MINNESOTA STATE

PREDESIGN GUIDELINES

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Last updated: 05/13/2022

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INTRODUCTION TO PREDESIGNS

Introduction to Predesigns

What is predesign?
At its most basic, predesign marks the beginning of the project planning process. It is a process resulting in a document that answers the 4 most important questions about a project:

- What is the project's scope? (Why is the project needed? What will the project accomplish? How will it support the college's or university's mission?)
- What is its (approximate) cost, and how is it funded?
- What is its schedule?
- How does the project fit within the Minnesota State system's Strategic Framework and Board of Trustees guidelines?

The predesign serves as the "instructions" documenting the project requirements for the design team who will later design the project.

Not all projects with completed predesigns will be funded for design and construction. If a project is not funded, the predesign should be retained by the campus for updating when the next funding opportunity arises.

*What is predesign **not**?*
Predesign is not the result of a design concept already selected. It does not produce a design. The design process does not occur until after predesign is complete; however, the campus and its predesign consultant should keep in mind that the eventual project design will need to follow all Minnesota State facilities guidelines, including the Facilities Design Standards and the Space Planning Guidelines. These documents are available at the system office Facilities website.

Why is predesign needed?
A predesign is required by state statute for any capital project funded by the State; the Minnesota State system also requires a predesign for all HEAPR and Revenue Fund projects, as well as most projects funded by campus or outside sources (such as foundation, grant, or private funding).

Beyond the statutory requirement for predesign, the Minnesota State system uses project predesigns to score and prioritize Capital Budget Request (GO bonding) projects. Predesigns also play a role in prioritizing HEAPR projects at the system level.

When is a predesign required?

All design/construction projects with a construction cost over $50,000 (including campus-funded, outside-funded, Capital Budget, HEAPR, or Revenue Fund projects) require a predesign.*

All Capital Budget (General Obligation bonding) and Revenue Fund projects require a full predesign regardless of construction cost. All other capital projects require a *full predesign* if construction costs are estimated to exceed $750,000. *A limited scope predesign* may be used for smaller projects; see the table at right for more information.

This table is presented in "decision tree" format on the following page.

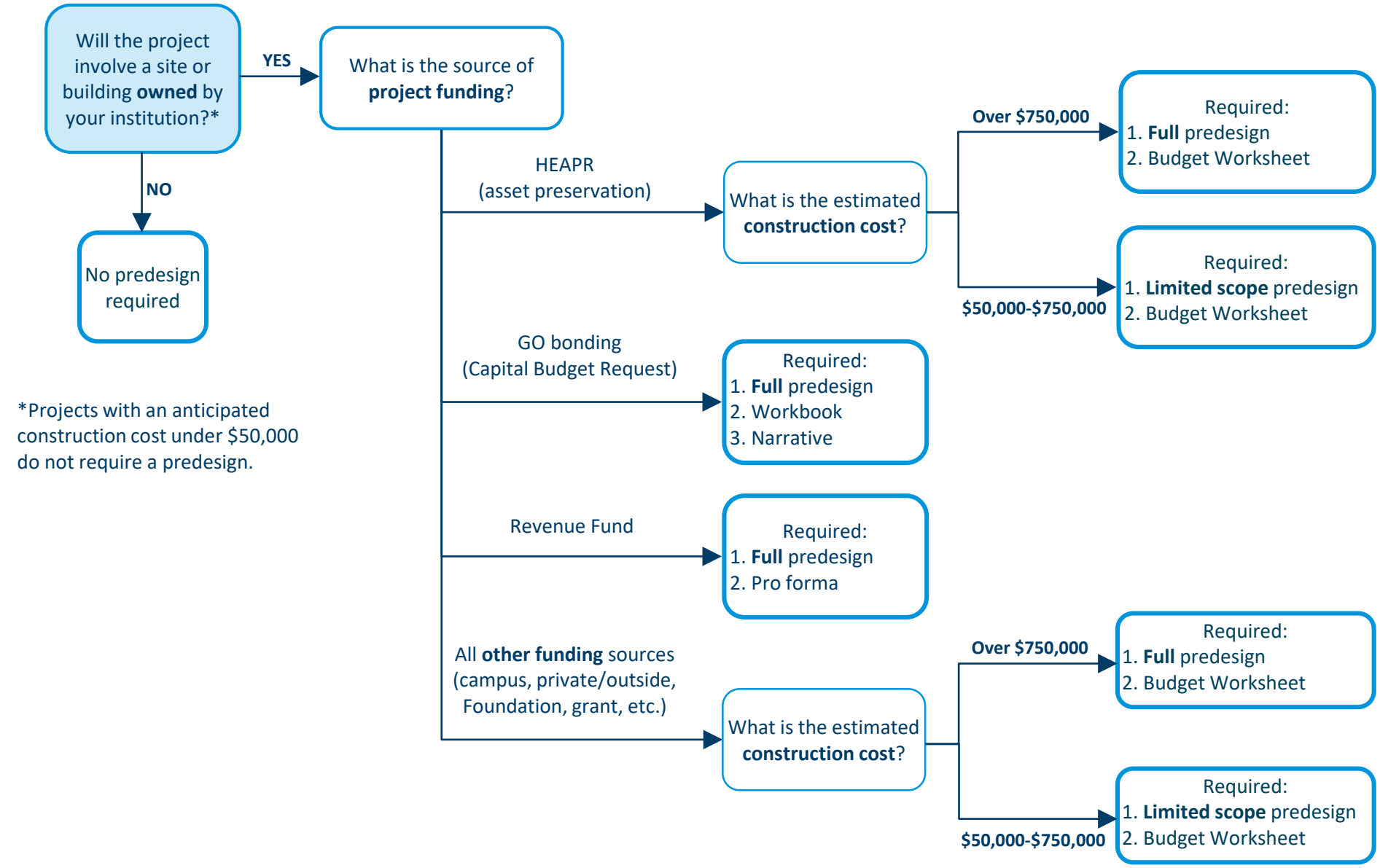
For more detail on HEAPR predesign requirements, please see the HEAPR Full and Limited Scope Predesign checklists later in this document.

Predesign requirements by project funding source

Project funding source	Full Predesign Required?	Limited Scope Predesign Required?	Related Documents Required
Capital Budget Request (CBR) (GO bonding)	All projects	n/a	1. CBR Narrative (.doc) 2. Workbook (.xls)
Revenue Fund project	All projects	n/a	Financial pro forma
HEAPR project*	Constr. cost over $750K	Constr. cost $50K-$750K	HEAPR Budget Worksheet
All other funding sources (campus-funded, Foundation funded, other outside funding)	Constr. Cost over $750K	Constr. Cost $50K-$750K	Project Budget Worksheet

Decision Tree: What kind of predesign and documentation does my project need?

Note: All predesigns and accompanying documentation must be reviewed by the system office before proceeding to design.
The information in this decision tree is presented in table format on the previous page.



*Projects with an anticipated construction cost under $50,000 do not require a predesign.

Planning for a predesign

Start with the Comprehensive Facilities Plan

Regardless of the project funding source, all capital projects should originate in the campus's most recent Comprehensive Facilities Plan (CFP). HEAPR projects should originate in the CFP or from an analysis of need documented in VFA Facility.

Who performs predesign?

We recommend that campuses retain qualified architectural and/or engineering consultants to develop the bulk of the predesign, due to the complexity of issues, elements, and systems in building projects. A multidisciplinary team may be needed for complex projects. The campus requesting funds – not the consultant preparing the report – is responsible for submitting the final predesign and associated documentation to the system office and ensuring that the report is consistent and complete.

Cost of predesign

Predesign, including any subsequent predesign updates, is funded directly by the campus(es) proposing the project. Predesign fees vary depending upon the scope and schedule of the project; contact the system office to determine an appropriate fee range for your predesign. Generally, predesign fees range from 0.5%-1.5% of the *construction cost* (not total project cost) of a project. The project scope and expertise required will play a large role in determining predesign fees; for instance, if a cost benefit analysis is needed, there will be a cost for a financial consultant. Additional costs may be incurred if the campus has not completed an adequate amount of advance planning (academic plan, Comprehensive Facilities Plan, etc.). It's important that predesign fees be sufficient to allow the consultant to understand and analyze existing conditions, project scope and requirements, and the full range of project costs for cost estimating.

Selecting a Predesign Consultant — Procurement

Allow ample time to develop an RFP and select a predesign consultant team. The system office maintains standard RFP templates for predesign services and can assist the campus in customizing the RFP and evaluating proposals.

A predesign with estimated fees over $50,000 must use a public RFP process. Contracts over $100,000 must receive Vice Chancellor for Finance approval prior to award. The system office can help the campus post the RFP to the appropriate locations and secure the necessary contract approvals.

The predesign presentation

All Capital Budget and Revenue Fund projects must present their predesigns to the Associate Vice Chancellor for Facilities for approval before finalizing the predesign. When a predesign is complete enough to be presented – typically at the 95% draft stage – the system office will contact campus personnel to explain presentation requirements and schedule the presentation.

Steps after predesign

System Office Predesign Review

The campus is responsible for submitting predesign drafts (50%, 95%) and the final predesign (100%), along with any required additional documentation, to the system office for review.

Department of Administration Predesign Review

For GO bonding projects whose estimated construction costs total more than $750,000, predesign review and approval by the MN Dept. of Administration is required by state statute (§16B.335, Subdivision 3) before design may begin. The system office manages this approval process by submitting predesigns to the State on behalf of the campus prior to receiving GO bond funds.

Designer Selection (after predesign)

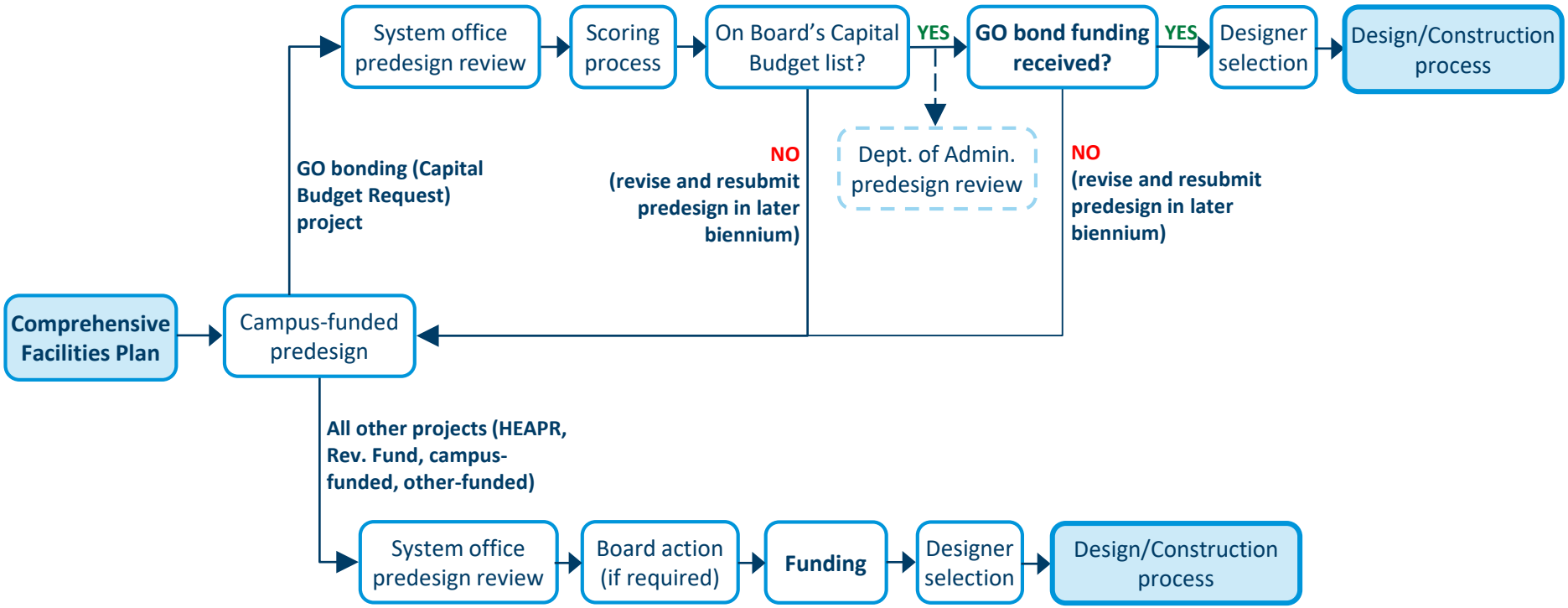
Per MN Statute §16B.33, Subd. 3, the State Designer Selection Board (SDSB) selects the primary designer (not the *predesign* architect/engineer) for projects with an estimated construction cost greater than $2,000,000, or for planning projects with estimated fees of $200,000 or greater.

The State Designer Selection Board (SDSB) process is not required for HEAPR, Revenue Fund, or other-funded projects; however, it's recommended that campuses use a similar process for designer selection.

The diagram on the following page shows the approximate pathways for projects that have completed the predesign process.

Overview: What generally happens after predesign

This chart presents the major steps in a typical capital project funding-design-construction cycle. Not all projects will follow these steps exactly.



Reference data and documents

When planning capital projects, keep in mind the requirements of the following Minnesota State guidelines (all available through the system office Facilities website):

- Board of Trustees Capital Guidelines (updated every 2 years)
- Utility Master Planning Guidelines
- Predesign Guidelines
- Space Planning Guidelines
- Physical Security Guidelines
- Design Standards Manual
- Exterior Masonry Design Standards Manual
- Roofing Design Standards Manual

Facilities data reports are available from the following software tools (contact the system office for assistance):

- EMS Campus (academic space utilization)
- VFA Facility (facility data like FCI, CRV, backlog/renewal)
- B3 Benchmarking (energy and utility use)
- FMPro/RoofPro (roof condition reports)

Other academic and facilities data such as enrollment, floor plans/CAD files, and academic program information may be available through the campus.

Submittal reviews and requirements

Draft Submittal Review

Drafts of the predesign and accompanying documentation are submitted by the campus to the system office at the 50% and 95% draft stages for review. Draft review ensures consistency in predesign submittals and allows the system office to offer recommendations on how to improve the project submittal.

Allow at least 2 weeks for review and feedback from the system office.

For capital budget (GO bonding) and Revenue Fund projects, at the 50% (for Large Projects) or 95% (for Small Projects) draft stage the system office will schedule a project check-in. This review is conducted via a virtual meeting and may include the Associate Vice Chancellor for Facilities, System Director of Capital Planning and Analysis, and the system office Program Manager for the campus.

After the check-in, the system office will send the campus a letter either approving the project to move forward, or requesting changes before proceeding.

Submittal requirements:

- **All submittals to the system office shall be electronic (.pdf, .xlsx, .docx formats).** The campus is responsible for submitting all documents to the system office. The campus may opt to receive hard copy submittals from its consultant, in addition to electronic.
- All submittals are to be uploaded to the relevant system office Teams site.

Predesign formatting requirements:

- The final (100%) predesign document shall be a high quality publishable, bookmarked .pdf file that includes all page numbers and relevant exhibits and attachments; photos and illustrations must be in a high quality, reproducible format.
- All pages numbered by section (except Front Matter)
- Font size for body text no less than 10 points.

THE PREDESIGN DOCUMENT

What follows are detailed descriptions of all sections of a predesign document. For each section, you'll find a summary of the section goals and intent followed by a checklist of items to include in your document. The checklist also indicates which checklist items must be included within each draft of the document. (For HEAPR projects, see the ***HEAPR Predesign Checklists*** *section of this document.)*

Note: Example graphics in the following pages are taken from recent predesigns and are shown here only to illustrate general concepts. They should not be adhered to stylistically verbatim or taken as current factual data.

Note: All checklist items are required to be included in the 100% (final) document unless specifically designated as Optional.

Overview of the predesign document

The predesign requirements described in the following pages allow for some flexibility in what content is required, depending on the needs and complexity of the proposed project. For example, a project consisting only of interior remodeling would not need to provide extensive information on site selection, stormwater control strategies, etc. If the predesign omits an entire section or requirement, provide a note within the document indicating why that section was not included.

Within the section checklists, all checklist items are required in the 100% document unless marked as Optional (O).

Required forms or letters are identified within the checklists in bolded italics. Sample templates for these forms/letters can be found in the *Form Templates* section at the end of this document.

Front matter

*Templates for the cover letters and Project Data Form are available in the **Predesign Form Templates** section within this document.*

Cover Letter #1 - Campus to the Associate Vice Chancellor

Addressed to the Associate Vice Chancellor for Facilities, from the campus president. This letter outlines the major points and highlights of the predesign.

Cover Letter #2 - Consultant to Campus

Addressed to the Campus President from the consultant, this letter verifies that the predesign document meets Minnesota State Predesign Guidelines, and briefly describes the consultant's scope of work. This letter must be signed by a Minnesota-registered architect/engineer with accompanying registration number.

Project Data Form

A .docx template for the Project Data Form is available on the system office's **Capital Budget and HEAPR** Teams site.

Please see the **Definitions** section for more information on items within the Data Form.

To calculate design and construction dates (including midpoint of construction) for GO bond (Capital budget) and HEAPR projects, assume funding will be available on July 1 of the bonding year. Costs should be estimated using current (non-inflated) dollars.

Front matter checklist (R = Required item)	50%	95%	100%
Title/cover page	R	R	R
Project Data Form	R	R	R
Cover letter from campus*			R
Cover letter from consultant			R
Table of contents	R	R	R
Scoring Checklist**		R	R

*Cover letter from campus is not required for HEAPR predesigns.
**Scoring Checklist is only required for Capital Budget Request (GO bonding) requests. See page 16 for details.

Scoring Checklist - Example

The Scoring Checklist

Each predesign for a Capital Budget Request (GO bonding) project shall include, as part of its "front matter", a Scoring Checklist. The checklist shows each scoring criterion from the current scoring form, followed by a text response or listing of where within the predesign each scoring item is addressed/answered. The scoring form is available when the Board's Capital Budget Guidelines are released, in spring of even-numbered years.

A graphic example of a scoring checklist is provided at left.

Note that the scoring criteria shown in this example are not current and should not be copied – please contact Capital Planning & Analysis at the system office for current scoring criteria.

1.3 Project is described in the latest Comprehensive Facilities Plan (CFP).	
p. 2:11	The proposed Nursing, Law Enforcement & Student Services Renovation project incorporates priorities identified in MWCTC's 2019 Comprehensive Facilities Plan. All predesign project components were separate projects, with individual cost estimates, in the CFP. College staff and faculty, as well as the President's Advisory Council, reviewed all potential projects; improvements to the nursing and law enforcement programs was the highest priority for all groups.
1.4 Supports the institution's Technology Plan	
p. 2:9	The proposed renovation project also supports the goals, actions and objectives of MWCTC's strategic, academic, and IT plans. See Section 3 for detailed information.
p. 3:4	Project Response: This project enhances teaching and learning by providing technology-rich learning spaces (labs and shared classrooms) that facilitate learning and improve curriculum delivery options. These technology-enhanced environments will allow students to increase their effectiveness with existing systems, to learn technologies, and to be better prepared for the workplace. It also provides support to departments such as Student Services which encourage student achievement. The increased use of technology throughout the lab and classroom spaces improves access for students whether on-site or online. Enhanced connectivity in commons spaces also increases accessibility (to services and programs) for students, ultimately helping them succeed.
1.5 Addresses specific community, workforce, or campus cultural needs	
p. 3:5	[Economic Impact Report 2018-2019] Project Response: This project provides expanded, high-quality classroom and lab spaces to support academic and workforce needs.
p. 3:6	[MN DEED Occupations in Demand] Project Response: This project supports academic programming that leads to higher paying jobs such as healthcare and law enforcement.
p. 3:6	[MN DEED Industry Employment] Project Response: This project supports academic programming that leads to jobs in the region's large and growing health care industry.
p. 3:7	[MN DEED Industry Projections & Health Care Industry Trends] Project Response: This project supports academic programming that leads to jobs in health care, one of the region's growing industries.
p. 3:8	[MN DEED: Law Enforcement Occupational Outlook & US Bureau of Labor Statistics: Job Outlook] Project Response: This project supports programming that leads to jobs in the growing, high-demand law enforcement occupations.
p. 3:9	[Program Goals] The existing nursing and law enforcement programs continue to grow and the proposed renovation would provide facilities that could better accommodate existing students and accommodate enrollment growth for these high-demand fields. The facilities would allow MWCTC to support these long-established programs which continue to report high levels of student satisfaction, program completion, licensure completion and job placement. The proposed project would also support the development of new programs which would use the expanded facilities.

Section 1: Summary statement

This section should be written last and should concisely summarize the basic data of the project:

- What the project is (what is the scope),
- Where it is on the campus,
- Why the project is needed,
- Who participated in the predesign process (partners, stakeholders) and who benefits (students, etc.),
- How much does it cost; how is the project funded and delivered, and
- When the project is expected to be designed, funded, and constructed.

Section 1 checklist (R = Required item)	50%	95%
Brief, summary of the project need, scope, cost, and schedule (one page or less): What problems does the project solve? How does this project solve those problems? Which academic programs or student services benefit?		R
Summarize the alternatives considered during the predesign process and outline which factors led to the selected alternative being chosen (for example, phasing or scheduling requirements, funding issues, program scope, location/adjacency issues, etc.)		R
Summarize the predesign participants and stakeholders: Who was consulted? Who participated in the predesign process?		R
Key plan/site map of campus showing general location of project and location within building(s)		R

Section 1 graphic examples

1 Predesign Summary Statement

Project Title

Bemidji State University:
Academic Learning Center & Campus Renovation

Project Scope

This project will entail the replacement of 82,500 GSF of severely outdated classroom and office space with a state-of-the-art (28,200 GSF) classroom and learning center along with significant renovation of existing space on campus. The existing facility is one of the most highly used buildings with one of the highest FCI values on campus, and has never been significantly renovated since the initial construction over 40 years ago. All HVAC systems are beyond their expected lifespan; all finishes are dated and worn; there is extensive water infiltration in the lower level mechanical room; light levels are poor to adequate; daylighting is severely limited; there are limited student gathering spaces; and instructional spaces are limiting pedagogy. Additional scope to include the renovation/renewal of 72,100 GSF space in existing academic buildings on campus: Bensen Hall, Sattgast Hall, Bridgeman Hall, Bangsford Hall, Deputy Hall and A.C. Clark Library.

View of University's Main Entrance

Project Location
Bemidji State University
1500 Birchmont Drive NE
Bemidji, MN 56601

2014 Appropriation
Planning and Design
Funding Provided:
$1,000,000

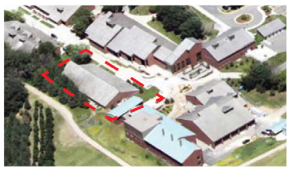
2016 Appropriation
Construction Funding Request:
$15,933,000 without inflation
$18,079,000 with inflation

Project Summary
New Construction: 28,900 GSF
Renovation: 54,700 GSF
Renewal: 17,400 GSF
Demolition: 82,500 GSF
Construction Start: July 2016
Midpoint of Construction:
June 2017
Occupancy: March 2018

Major Impacts of Project

- Save operating costs by **reducing campus size by 53,300 GSF**.
- Increase space utilization of classrooms from approximately 47% to **70%**.
- Demolition of Hagg-Sauer (FCI .31) will **eliminate over $7.5 million** from the backlog of required maintenance and asset preservation. Renovation/renewal of 72,100 GSF will **eliminate another $1.5 million** from the backlog of required maintenance and asset preservation.
- Reduce campus-wide **FCI of 0.11 to under 0.09**
- Create **"Learning Communities"** for synergistic departments to increase student/faculty contact, establish strong program identity, encourage increased enrollment and retention, and develop stronger community and academic partnerships.
- Encourage students and faculty to engage on many levels, from the formal classroom environment to informal contact in the community niches created within corridors and dedicated "huddle" areas.
- Create **full-spectrum learning facilities**: The new and renovated facilities will accommodate traditional lectures, collaborative learning, private study, community meetings, faculty offices, conferences and social gatherings, student gathering spaces, student study areas, and online interactive instruction.
- Increased **utilization of existing facilities** through space optimization of existing space on campus. This project renovates significant portions of four academic buildings.
- Reduce instructional facilities square footages by greater than **10%** to improve overall utilization.
- Start **implementation of the Master Facility Plan** by reinforcing the academic core of the campus and connections to Lake Bemidji.
- **Increased energy efficiency**, reduction of greenhouse gases and compliance with 2009 revisions to MSBG (B3).
- Renewable Energy: Potential installation of photovoltaic panels for demonstration purposes to support Bemidji State University and MnSCU's commitment to environmental responsibility.
- Support Academic Plan

Bemidji State University - Academic Learning Center & Campus Renovation 1.1



Location:
Inver Hills Community College
2500 80th Street East
Inver Grove Heights, MN 55076

Schedule:
Legislative Funding: July 2018
Design Start: March 2019
Legislative Funding: July 2020
Construction Start: August 2020
Occupancy: August 2021

2018 Appropriation:
Total Design Funding:
$698,000

2020 Appropriation:
Total Construction Funding Request:
$14,572,000

Project Scope:
Renovated Square Footage: 31,800
New Square Footage: 1,000
Construction Cost: $9,363,000

Summary Statement

The Technology and Business Center unites various technology intensive programs into one flexible, sustainable facility at Inver Hills Community College. This project consists of a major renovation to the existing Business Building and a new connection between it and Heritage Hall. This project is located on the southwest end of the campus.

Project Need:

- Technology intensive programs have grown and require digitally responsive space which the existing Business Building can not provide
- The existing Business Building is detrimental to the College's operation with $6,536,000 Deferred Maintenance Cost in 2016
- The ratio of building volume to net square footage is unsustainable for College's long-term operating budget.
- The existing 17 classrooms are poorly sized in both footprint and cubic volume with little access to daylight

Project Delivery:

- Create 15 flexibly sized and technologically adept classrooms for the College's growing programs including:
  - Information Technology Careers (ITC) and Security
  - Paralegal
  - Business
- Four of these spaces are specialized ITC classrooms that connect to the shared ITC Networking Lab
- Create a connection between the Technology and Business Center and Heritage Hall that also improves access to stand alone computer stations (for independent study) and STEM space.
- Make modest renovations to the existing Business Building's envelope to create 6,600 additional square footage within its excess volume

Accomplishment of Campus Goals:

- Aligns with the Minnesota State Strategic Framework by renovating to improve campus space utilization
- Aligns with the Campus Master Plan to consolidate STEM offerings
- Aligns with the Campus Technology Plan to improve instructional technology availability and increase mobile computing access for students
- Improve programs' current long term partnerships with:
  - American Bar Association
  - Accreditation Council for Business Schools and Programs
  - Cisco Networking Academy
  - Comp TIA Authorized Academy
  - Concordia College
  - CSSIA
  - Minnesota State - IT Center of Excellence
  - National Cyberwatch Center
  - National Science Foundation
  - National Security Agency

Section 2: Basis for need — project background

This section is critical in establishing the need and justification for the project. Use this section to describe the project background, including existing conditions and academic or operational program needs.

Academic program data are critical in telling the story of the project and establishing a strong case for funding. Include both current data and projections of future workforce/program growth and needs. Use demographic, DEED, and other types of data to show how the programs affected by this project support workforce needs, academic needs, or student support needs. What are the enrollment and growth trends of the college/university and the affected programs? Are those programs accredited?

Provide an *Existing Building Summary Form* (see Form Templates) for each existing building affected by the project.

Renovation vs. building replacement: If the project scope includes a significant renovation (more than 50% of the building's square footage) or is considering total building replacement, we recommend consulting the whitepaper *Existing Buildings: Renovate or Replace* (on the Facilities website) and completing the evaluation exercise.

Section 2 checklist (R = Required item)	50%	95%
Existing Building Summary Form **(see Form Templates) for each existing building affected by the project.**	R	R
Provide the mission statement of the college/university	R	R
Describe where this project fits in the current campus Comprehensive Facilities Plan; provide excerpts from the CFP as needed.	R	R
Describe how the project fits with the college/university's strategic plan and academic plan, and how it fits with regional and systemwide planning efforts, including the Board of Trustees Capital Budget Guidelines. Provide relevant excerpts from these plans as needed.	--	R
Needs analysis: Describe supporting data, analyses, or studies that demonstrate the project need, in terms of academic program needs and facilities needs. **Also provide for all impacted academic programs:** 1. Five-year trend data for program enrollment and completion (growth data) - percent change 2. Program-level student success outcomes disaggregated by race/ethnicity, first generation, and Pell Grant eligibility, with a narrative to demonstrate what actions have been and will be taken to address (reasonable and feasible) 3. Data on the job market (DEED) related to the impacted programs, including the rate of past and future growth in job demands and a metric on the saturation level	R	R
Describe current facilities conditions, adjacencies, spatial issues, and user needs for the affected academic or operational programs.	R	R
Provide existing floor plans for buildings/spaces affected by the project; indicate current space use (departments/academic units, circulation, mechanical spaces, etc.). Provide captioned photos of spaces/sites affected by the project.	R	R
Scheduling and space utilization: Summarize existing space utilization issues and challenges that impact the project and project areas (under– or over-utilized classrooms/labs, scheduling challenges for certain programs/classes, etc.). Describe how the scheduling or space use policies may affect these issues.	--	R
List any stakeholders from outside the college/university involved in or directly affected by the project, and describe their involvement in the predesign process	--	R
Summarize existing mechanical, electrical, plumbing, infrastructure, and fire suppression systems and issues; identify how existing utilities/infrastructure will support the project.	--	R

Section 2: Supplemental project background (Revenue Fund projects only)

Supplemental requirements for Revenue Fund projects only: Summarize student consultation/local jurisdiction requirements.

Address and outline the consultative process the campus undertook and is undertaking with student leadership and student body; explain the participation of students in the project committee work; discuss and summarize the specific work with the local jurisdiction related to alignment of project and building and/or zoning code conversations.

Section 2 – Supplemental Revenue Fund checklist (R = Required item)	50%	95%
Identify the dates/times the consultant and campus leadership met with students leading up to, and during, the predesign work		R
Within Appendix, include copy of formal presentation(s) provided to students		R
Describe how students were solicited for feedback in the process – student referendums, surveys, task forces, social media campaigns		R
Summarize meeting minutes with local jurisdictions in preparation for this project; were there conditions imposed on the project that would affect other development on the campus?		R

Section 3: Project description

While Section 2 describes the academic or operational program need for the project, this section is a compilation of instructions to the consultants who design the project after predesign is complete.

3D Renderings: If the predesign will include renderings of the proposed spaces or new building, we recommend keeping the renderings "sketchy" — avoid making the renderings look too photorealistic, as this can create an expectation that the end result will look just like the renderings. Most finished projects will look significantly different from a predesign rendering. (Examples of "sketchy" renderings are on the following page.)

Space Needs Inventory: Within the Appendix (Section 9), provide a *Space Needs Inventory* form (see Form Templates) for each space included in the project. Current as well as anticipated infrastructure, FF&E, or amenities needs should be described in detail.

Analysis of Alternatives: During the analysis and planning process, consider alternative ways to meet the project's program requirements. While *replacing* square footage (demolishing existing space and building new, more efficient space in its place) is generally encouraged within Minnesota State, new construction (adding net new square footage to the campus) is discouraged and should only be considered in rare circumstances. Campuses are encouraged to consider alternatives that share space with other Minnesota State campuses.

Section 3 checklist (R = Required item)	50%	95%
Describe the project intent and architectural program. Describe how the project responds to academic, strategic, and information technology plans; workforce and economic development; and program/enrollment goals and objectives. Describe any critical performance characteristics for physical components of the project (structural loads, fresh air ventilation rate, indoor temperature, etc.).	R	R
Provide a detailed space program using a table of space names and proposed sizes.		R
Provide graphics, floor plans/fit plans, adjacency diagrams, site/landscape plans, maps, or other graphics that help describe the project scope. Describe or show any project phasing, including swing space needs.	R	R
Provide **Building Summary Form—New Building** (see Form Templates) for any proposed new standalone building or significant building addition (more than 5,000 GSF). **This form does not apply to renovations.**		R
Precedent studies: Describe any similar facilities that were analyzed or studied to inform this project's architectural program and costs.		R
Describe the project's impact on campus facilities, including space utilization/space use, asset preservation, backlog reduction, code compliance, utilities/infrastructure, sustainability/resilience, parking, wayfinding, etc. Describe effects on facilities operations and maintenance (changes to staffing levels, utility costs, etc.). Describe any past actions (such as campus-funded projects) that may affect the project.		R
Summarize alternatives and options that were considered with regard to program delivery, site options, construction/renovation scope, cost options, phasing, etc. If alternate floor plans (or site plans/new building locations) were considered, include those plans in the Appendix.		R
List applicable codes, standards, statutes, cited research, and other references. (For reference, a list of state statutes that may apply to Minnesota State capital projects is provided later in this document.)		R
Capital budget (GO bond) projects only: Describe any anticipated private use of the project spaces (as identified in the *Private Use Questionnaire* in the Narrative file).		R

Section 3: Graphic examples of “sketchy” 3D renderings

Example sketch rendering

A “sketchy”-style rendering of a proposed new building and its campus context.

A “sketchy”-style rendering of an interior remodeled space.

Section 4: Sustainability and energy

Per Board of Trustees policy 5.17, Minnesota State seeks to promote sustainability, consistent with law and current executive orders. The applicable statutory framework as described below is the *minimum* requirement. For each statutory requirement listed in the checklist, the predesign must provide:

- A statement indicating whether the project is subject to the requirements of the statute;
- If statutory requirements apply, provide the analysis required by the statute or describe how the project will meet the requirements of the statute.

For most statutes described in this section, "major renovation" is defined as a renovation that affects at least 10,000 square feet and that includes the replacement of the mechanical, ventilation, or cooling system of the building or a section of the building.

If statutes 16B.323, 16B.325, or 16B.326 do not apply to your project, the predesign must include a statement that the project does not require the analyses or documentation required by these statutes.

Statutory Requirements — Energy

§16B.32 subd. 1a, Energy Use

A predesign for a new building or for a renovation of 50% or more of an existing building or its energy systems must consider meeting at least two percent of the energy needs of the building from renewable sources located on the building site. For purposes of this statute, "renewable sources" are limited to wind and the sun. The predesign must include an explicit cost and price analysis of complying with the two-percent requirement compared with the present and future costs of energy supplied by a public utility from a location away from the building site and the present and future costs of controlling carbon emissions. If the analysis concludes that the building should not meet at least two percent of its energy needs from renewable sources located on the building site, the analysis must provide explicit reasons why not. The building may not receive further state appropriations for design or construction unless at least two percent of its energy needs are designed to be met from renewable sources, unless the commissioner finds that the reasons given by the agency for not meeting the two-percent requirement were supported by evidence in the record.

Note: While Minnesota State campuses are exempt from §16B.32 subd. 1a, the 2% solar analysis is required by the B3 guidelines. As a result, any project that is required to use B3 (new building or major renovation) must complete the analysis and include it within the predesign.

§16B.323 Solar Energy in State Buildings

A project for the construction or major renovation of a state building, after the completion of a cost-benefit analysis, may include installation of solar energy systems of up to 300 kilowatts capacity on, adjacent, or in proximity to the state building. The capacity of a solar energy system must be less than 300 kilowatts to the extent necessary to match the electrical load of the building, or the capacity must be no more than necessary to keep the costs for the installation below the five percent maximum set by statute. The cost of the solar energy system must not exceed five percent (5%) of the appropriations from the bond proceeds fund for the construction or renovation of the state building. Purchase and installation of a solar thermal system may account for no more than 25 percent of the cost of a solar energy system installation. A project subject to this section is ineligible to receive a rebate for the installation of a solar energy system under section 116C.7791 or from any utility.

All projects for major renovations or the construction of a new building must include a solar photovoltaic analysis as described on this page.

Solar Photovoltaic System

Provide a cost/benefit calculation using the B3 Levelized Cost of Energy Calculator (https://www.b3mn.org/wp-content/uploads/20211208_32r1AppE-2b-Renewable-Energy-LCOE-Calculator-PREDESIGN.xlsx) for predesigns and include a detailed explanation of why a PV solar system will/will not be incorporated into the project.

Section 4: Sustainability and energy

16B.325 Sustainable Building Guidelines—New Buildings and Major Renovations (B3 Guidelines)

The B3 Guidelines are applied to the design of new buildings or major renovations to meet sustainability goals for site, water, energy, indoor environment, materials and waste. The guidelines can also be used on a voluntary basis on any project. By using the B3 Guidelines, projects will automatically be applying the SB 2030 Energy Standard.

Minnesota State has elected to apply B3 to all Revenue Fund projects.

Per agreement with the MN Dept. of Administration, the following will apply to Minnesota State predesigns for projects that are required to use B3:

- The version of the B3 Guidelines that applies to the project is the version in effect when the most recent predesign was completed.
- The project will not be entered into the B3 tracking tool and begin tracking guidelines items until the project is funded for design and begins the design process.
- After funding is received and immediately prior to beginning Schematic Design, a project using B3 must complete any applicable guidelines items required during predesign.

§16B.326 Heating and Cooling Systems, State-Funded Buildings (Geothermal, Solar Thermal)

All projects that receive any state funding for **replacement of heating or cooling systems** must include, within the predesign, a study for **geothermal and solar thermal applications as possible uses for heating or cooling**. This study must provide a cost/benefit calculation for geothermal and solar thermal applications, and an explanation of why each system will or will not part of the project. When practicable, geothermal and solar thermal heating and cooling systems must be considered when designing, planning, or letting bids for necessary replacement or initial installation of cooling or heating systems in new or existing buildings that are constructed or maintained with state funds.

If your project includes the replacement of a heating or cooling system, the predesign must include a written plan for compliance with this state statute. The predesign must analyze the feasibility of both geothermal and solar thermal (not solar photovoltaic) systems.

Definition: "Solar thermal" means a flat plate or evacuated tube with a fixed orientation that collects the sun's radiant energy and transfers it to a storage medium for distribution as energy for heating and cooling.

Section 4: Sustainability and energy

Section 4 checklist (R = Required item; O = Optional item)	50%	95%
Describe energy efficiency and sustainability measures in the project; estimate any changes in campus energy consumption resulting from the project (for example, "energy costs are estimated to decrease by 30%", or "the new systems will save an estimated $300,000 per year.")		R
Summarize Waste Management and Recycling Program Plan for demolition and construction.		R
Documentation of Statutory Requirements for Energy (see chart below to determine which analyses are required within the predesign):		
MN §16B.32, Subd 1a: Energy Use—2% renewable energy for new buildings or renovation of 50% of building/energy systems (not required by statute, but as part of B3).		R
MN §16B.32, Subd 2: Energy Conservation Goals (may participate in program – not mandatory)		O
MN §16B.323: Provide cost/benefit analysis of solar energy system (solar photovoltaic modules installed in conjunction with a solar thermal system) for new buildings or major renovations, cost of up to 5% of the appropriation.		R
MN §16B.325: Sustainable Guidelines (B3) required for new building, major renovation, or where the project adds/replaces a stand-alone mechanical system. **For all projects, include a statement in the predesign indicating whether the project must participate in B3 or not, and which version of the B3 Guidelines will be used.**	R	R
MN §16B.326: For new buildings, new HVAC systems, or when replacing an HVAC system: Provide analysis of **geothermal and solar thermal (not solar PV)** heating & cooling systems.		R

Applicability of Energy and Sustainability Statutes (R = Required Item; O = Optional Item)

Project Type/Scope	Statute			
	16B.32, 1a*	16B.323	16B.325	16B.326
New, standalone building	R (via B3)	R	R	R
Major renovation (> 10,000 sq. ft affected) **and** replaces a heating or cooling system	R (via B3)*	R	R	R
Minor renovation (<10,000 sq. ft. of building affected or does not replace a heating or cooling system)	O	O	O	O
Replacement of standalone mechanical system (regardless of building renovation scope)	O	O	O	R

**** For statute 16B.32 subd. 1a only,*** *"major renovation" is defined as any renovation that affects more than 50% of a building's square footage or its energy systems.*

Section 4: Sustainability and energy

Alternative Energy Requirements & Analysis

Renewable Energy Screening

As compiled by

Sebesta Blomberg & Associates, Inc.

Energy Basis

The heating system for Building 9 consists of six boilers rated at 2 MMBTUH each. Two of the six boilers provide reserve capacity for heating. On this basis, sufficient capacity is available for maximum heating loads with two of the boilers out of service. One water cooled chiller, 300 tons, and one air cooled chiller, 100 tons, comprise the building cooling system.

Estimated energy requirements for heating and cooling are based on annual full load equivalent hours (FLEH). The FLEH for heating is 1,800. The water-cooled and air-cooled chillers have been assigned 1,200 FLEH and 900 FLEH, respectively.

On this basis the expected energy load for heating is 14,400 MMBTU per year. With energy ratings of 0.85 kW/ton and 1.05 kW/ton for the water cooled and air cooled chillers, respectively, the energy requirement for cooling is approximately 400,500 kWh (306,000 kWh + 94,500 kWh).

Heating:	4 x 2,000 MBH x 1,800 FLEH = 14,400 MMBTU
Cooling:	1 x 300 Tons x 1,200 FLEH x .85 kWh/Ton-hr = 306,000 kWh
	1 x 100 Tons x 900 FLEH x 1.05 kWh/Ton-hr = 94,500 kWh
DHW	10,500 Gal/day[1] x 365 days/year x 583.8 BTU/gal[2] ÷ 70% = 3,195.3 MMBTU
Electric	124,925 square feet x 19 kWh/square foot-year = 2,373,575 kWh

The domestic hot water (DHW) load is based on 10,500 gallons per day, 365 days/year, average temperature rise of 70° F., and seasonal efficiency of 70%, yielding a total energy requirement of 3,195.3 MMBTU. The anticipated non-cooling electric consumption is based on 19 kWh/square foot/year or about 2,375,575 kWh.

Renewable Energy Screening

The Clean Energy Project Analysis Software of RETScreen International was used to forecast the capacity and performance of the following systems: solar photovoltaic, solar domestic hot water, solar heating for ventilation, and wind. The software of RETScreen International software was developed by Natural Resources Canada with sponsorship of NASA, United Nations Environment Program, Renewable Energy and Energy Efficiency Partnership, and World Bank. The software incorporates local weather conditions, and was specifically designed as a decision making tool for the analysis of renewable energy systems.

The results of the screening (summarized in terms of capital cost, annual energy reduction, first year avoided energy expense and simple payback period) are highlighted in Table 1. For ease of presentation, the first year avoided energy expense is exclusive of minor electric loads necessary to operate the solar air and solar DHW systems. The value or avoided unit expense of energy is $10/MMBTU for natural gas and $0.06/kWh for electricity. Estimated capital costs are inclusive of procurement, installation and engineering.

Table 1
Summary of Renewable Energy Screening

Type of System	Wind	Solar PV	Solar DHW	Solar Air
Capacity	10 kW	5.6 kWe	9.98 kW	200 Sq. Ft.
Annual Avoided Energy	12 MWh	8.3 MWh	76.5 MMBTU	362.3 MMBTU
%-Annual Load	3%	2%	2%	2%
Annual Avoided Expense	$720/ year	$498	$765	$362
Capital Cost	$25,000	$67,200	$22,000	$35,000
Payback Period, years	29.8	134.9	28.8	96.7

[1] 300 Residents x 35 Gal/resident-day = 10,500 Gal/day
[2] 8.33 LB/gal x 1 BTU/lb/°F. x 70.1° F. temperature rise = 583.8 BTU/gal

0801/76276MPX page 1 of 2 1.7 **Alternative Energy Requirements & Analysis**

Each system highlighted in Table 1 provides about 2% of the respective loads. However, the capital investment in th renewable energy systems can not be justified exclusively on the basis of project economics gauged by simple payback period. Tax incentives and grants may be available to subsidize the capital cost and operation of these renewable energy systems. Use of these incentives and grants are generally conditioned on ownership by taxable entities. Analysis of eligible ownership structures and applicable incentives and grants are beyond the scope of this general screening of renewable energy systems.

Geothermal (Ground Source Heat Pumps)

Ground Source Heat Pump (GSHP) systems utilize the solar energy stored in the earth as a heat sink for extracting and rejecting heat from building air conditioning systems. This technology relies on the availability of the site to support the installation of underground loop fields. These loop fields consist of buried high density polyethylene (HDPE) piping to act as a heat transfer medium. The loop fields can be buried as horizontal piping or as vertical piping installed in 8" diameter boreholes.

Typical vertical GSHP loop fields require roughly 225 square feet of land for each 1 ton borehole (at 100 foot depth). The current design load for Building 9 is 400 tons, which would require 90,000 square feet (2.06 acres) of land area than can be dedicated to support the loop field.

Soil borings for the Veteran's Home site indicate that limestone bedrock exists within 5 to 8 feet from the soil surface. These drilling conditions in bedrock will result in an extremely high installation cost. The installation cost for a 400 to loop field at this site could easily achieve over $4 million dollars if it is feasible at all.

Typical energy savings of these systems can yield 20% to 40% less energy consumption when compared to boilers and chillers. This would result in an energy savings of $33,600 to $67,200 annually. However using even the highes savings of $67,200 and a first cost of $4.0 m, this system would yield a payback of 59 years.

Example alternative energy analysis (from MN Dept. of Administration)

Section 5: Financial information – capital expenditures

Important: Please do not include a copy of the Project Workbook (.xls file) within the predesign. Campus personnel should submit the Workbook file separately.

Provide a narrative explaining major costs outlined in the Project Workbook (provided separately). Explain how the estimated cost for the project was determined. The cost estimate should be based on costs for recently constructed similar buildings or project scopes. If the proposed project costs do not follow historical cost patterns, explain why they differ and how the project costs were determined.

Costs and inflation (escalation): Cost estimates should detail costs in current (today's) prices; an inflation factor set by the state (the MMB multiplier) will be applied to the project costs based on the midpoint of construction and updated throughout the project request process. This inflation factor is based on forecasts of future trends in construction costs.

Inflation is not calculated for HEAPR projects.

Section 5 checklist (R = Required item)	50%	95%
Summarize project costs by category (without inflation): Design fees; project management; construction and demolition costs; percent for art; occupancy costs (FF&E, technology, security). Provide a current construction cost estimate.	R	R
Identify all funding sources: capital budget (GO bonds), revenue bonds, HEAPR, grants, donations, campus operating funds, etc. Note: Moving/relocation costs are not bondable and must be funded separately by campus operating funds.	R	R
Identify quality control measures that will be included in the project budget, including statutory requirements such as B3 Guidelines/SB2030 and construction/demolition waste recycling, as well as measures required by the *Minnesota State Facilities Design Standards*.		R
If a project anticipates outside funds (grants, donations, or other outside funding) totaling 10% or more of the total project cost, provide letter(s) of commitment or official municipality/county resolution from the proposed donor(s), indicating the dollar amount committed to the project and any conditions that must be met to obtain or use the funding.		R
Describe the basis for the cost estimate: What factors were used to determine square foot costs? What assumptions is the cost estimate based upon? What uncertainties could affect the project costs in the future? Summarize other cost estimations, cost histories, or benchmarking that are relevant to the project (for example, related facilities whose construction cost is relevant to this project).		R
Identify the recommended project delivery method (Design-Bid-Build or Construction Manager at Risk) and indicate why that method is preferred for this project.		R
Identify costs for hazardous material work/clean-up (asbestos abatement, fuel tank removal, removal of contaminated soils); note that all project sites for new buildings or additions must have a Phase I environmental study completed if the site was previously developed.		R
Describe any significant design, schedule, procurement, regulatory, or other **risks** identified for the project and describe how the project budget/schedule is structured to mitigate those risks. Describe how contingencies in the project budget will help mitigate risks.		R

Section 6: Financial information – operating expenditures

Important: Please do not include a copy of the Project Workbook (.xls file) within the predesign. Campus personnel should submit the Workbook file separately.

Describe the ongoing operational costs and compare those costs with current levels of funding for operations, maintenance, and staffing. Address campus debt capacity, both in general and specifically for the proposed project. The campus should verify current and proposed debt information with the system office Financial Services Director.

Section 6 checklist (R = Required item)	50%	95%
Describe and quantify the project's effects on the campus operating costs: estimate staffing levels as well as associated costs for building repair, replacement and maintenance (such as impact of additional maintenance engineers). These estimates should compared to present levels of funding. Indicate whether the maintenance and operational services are expected to be performed by campus staff or private sector vendors.		R
Describe the effects of this project on the campus's total debt service and the campus's financial status.		R
Identify whether the campus is subject to a Financial Recovery Plan and, if so, how the campus plans to remove itself from the Financial Recovery Plan status.		R
Briefly summarize the expected lifespan of the project's major new components or systems: sitework/utilities; building envelope; structural system; HVAC, mechanical, electrical, and fire protection systems; major FF&E elements; etc.		R

Section 7: Schedule

Graphically convey a realistic schedule that balances the construction process with academic needs and the capital budget cycle. The schedule should allow for design review periods after each design stage that will allow the campus and system office to thoroughly review and approve the design documents and cost estimates.

If alternative project delivery options are available, describe them and how these options affect the schedule. Identify any scheduling risks (bidding environment, long lead time items, etc.) that might affect the schedule; describe how the schedule can accommodate delays or disruptions.

The schedule should accommodate owner-related functions such as:

- Environmental assessments or impact statements
- Owner-required shut-downs
- Owner and system office review of documents (allow at least 4 weeks of review time for Schematic Design)
- Regulatory reviews (codes, Health Dept., environmental, etc.).

Section 7 checklist (R = Required item)	50%	95%
Show a graphic schedule (using a bar or Gantt chart) for all project stages; include time for design review, haz. mat. abatement, phasing, relocation/moving, potential long-lead-time materials, etc. The graphic schedule must include, at a minimum, the following milestone dates: Funding received*; designer selection; design start and completion; bidding/award (if using Design-Bid-Build project delivery) or Construction Manager selection (for CM@R); construction start; midpoint of construction; substantial completion; move-in.	R	R
HEAPR and Capital Budget projects: If the project may receive funds from more than one capital bonding cycle, indicate a proposed funding sequence. The campus should plan to work with the system office to resolve potential scheduling issues with the State Designer Selection Board, if required.		R
Swing space plan: Describe how areas of renovation/construction will be vacated prior to construction (if applicable); describe how existing programs, faculty/staff offices, and other spaces will be moved and/or accommodated during the construction process. Identify any required temporary leasing of off-campus space.		R

**For GO bonding (Capital Budget) and HEAPR projects, assume funding will be available July 1 of the applicable bonding year.*

Section 8: Occupancy plan

Planning for furniture, fixtures, and equipment (FF&E) and technology (IT) infrastructure and use is an important part of the predesign process. It's also important to plan how to fund the future refurbishment or replacement of furnishings and equipment.

Be sure to consult with the campus's IT staff to ensure technology needs are adequately described and their costs are properly estimated.

Section 8 checklist (R = Required item)	50%	95%
Describe how the project will improve or accommodate existing and future infrastructure, including utilities or technology infrastructure. If relevant, provide excerpts from the campus Information Technology Plan or Utility Master Plan.		R
Summarize the infrastructure or utilities needs of any major equipment or technology in the project. Is existing infrastructure sufficient for these needs?		R
If the project will include Active Learning classrooms or other technology-enhanced classrooms/labs, describe how the campus plans to ensure faculty are trained in the use of the technology or equipment, and describe any plans for ongoing training or peer mentorship in optimizing the use of technology.		R
If the project anticipates the purchase of furniture, equipment, specialty software, or technology that is not bondable, identify the funding source for these items (campus funds, outside funding, etc.). Contact the system office for assistance in determining what items are bondable (capital) expenses.		R

Section 9: Appendix

The Appendix contains important administrative, facilities, and program information that supports the predesign and serves as a useful reference for campus administration and facilities staff.

Section 9 checklist (R = Required item; O = Optional item)	50%	95%
Provide a copy of the campus Space Scheduling Policy.	R	R
EMS Campus space utilization reports for the spaces affected by the project.	R	R
VFA Facility reports for the building(s) affected by the project.	R	R
Space Needs Inventory form and plan diagrams for all programmed project spaces		R
B3 Benchmarking data for building(s) affected by the project		R
Meeting minutes		R
Workforce or demographic data relevant to this project		O
Other studies or related supporting information		O

HEAPR AND LIMITED SCOPE PREDESIGNS

This section outlines requirements and instructions for HEAPR (Higher Education Asset Preservation and Replacement) projects as well as checklists for required items to be included in a full or limited scope HEAPR predesign document.

HEAPR eligibility and prioritization

As a general principle, Minnesota State seeks to keep colleges and university students, faculty and staff safe, warm and dry. State statute (Minn. Stat. §135A.046, Subd. 2.) outlines the types of projects that qualify for HEAPR funding, which include:

- Code compliance including health and safety
- Americans with Disabilities Act requirements
- Hazardous material abatement
- Access improvement, or air quality improvement
- Building energy efficiency improvements using current best practices
- Building or infrastructure repairs necessary to preserve the interior and exterior of existing buildings, or
- Renewal to support the existing programmatic mission of the campuses

Prioritization

- **Facilities Condition Index.** Minnesota State maintains a facilities condition index that measures backlog and future renewal needs. The condition index is updated annually and serves as a framework for asset preservation requests and used as general guidance when evaluating the priority of campus HEAPR projects.
- **Campus Priorities.** Minnesota State colleges and universities each evaluate and monitor their actual building conditions through a variety of means, such as roof surveys, engineering studies and through monitoring energy and water consumption.

Minnesota State considers the following five factors when prioritizing overall system-wide HEAPR requests:

1. **Safety and security.** A building system or circumstance that poses an impending threat or harm to the safety of students, faculty, and staff. For example, securing loose bricks on the exterior of the building, or repairing a boiler or piping system that is at risk of rupture or failure.
2. **Code compliance or identified obligation.** Imminent enforcement actions or fines for failure to comply that can't otherwise be covered by campus operating funds. For example, projects that would bring campus facilities into compliance with the latest ADA or OSHA requirements.
3. **Imminent facility system failure.** Where there is no suitable back up option and failure will directly halt or severely impact space or operations. For example, a roof failure that causes water to flow into a classroom, library or lab, making the space unusable, or replacement parts are no longer being manufactured for a boiler system.
4. **Integral part of state system needs and/or leverages other funds.** A situation where the college or university may have other sources of funds and where leveraging HEAPR dollars is advantageous. For example, if the college or university uses performance contracts to improve energy efficiency, there may be advantage to leveraging HEAPR dollars at the same time.
5. **Supporting academic programming.** Where a companion capital project requires additional building infrastructure needs, such as power or specialized air handling, to accomplish the program objectives. Examples include enhanced building systems to accommodate welding, automotive and chemistry programs or the need to establish a centralized plant to accommodate steam or other specialized needs.

Overview: HEAPR predesigns

All HEAPR projects require a predesign. HEAPR projects with construction costs over $750,000 must submit a full predesign containing all sections and checklist items listed on the following pages.

HEAPR projects with estimated construction costs between $50,000 and $750,000, as well as demolition-only projects, may submit a limited scope predesign. This type of predesign describes a project that only affects a small part of a building or a building system (HVAC, fire protection, building envelope, etc.); its requirements are listed in the "Lim." column of the following checklists. Sections within a limited scope predesign are typically less extensive than those of a full predesign.

If the predesign omits a required section or checklist item, the document must indicate why that section or item was not included.

Within the section checklists, required forms or letters are identified in bolded italics.

Front matter checklist (R = Required item)	Lim	Full
Title/cover page	R	R
Cover letter from consultant*	R	R
Table of contents	R	R

***Cover letter from consultant** must include architect or engineer's certification with date, signature, and consultant's Minnesota license number.*

Lim = Limited-scope predesign
Full = Full predesign
R = Required item
O = Optional item

HEAPR Section 1 checklist (R = Required item)	Lim	Full
Brief description of project: Scope, size, cost and cost breakdown, schedule (including phasing, if required), proposed funding sources, stakeholders, why is the project needed, how will the project be delivered.	R	R
Summary of major facilities issues affected by the project: Deferred maintenance/renewal, sustainability, code compliance, renewable energy, etc.	R	R
List of past appropriations (for previous phases of this project)	R	R

HEAPR Section 2 checklist (R = Required item)	Lim	Full
Existing facilities systems summary: For each building or major area affected by the project, provide key facilities performance indicators (including CRV, backlog, FCI, and 5-year renewal). Summarize haz. mat. abatement needs and other environmental concerns.	R	R
Describe where this project fits in the campus Comprehensive Facilities Plan; provide context for any changes between the CFP and this proposed project.	O	R
Existing floor plans for buildings/spaces affected by the project; indicate space use (departments/academic units, circulation, mechanical spaces, etc.)	R	R
Captioned photos of existing spaces or equipment affected by the project.	O	R
Provide ***Building Summary Form – Existing Building*** for each building affected by the project.	O	R

HEAPR Section 3 checklist (R = Required item)	Lim	Full
Detailed description of project scope (include in Appendix any supporting materials, drawings, meeting minutes, or studies)	R	R
Graphics and maps: Aerial map, conceptual drawings for proposed project, or other graphics that help describe the project	R	R
Description of past actions that affect the project (self-funded renovations by the campus, etc.)	R	R
Description of project phasing (if applicable), including temporary relocations/swing space needs, and effects on operating budget.	R	R
List of applicable codes, standards, cited research, and other publications/studies referenced.	R	R

HEAPR Section 4 checklist (R = Required item)	Lim	Full
Sustainability highlights: Describe sustainable concepts or technologies that may be used by this project	O	R
Waste Management and Recycling Program Plan for demolition and construction	O	R

Lim.: Limited scope predesign
Full: Full predesign
R = Required Item
O = Optional Item

HEAPR Section 5 checklist (R = Required item)	Lim	Full
Break down total project cost: Design fees; project management; construction and demolition costs. Provide current construction cost estimate. Identify any costs for haz. mat. abatement.	R	R
Identify all funding sources: HEAPR, grants, campus funds, etc.	R	R
Reference other cost estimations (comparable projects whose construction cost is relevant to the current project).	O	R

HEAPR Section 6 checklist (R = Required item)	Lim	Full
Describe and quantify the project's effects on the campus operating costs: estimate staffing levels as well as associated costs for building repair, replacement and maintenance (such as impact of additional maintenance engineers). Estimate operating costs for energy (HVAC, electrical and other utilities).	O	R
Provide 5-year projection of operating costs that identifies major categories of expenditures and identifies any associated revenue sources.	O	O

HEAPR Section 7 checklist (R = Required item)	Lim	Full
Graphically convey (bar or Gantt chart) a realistic schedule for all project stages; include time for haz. mat abatement, phasing, relocation/moving, potential long-lead-time materials, etc.	R	R
Identify project options or phasing that could accommodate limitations in funding.	O	R

HEAPR Section 8 checklist (R = Required item)	Lim	Full
Describe how this project will improve or address problems with existing and future technology infrastructure. If relevant, provide excerpts from the campus Information Technology Plan.	O	O
Describe technology alternatives or options studied that could affect the project budget.	O	O

HEAPR Section 9 checklist (R = Required item)	Lim	Full
VFA Facility reports for the affected building(s)	O	R
B3 Benchmarking data for the affected building(s)	O	R
Meeting minutes (if applicable)	O	O
Other studies or supporting information	O	O

Lim = Limited scope predesign
Full = Full predesign
R = Required Item
O = Optional Item

DEFINITIONS

NOTE: "Owner" refers to the State of Minnesota.

Architectural/engineering (A/E) program: A written statement setting forth design objectives, constraints and criteria for a project, including space requirements and relationships, flexibility and expandability, special equipment and systems, and site requirements, if applicable.

Asset Preservation: The state's capital budget guidelines describe it as "committing necessary resources to preserving, repair, or adaptive re-use of current assets." Renewal in this context is defined as "expenditures to keep the physical plant in reliable operating condition for its present use, without programmatic change." Higher Education systems are governed under Minn. Stat. §135A.046, Asset Preservation and Replacement, which further defines the categories of asset preservation and replacement. See HEAPR.

B3: B3 refers to two component items designed to reduce energy consumption in public buildings – building sustainability requirements (the **Guidelines**) and energy **benchmarking** (tracking energy/utility use data). The B3 Guidelines are statutory requirements applicable to all new buildings and major renovations of 10,000 sq. ft. or more that include replacement of HVAC. Guidelines are available at www.b3mn.org/guidelines/index.html. Energy benchmarking is found here: mn.b3benchmarking.com/default.aspx .

Building Operating Expenses: Costs related to the operations of the physical building such as maintenance, utilities, security, repair and alteration, and any other costs associated with the building operations.

Capital project: A project for construction, renovation, major repair/replacement, and/or land acquisition, such that the total cost is "capitalized" on the books of the college or university under traditional accounting standards. Capital projects are normally authorized and funded by the state legislature, through the sale of tax exempt state general obligation bonds. The state of Minnesota carries 2/3 of the cost of the bonds for higher education capital projects, while the Minnesota State system picks up 1/3 of the cost of the costs. (1/6 of the total debt service is paid by the system as a whole; the remaining 1/6 cost is paid by the institution gaining the project.) A capital project includes all costs associated with delivery of that project: design, construction, demolition, testing, inspection, furniture and furnishings, equipment, land acquisition, and project management.

Changes in State Operating Costs: The project's impact on the agency's operating budget over a six-year period. This requirement is mandated by state statutes (Minn. Stat. §16A.105, sec. 5, subd. 5). Both direct and indirect costs should be identified for the current and future biennia including, but not limited to, staffing costs, program/service costs, and increased building operation and utility expenses. These costs should reflect the agency budget associated with the request.

Commissioning: A basic four-part process verifying the project program through design and construction, the interaction and training process for facility personnel, the correction of project deficiencies, and the recording of warranties and guarantees.

Construction: The phase of the project where construction trades build the new facility, or renovate or repair the existing facility. Construction is normally accomplished through one contract with one general contractor, thereby minimizing risk to the owner. However, two or more contracts may be used to facilitate progress, e.g. an early contract for asbestos removal, site work and utilities; or a later contract for a parking lot, landscaping, or ancillary items able to be funded through cost savings over the life of the project. Construction normally represents about 70% of the total project cost.

Construction Cost: The total cost or estimated cost to the Owner of all elements of the project designed or specified by the design team (architect and/or engineer). It does not include the compensation of the architect and the architect's consultants, the cost of land, rights-of-way, financing, or other costs that remain the responsibility of the owner.

Construction Contingency: An amount of money set aside for unforeseen conditions in a construction project. The amount can vary from 2% to 3% in new construction to 5% to 10% in projects of a remodeling nature, based on project size and complexity. Differences in localized costs, design contingencies, or other items should be factored into the general construction cost.

Construction Management: Management services provided to an owner of a project during the design and/or construction stage by a person or entity possessing requisite training and experience. These services may include advice on the time and cost consequences of design and construction decisions, scheduling, cost control, coordination of contract negotiations and awards, timely purchasing of critical materials and long- lead items, and coordination of construction activities.

Contract Administration: The duties and responsibilities of the architect and owner's representative during the construction stage.

COPE: The four property risk characteristics an underwriter reviews when evaluating a submission for property insurance: Construction (e.g., frame, masonry, masonry veneer, superior construction, mixed—masonry/frame); Occupancy (how the building is being used for commercial property and whether it is owner-occupant or renter-occupied for homeowners and the number of families for which the building is designed); Protection (e.g., quality of the responding fire department including whether it is paid or volunteer, adequacy of water pressure and water supply in the community, distance of the structure to the nearest fire station, quality of the fire hydrant, and the distance of the structure to the nearest hydrant); and Exposure (risks of loss posed by neighboring property or the surrounding area, taking into consideration what is located near the property, such as an office building, a subdivision, or a fireworks factory). (From irmi.com.)

Debt service: Payments made by the state for principal, interest and issuance costs for the 20-year general obligation bonds. The college or university benefiting from the project pays one-sixth (1/6) of the debt service on authorized projects except Higher Education Asset Preservation and Replacement funding (HEAPR). The Minnesota State system as a whole pays another 1/6 of the debt service, leaving 2/3 of the debt service to be paid by the State of Minnesota.

Deferred Maintenance and Repair Backlog ("Backlog"): Necessary facilities renewal work that has not been accomplished and has been deferred due to lack of funding. It is forecast by the VFA Facility tool (formerly FRRM). This is often referred to as "deferred maintenance" which can give the mistaken impression that work has been deferred due to inattentiveness to maintenance or repair. Backlog represents the existing (or extrapolated) estimated costs associated with major maintenance, repair and replacement requirements for buildings, grounds, fixed equipment and infrastructure. The total equals the amount of funding that is needed for a facility or entire campus to be "whole and at current value." It does not include work that is associated with program or academic improvements. Note the word 'deferred' is used only in that lack of funding creates this 'deferred' condition and does not imply that the campus has willingly chosen to not maintain the physical plant.

Demolition/Decommissioning Costs: Cost for razing a facility or removing from service permanently. Hazardous material abatement associated with this action shall be itemized separately under the Hazardous Material Abatement category but included in the total cost of the project budget.

Design: The stage in the development of a project during which schematic, design development, and contract documents are produced. The three stages of design are described below:

- **Schematic Design:** Drawings and other documents illustrating the scale and relationship of project components.
- **Design Development:** The stage of the architect's services in which the architect prepares, based on the approved schematic design studies, the design development documents for submission to the owner for the owner's approval.
- **Construction Documents:** The final stage of design that completes documents that include the agreement between the owner and contractor, conditions of the contract (general, supplementary, and others), drawings, specifications, and addenda issued prior to execution of the contract, other documents listed in the agreement and modifications issued after execution of the contract.

Design Fees: These design services include normal architectural, structural, mechanical and electrical engineering services that cover the schematic, design development, contract documents, bidding, and construction administration stages of a construction project. Reimbursable items, additional services and specialty consultants may be added.

F.T.E. Personnel: The number of full time equivalent employees associated with this request.

Facility Condition Index (FCI): A ratio to measure the physical condition of a building, or entire campus, with the value of deferred maintenance and repair divided by the replacement plant value. Minnesota State considers an FCI less than 5% (0.05) "excellent", 5% to 15% as "good", 15% to 30% as "average", 30% to 50% as "poor", and over 50% as "crisis." Through the VFA Facility (FRRM) documentation, the system has been tracking conditions since 2005.

Furniture, Fixtures and Equipment (FF&E): Items not normally permanently attached to the structure but that are considered a bondable cost and not part of the construction costs. Office systems furniture is an example. Most FF&E is purchased by the college or university using recommendations from the project architect, MinnCor (prison industries), or local preferences and sources. Computers and other technology equipment may also be procured this way as part of the project.

General Obligation (GO) Bonds: Bonds issued by the state for capital projects in accordance with the Minnesota Constitution and implementing statutes. Secured by a pledge of the state's full faith, credit and taxing authority towards payment of the principal and interest on the bonds when due.

Hazardous Material Abatement: Any costs associated with the encapsulation or abatement of hazardous materials in structures associated with the construction project.

Higher Education Asset Preservation and Replacement (HEAPR) ("hee-per"): The HEAPR program, defined in Minnesota Statutes Chapter 135A.046, focuses on facilities maintenance and repair needs that are capital in nature and unable to be funded through the campus operating budget. HEAPR also includes funding for compliance with life safety and building codes; Americans with Disabilities Act (ADA) requirements; hazardous material abatement and indoor air quality improvements; and facilities renewal in support of existing programs. HEAPR, since its inception in 1992, has been funded by general obligation bonds. The state covers the entire debt service of HEAPR with no debt service obligation on behalf of the Minnesota State system.

Inflation (escalation): The rate that cost of construction increases over the duration of the project, calculated to the midpoint of construction. See MN Management & Budget Multiplier.

Infrastructure/Roads/Utilities Costs: Costs for the construction or enhancements to infrastructure/roads/grounds/utilities beyond the site perimeter.

Life cycle costing: Life cycle costing is a method of calculating the total cost of ownership over the life span of the asset. Initial cost and all subsequent expected costs of significance are included in the calculations as well as disposal value and any other quantifiable benefits to be derived.

MN Management & Budget (MMB) Multiplier: Inflation (escalation) factor referenced in the most current biennial Capital Budget Instructions.

Nonstate-Owned Lease Expenses: All the costs related to a commercially leased facility. This would include the lease (rental) cost, tenant (leasehold) improvements, security, and any other costs associated with an agency leasing a commercial facility.

Occupancy: The purpose for which a building, or part thereof, is used or intended to be used.

One Percent for Art: An allocation of one percent of the construction costs only (MS 16B.35).

Operating Costs: In context with the capital budget, projects must consider the impact on the campus operating budget. Operating costs include utilities, custodial care, maintenance and repair and staff labor expenses. For purposes of operating costs, debt service is included in this definition. The state does not provide additional operating budget funding in support of new or expanded facilities.

Operational program: The operational function of a facility described in terms of services provided, products delivered, activities performed, resources needed, and results expected.

Predesign: The stage in the development of a project during which the purpose, scope, cost, and schedule of the complete project are defined and instructions to design professionals are produced.

Predesign Fees: The fees consumed in the preparation of the predesign document. The fees depend on the scale and complexity of the project.

Project Management: The process of planning, scheduling, and controlling the critical aspects of the Owner's program. The quality, budget, and deadlines are protected through the use of campus staff (Owner Administration) and/or outsourcing (Construction Management).

Property Acquisition: The use of funds to acquire land, easements, options, or land with buildings or other improvements.

Reinvestment: The amount of funds that must be spent on an existing facility each year to preserve its physical state of readiness and programmatic value; the funds needed to return the capital asset to its full intended use, whether through planned renewal or reduction of the backlog. In the context of the VFA Facility program, it is funding of Backlog plus Renewal. All building components have a predicted life span and must be replaced and/or refreshed periodically. To not reinvest is to “defer” and thus build a backlog of maintenance, repair and renewal.

Remodeling (Adaption)(Alterations): Expenditures required to adapt the physical plant as required to the evolving needs of the institution and to changing standards.

Renewal: In the context of a predesign, renewal is “lights and brights” work that does not involve significant renovation or construction; for example, new paint, carpet, and lighting would be considered “renewal”.

In the context of a facility condition assessment, renewal is the amount required to maintain facilities “at par” condition; the current or anticipated replacement need of a subsystem. For example, a 40-year old boiler that is scheduled to be replaced due to its age in 2012 would be indicated in that year as a “renewal” need. The VFA Facility software predicts future renewal requirements.

Repair and Replacement (R&R): The amount of investment from a campus for items that assist in lengthening the life of the building which are typically coded from Fund 830.

Security Equipment: Specialty equipment usually supplied by a separate contract from those of construction or FF&E.

Site and Building Preparation: Work performed within the perimeter of the land parcel but beyond five feet from the existing structure or new construction that would include infrastructure/roads and utilities.

Space needs analysis: Includes estimates of amount and type of space needed, survey of existing space, investigating ways to utilize existing space as an alternative to new construction, investigating other alternatives to new construction, and identifying the selection criteria for the preferred alternative.

Space utilization: A measure of how efficiently space is used as expressed by hours of class room usage over a given time period. Measurements are taken after 30 days have elapsed in a given term. The current baseline is considered to be 32 hours a week of any credit class and any timeframe (day or hourly) for 100% utilization.

State Staff Project Management: Costs a campus or the system office charges to a construction project to cover internal personnel administrative management.

Sustainability: There's considerable variation in the definition of sustainability. In the context of the capital budget process, sustainability is focused primarily on financial and facilities sustainability. Components of sustainability include recycling and minimizing solid waste, conserving water and energy, purchasing appropriate goods and materials, low maintenance cost construction and development, and appropriate grounds maintenance. For further information contact the United States Green Building Commission at www.usgbc.org or the local Minnesota sustainable guidelines found at www.b3mn.org.

Telecommunications (voice & data): Specialty equipment supplied by a separate contract from those of construction or FF&E.

VFA Facility (formerly FRRM): This program forecasts the life cycle of building components and systems to determine and quantify campus conditions, both in terms of backlog of needs not addressed (or deferred due to lack of funding) and the upcoming needs for renewal of major systems and sub-systems. The model is regularly updated by campus personnel, thus providing an ongoing forecast of campus conditions. The model has 2005 as the base year.

Applicability of Statutes for Projects Receiving State Funding

Reference: Link to State Statutes:
https://www.revisor.leg.state.mn.us/pubs

APPLICABILITY OF STATUTES FOR PROJECTS RECEIVING STATE FUNDING

STATUTE	RECIPIENT		
	State Agency	Higher Ed	Political Subdivisions
1. §16B.241 Coordinated Facility Planning	YES (required)	NO	NO
2. §16B.32, Subd 1 Alternative Energy Sources if renovating 50 percent or more of an existing building or its energy systems	YES	NO	NO
3. §16B.32, Subd 1a Renewable Energy Sources – 2% of energy use Solar or Wind-predesign must include analysis	YES	NO	NO
4. §16B.32, Subd 2 Energy Conservation Goals	YES	YES	NO
5. §16B.323 Solar Energy in State Buildings. Predesign to contain cost benefit of up to 5% of appropriation to be used on Solar energy system when doing substantial reconfiguration or replacement of energy systems	YES	YES	YES
6. §16B.325: §16B.325: Apply Sustainable Guidelines (B3-MSBG) (http://www.b3mn.org/guidelines/index.html §216B.241 Sustainable Building 2030 requirements Contact/support: http://www.b3mn.org/guidelines/index.html	YES New Bldgs, Addns & Major Renovations	YES New Bldgs, Addns & Major Renovations	YES New Bldgs, Addns & Major Renovations
7. §16B.326 Written plan w/predesign to consider providing Geothermal & Solar Energy Heating & Cooling Systems on new or replacement HVAC systems	YES	YES	YES
8. §16B.327 Recycle 50% of Construction & Demolition Waste (B3-MSBG requires 75%)	YES See #6, MSBG	YES See #6, MSBG	NO- comply with MSBG 75%
9. §16B.33 State Designer Selection Board	YES	YES	NO
10. §16B.335, Subd 1, Notification to House & Senate	YES	YES	YES
11. §16B.335, Subd 3 Predesign Submittal See Statute for exempted projects	YES	YES	YES
12. §16B.335, Subd 4 Energy Conservation Standards (Energy Code – MN Rules 1322/1323 http://www.doli.state.mn.us/CCLD/Codes.asp	YES	YES	YES
13. §16B.335, Subd 5 & 6 Information Tech. Review & ltr by MN.IT	YES	NO	NO
14. §16B.335, Subd. 3c. Consider the use of MINNCOR products www.minncor.com	YES	YES	YES
15. §16B.35 % for Art – for $500K+ construction cost and When considered in original legislative request.	YES	YES	YES
16. §177.42-44 Prevailing Wage Rates- Contractor must pay prevailing wages https://www.revisor.mn.gov/statutes/?id=177	YES	YES	YES
17. Laws 2014, Chapt 294, Sec 22 and Chapt 295, Sec 21 AMERICAN-MADE STEEL.	YES	YES	YES
18. §16A.633 Jobs Reporting.. Must report to legislature on jobs created or retained as a result of capital project funding by the state.	YES	YES	YES
19. §363A.44 Laws 2014, Chapt 239, Sec 6 Equal Pay (Women's Economic Security Act). Equal Pay Certificate from MDHR required on contracts over $500K (prime and subs)	YES	NO	NO
20. 16C.285 Laws 2014, Chapt 253, Responsible Contractor	YES	YES	YES
21. §16A.695 Use / Grant Agreement	NO	NO	YES
22. Appropriation Language Regarding requirement for matching funds	See appropriation	See appropriation	See appropriation

REFERENCE: Link to State Statutes: https://www.revisor.leg.state.mn.us/pubs

Predesign Form Templates

Project Data Form

Sample Predesign Cover Letter from Campus

Sample Predesign Cover Letter from Consultant

Sample Building Summary Form: Existing Building Data

Sample Predesign Space Needs Inventory

Sample Predesign Building Summary Form: New Construction

MINNESOTA STATE

2024 Capital Budget Request - Fiscal Years 2024-2028
Name of Institution (also indicate which campus, if applicable)
Project Data Form

Provide this form at the beginning of the Predesign.

Basic Information	
Project Title:	*Please use the basic format Location/Function Action (Examples: Healthcare Design and Renovation; Fine Arts Building Construction; etc.).*
Street address(es) of the building(s) affected by project, including county name:	

Project Scope			
New GSF:		Renewed GSF:	
Renovated GSF:		Demolished GSF:	
Will there be funding requests beyond 2028 for this project?	*If applicable, indicate year and anticipated amount of request.*		
Previous GO bonding appropriations for this project (do not include HEAPR)	*Indicate $ amount and year of previous GO bond appropriations for this project.*		

Project Timeline (all dates are approximate and subject to change)	
Proposed design start date:	
Proposed bid/procurement date:	
Proposed construction start date:	
Proposed occupancy date:	

Facilities Data			
Current Replacement Value (CRV) of the building(s) affected by project:		Backlog ($) removed by project:	
Current FCI of building(s)/area(s) affected by project:		Anticipated FCI resulting from this project:	
Number of **classrooms and/or class labs** directly affected by this project:	*Indicate # of classrooms/class labs affected*		
Number of students (FYE or headcount) **directly impacted** by this project:	*Indicate the estimated FYE or headcount directly impacted by this project.*		

LETTERHEAD
of college or university

[date]

[name]
Associate Vice Chancellor for Facilities
30 E 7th Street, Suite 350
St. Paul, MN 55101

Dear AVC ***[name]***,

RE: Predesign Submittal for ***["a new"]*** *or* ***["the remodeling of"] [name]*** building at ***[name of college/university]***

In accordance with Minnesota Statutes §16B.335, Subdivision 3, enclosed you will find the Predesign submittal document for the ***[name of project, building & location]***. This predesign outlines ***[name of college/university]***'s capital budget request for the ***[year]*** state legislative session.

This project consists of the ***[new construction of*** *or* ***remodeling of] [number of square feet]*** of space to support ***[insert operational plan/goal]***. The total project cost is estimated to be ***[amount]***. This proposal seeks ***[full funding*** *or* ***matching funds]*** in the amount of ***[amount]***.

Sincerely,

[president's name]

cc:

Sample Cover Letter from Campus

LETTERHEAD
of consultant

[date]

President *[president's name]*
College/university
address
City, MN 5xxxx

Dear ***[president's name]***,

We are pleased to submit to you the final predesign for the *[project name]*. The attached document has been prepared in accordance with the Minnesota State Predesign Guidelines and in collaboration with you, your staff, and the Steering Committee.

The scope of our work on the project has been to *[describe scope of work and overall outcome of the predesign process]*.

Sincerely,

[lead consultant's name]
[lead consultant's title]
MN Registration #*xxxxxx*

I certify that this report was prepared by me or under my direct supervision and that I am a duly licensed *[architect or engineer]* under the laws of the state of Minnesota.

Sample Cover Letter from Consultant

Instructions: Fill out one copy of this form for each existing building directly affected by the proposed project. Include the completed form(s) within the project's predesign.

Code Information				
Occupancy group(s) **(existing)**:				
Occupancy group(s) **(proposed)**:				
Primary space types (office, classroom, etc.):				
Type of construction (per current MN Building Code):				
Building Size (GSF):	Allowable height:		Actual height:	
	Allowable area/floor:		Actual area/floor:	
	Total building area:		Space efficiency (%):	

Existing Building Systems (describe type of system and current condition)	
Roofing type(s):	
Structural system type(s):	
Mechanical system type(s):	
Electrical system type(s):	
Fire protection type(s):	
Exterior wall type(s):	
Interior wall type(s):	
Conveying system(s):	
Life expectancy of building and systems:	
Technology systems:	
Sustainability/alternative energy systems:	
Notes on existing FF&E:	

Metrics			
Current backlog ($):		Current renewal ($):	
Current space utilization (%):		Proposed space util (%):	
Current FCI:		Proposed FCI:	
Current CRV:			

Note: Predesigns may use this template but its use is not required. All information noted above must be included for each affected building in the predesign.
Form updated 02/21/19

Space Information			
Space number:		Space name:	
Proposed size (NSF):			
Department(s) served:			
Number of rooms needed:		Occupants per room:	
Function(s):			
Critical adjacencies:			

Systems and Finishes	
Typical finishes:	
Typical lighting:	
Typical HVAC, plumbing, electrical requirements:	
Typical technology requirements:	
Furniture, fixtures, and equipment (FF&E) required:	
Other requirements:	

(Provide a typical floor plan, including furniture layout if applicable.)

(Provide an adjacencies layout diagram if applicable.)

Note: Predesigns may use this template but its use is not required. All information noted above must be included for each space outlined in the predesign.
Form updated 04/19/17

MINNESOTA STATE | Predesign Building Summary Form -- New Construction

Instructions: Fill out one copy of this form for each new building proposed by this project. Include the completed form(s) within the project's predesign. Note: This form does not apply to building *additions*, only entirely new buildings.

Code Information				
Occupancy Group(s):				
Primary space types (office, classroom, etc.):				
Type of construction (per current MN Building Code):				
Building Size (GSF):	Allowable height (feet/stories):		Proposed height:	
	Allowable area/floor:		Proposed area/floor:	
	Total building area:		Space efficiency (%):	

Building Systems			
Roofing type(s):		Structural system type(s):	
Mechanical system type(s):		Fire protection type(s):	
Electrical system type(s):		Exterior wall type(s):	
Interior wall type(s):		Technology systems:	
Conveying system(s):		Sustainability/energy:	
Life expectancy of building and systems:			
Notes on proposed FF&E:			

Utilities and Infrastructure	
Describe the locations of existing utilities and infrastructure (water, sewer, power, roads, etc.) that will be extended/connected to this new building.	

Note: Predesigns may use this template but its use is not required. All information noted above must be included for each new building.
Form updated 02/21/19

MINNESOTA STATE

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