
<td>C1aiii. Operational priorities for resource management and waste reduction are communicated throughout the University of Minnesota to maximize success</td>
<td>DK</td>
<td>?</td>
<td>M</td>
<td></td>
<td>M - Waste reduction and recycling goals were added to the It All Adds Up campaign in 2010</td>
</tr>
<tr>
<td>C1iv. Success is monitored for meeting operational goals and to provide feedback (to waste producers, for example)</td>
<td>DK</td>
<td>?</td>
<td>L</td>
<td></td>
<td>M - see above</td>
</tr>
<tr>
<td>C1b. Communication and reporting is provided throughout the University and to Resource Responsibility Centers (RRCs) to ensure awareness of policies, priorities and results of performance metrics discussed in this report</td>
<td>DK</td>
<td>L</td>
<td>M</td>
<td></td>
<td>L - Need more info about content of communications</td>
</tr>
</tbody>
</table>
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<tbody>
<tr>
<td><strong>Communication Goal 2.</strong> Develop and implement marketing/promotion efforts to engage those who may not be aware of sustainability-focused education, outreach, and research opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2a. By 2010, marketing plan and staff are designated to publicize and help implement goals</td>
<td>L</td>
<td>L</td>
<td></td>
<td></td>
<td>L - 2010 - A communications plan for climate action and AASHE was developed. Need longer term.</td>
</tr>
<tr>
<td>C2b. By 2010, a database and listserv have been developed of sustainability resources and opportunities have been developed</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td></td>
<td>L - 2010</td>
</tr>
<tr>
<td><strong>Communication Goal 3:</strong> Develop and maintain a transparent data management information system to enable decisions utilizing environmental, economic, and social factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3a. Select performance metrics discussed in the report are measured and reported on an annual basis for each campus</td>
<td>L</td>
<td>??</td>
<td>M</td>
<td></td>
<td>M - In process - this report is part of that effort along with reports</td>
</tr>
<tr>
<td>C3b. Select performance metrics discussed in this report are measured and reported on an annual basis for each Resource Responsibility Center (RRC)</td>
<td>L</td>
<td>??</td>
<td>L</td>
<td></td>
<td>L</td>
</tr>
<tr>
<td>C3c. Information generated by a sustainability information system is incorporated into annual performance evaluations and budget decision making</td>
<td>L</td>
<td>??</td>
<td>L</td>
<td></td>
<td>L</td>
</tr>
</tbody>
</table>

### High level goals/themes across the work teams

<p>| Leadership: As a large public research land-grant university, the University of Minnesota will strive to be a leader in sustainability and energy efficiency. | H | H | M | | SEI Report, Committee formation, IonE and other faculty recognition |
| Living Laboratory: The University of Minnesota will serve as a living laboratory as we integrate sustainability across operations, education, research, and outreach. | M | M | M | | M - Sust Minor |
| Engagement: The pursuit of sustainability will actively engage all dimensions of the University, and the University will promote activism and engagement related to sustainability. | H | M | M | | M - IT All Adds Up, Campus Beyond Coal, Student Green Jobs Expo |</p>
<table>
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<tr>
<td><strong>Communication:</strong> Transparent and abundant communication will help build awareness of the what, why, and how of sustainability throughout the University of Minnesota community. The University will encourage communication, marketing, and transparency to build awareness and participation.</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M - IonE Momentum recognized re: research, portal in progress, orientation, welcome week; AASHE STARS Charter member</td>
</tr>
<tr>
<td><strong>Policies:</strong> Uniform policies will help departments and programs adopt best practices for sustainability. The University will establish policies that make best practices (energy, purchasing, etc.) the most desirable choice for all departments.</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td>M</td>
<td>L - Purchasing, U Svcs paper, idling and fleet commitments are in progress.</td>
</tr>
<tr>
<td><strong>Culture Change:</strong> The University of Minnesota community will undergo a fundamental culture change as sustainability is integrated through our programs and practices. The University will nurture a culture that views sustainability as an integral component of all we do.</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>M</td>
<td>IAAU, Welcome Week awareness raising, Beautiful U Day focus on sust, energy, waste - other</td>
</tr>
<tr>
<td><strong>Community Impact:</strong> The University of Minnesota’s pursuit of sustainability will enhance awareness and adoption of sustainable practices in the broader community. The University will create mechanisms for measuring impacts on campus and beyond. (How does our work change the world?)</td>
<td>H</td>
<td>L</td>
<td>M</td>
<td>M</td>
<td>District Alliance work with energy programs, CERTS, Working on improved food options and local food options, farmer’s market, other?</td>
</tr>
<tr>
<td><strong>Integration:</strong> The University of Minnesota will integrate sustainability into operational and financial decisions, teaching, research, and outreach.</td>
<td>M</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>U Svcs tracking initiatives and reporting to leadership team; need to consider green energy option long ROI, alternative models needed.</td>
</tr>
</tbody>
</table>
Facilities Committee

November 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 report items for the November Facilities Committee meeting.

Outline of Key Points/Policy Issues:

Background Information:
Facilities Committee

November 11, 2010

Agenda Item: Information Item - REVISED

☐ review  ☐ review/action  ☐ action  ☒ discussion

Presenters: Vice President Kathleen O’Brien

Purpose:

☐ policy  ☒ background/context  ☐ oversight  ☐ strategic positioning

Provide the Board of Regents with the final project review for the Mayo Garage Renovation Nuclear Magnetic Resonance (NMR) Facility Relocation project.

Outline of Key Points/Policy Issues:

Final Project Review – Mayo Garage Renovation Nuclear Magnetic Resonance (NMR) Facility Relocation - REVISED

In accordance with Board of Regents Policy: Reservation and Delegation of Authority, Article 1, 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 Mayo Garage Renovation Nuclear Magnetic Resonance (NMR) Facility Relocation project is attached.

Background Information:

Information items are intended to provide the Board of Regents with information needed to perform their oversight responsibilities.
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 renovation of the Mayo Garage (74,000 gross square feet) will accomplish the following:

The project consists of complete interior renovation of the current garage. The temporarily shored, structurally unsound upper parking deck will be removed. Construction will provide level floor surfaces and fully isolated (vibration) concrete slabs in the new NMR lab and support areas.

Completely new building systems (Mechanical, Electrical, Life Safety, etc.) will be constructed to serve the repurposed building.

Improvements will be made to the on-grade plaza to include replacing the waterproofing membrane and realignment of the Mayo Plaza circle road.

Board of Regents Approval Summary:
Capital Budget Amendment: November 2010
Schematic Plans: November 2010

Project Team:
Architect/Engineer Team: BWBR Architects
Construction Manager: M. A. Mortenson

Project Budget:

<table>
<thead>
<tr>
<th>Funding Identification</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 Laboratory Improvement Program</td>
<td>$ 2,000,000</td>
</tr>
<tr>
<td>University Funds</td>
<td></td>
</tr>
<tr>
<td>Vice President for Research</td>
<td>$ 7,000,000</td>
</tr>
<tr>
<td>Parking and Transportation Services</td>
<td>$ 2,000,000</td>
</tr>
<tr>
<td>Repair and Replacement Fund</td>
<td>$ 1,000,000</td>
</tr>
<tr>
<td>Equipment Grants (pending)</td>
<td>$ 2,100,000</td>
</tr>
<tr>
<td>2010 State Capital Appropriation</td>
<td>$ 9,446,000</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$23,546,000</td>
</tr>
</tbody>
</table>

Project Schedule:
Begin Construction: November 2010
Substantial Completion: August 2011

Consistency of project with approved scope, schedule and budget:
_X_ Yes   _ _No

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