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Overview

In the fall of 2012, the University of Wisconsin - Whitewater asked Workshop Architects to create a feasibility study that would assist future planning efforts. The goal of the study was to determine the feasibility of either renovating Esker Dining Hall to be a state-of-the-art dining facility and expanding the Hamilton Center ballroom, or renovating Esker Dining Hall into a conference/event facility and creating a new dining facility as either a stand-alone structure or integrated into a newly constructed residence hall. The poor condition of the existing mechanical, plumbing, and electrical systems in Esker Hall and the need for fire protection in the facility have been a driving force behind the study. If replacement of the mechanical system is required, this may trigger the need to upgrade or replace other components to the facility.

The design team began with information gathering, comprised of a physical and programmatic assessment. The team met with administrators, staff, and users to discuss the current conditions and space allocations of Esker Hall and the Hamilton room. Meetings were held with representatives of the University Center, Facilities Planning & Maintenance, Event & Reservations, Residential Life, Student Affairs, Student Government, Continuing Education, Career & Leadership, and Athletics. Each of these groups will be impacted by facility improvements made to dining, meeting, and/or event space.

Themes

The following series of themes emerged regarding the current condition and function of the existing spaces, along with the needs and desires for the future space:

- The physical assessment of existing conditions revealed that while the building has been well maintained over the years, many of the building systems are either at the end or near the end of their useful lives. These systems include mechanical, electrical, plumbing; elevators; and food service equipment.

EXECUTIVE SUMMARY

- Construction phasing must be addressed for the dining hall. Whether the existing dining hall stays open or a temporary facility is built, students need access to dining services during construction.

- A large programming venue is needed on campus. The existing capacity of the Hamilton Room is too small to accommodate current large program uses. Examples include programs such as dances, banquet dinners and large conferences. Introduction meetings for large conferences or continuing education programs are currently broken into two sessions.

- A Conference venue is desired in the academic core. Breakout sessions for continuing education often occur in academic buildings.

- Social and study space is needed on the north campus. Students stated that the Library and University Center are too far from their residence halls. As residential life expands, a need for social lounges outside the residence halls is desired.

- A cozy dining experience is desired. Students stated that the existing dining experience in Esker hall is too institutional and the large volume of the room is uncomfortable.

- The value of the Esker site is high due to LAWCON restrictions. Land and water conservation areas on campus restrict the space available for campus expansion.

- Potential recreation functions could be incorporated into the program. Some fitness and recreation space will be lost when Wells Hall is torn down.
AERIAL VIEW OF ESKER HALL
Concept Development

With the campus master plan pending, Esker’s feasibility study was envisioned to allow for alternate approaches to inform the planning of Esker Hall and its site. The design team developed four scenarios with budgets to address the themes stated above. Concepts explored in this report include:

Concept 1
Expand the Hamilton Room and renovate Esker Hall to maintain its current use as a dining hall. The banquet capacity of the Hamilton room would increase from 350 to 550. Esker Hall is renovated into a state of the art dining facility meeting the current and future demands of the campus and students.

Concept 2
Renovate Esker Hall by moving the dining hall to the upper level. Construction phasing is a top priority. This concept allows the existing food service venue to remain in operation as the new venue is completed on the upper level. After completion of the upper level, the lower level is left as a white box with minimum renovation. This can be used as flexible space, or renovated in the future into a state of the art event space to handle large student events such as dances.

Concept 3
Expand Esker Hall to be a “Union North.” This study includes a programmable event space, expanded lounge/study space, and a fitness center, creating a small student center in the heart of residential life.

Concept 4
Build a new building to accommodate dining, a convenience store, and lounge/study space. This direction would free Esker hall to be re-purposed into another function or to be torn down to make room for a new residence hall.

Conclusion and Budget

The wider view of the master plan will determine the best use for Esker Hall. The impact of locating new residence halls and the growing need for meeting and event space on campus will impact the future of Esker Hall and its site. Data provided in this study will assist in prioritizing the space needs of dining services and conferencing/events. Budgets range from 15 to 27 million dollars depending upon which program scope the campus chooses.

Additional detail relative to the four options are in the following matrix.
## EXECUTIVE SUMMARY

<table>
<thead>
<tr>
<th>OPTIONS</th>
<th>KEY FEATURES</th>
<th>CONSTRUCTION/ RENOVATION SCOPE</th>
<th>TOTAL PROJECT BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1</strong> EXPAND HAMILTON ROOM</td>
<td>• Expand ballroom</td>
<td>New Construction = 16,000 s.f.</td>
<td>2012 COST = $ 9,600,000</td>
</tr>
<tr>
<td></td>
<td>• New pre-function lounge</td>
<td>Renovation = 10,088 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New toilet rooms adjacent to pre-function lounge</td>
<td>Total area = 26,088 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New permanent stage with green room</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New A/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New storage and meeting rooms below ballroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Expanded MEP, relocate utilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>2012 COST = $ 9,600,000</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1.2</strong> RENOVATE ESKER</td>
<td>• Renovate Esker Hall as is</td>
<td>New Construction = 0 s.f.</td>
<td>2012 COST = $ 15,200,000</td>
</tr>
<tr>
<td>• PROGRAM LOCATIONS REMAIN THE</td>
<td>• Functions such as dining and meeting rooms stay in current locations</td>
<td>Renovation = 70,718 s.f.</td>
<td></td>
</tr>
<tr>
<td>SAME.</td>
<td>• Finishes only on upper floor</td>
<td>Total area = 70,718 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Extensive renovation of food service</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Include temporary dining hall in budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New MEP throughout entire building</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2012 COST = $ 15,200,000</strong></td>
<td><strong>2. RENOVATE ESKER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• PROGRAM LOCATIONS MOVE TO</td>
<td>• Moves dining to the upper level</td>
<td>New Construction = 1,500 s.f.</td>
<td>2012 COST = $ 16,800,000</td>
</tr>
<tr>
<td>DIFFERENT LOCATIONS.</td>
<td>• Small addition to upper level for entry and queuing of students</td>
<td>Renovation = 70,718 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• White box finish out on lower level</td>
<td>Total area = 72,218 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Maintain Prairie Street and C-store location</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New MEP throughout entire building</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2012 COST = $ 16,800,000</strong></td>
<td><strong>3. EXPANDED STUDENT SPACE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“UNION NORTH”</td>
<td>• Moves dining to the upper level</td>
<td>New Construction = 26,000 s.f.</td>
<td>2012 COST = $ 27,100,000</td>
</tr>
<tr>
<td></td>
<td>• Addition to upper level for lounge and study space</td>
<td>Renovation = 70,718 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Finish out lower level to include event space and expanded Prairie Street</td>
<td>Total area = 96,718 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and C-store</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New MEP throughout entire building</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2012 COST = $ 27,100,000</strong></td>
<td><strong>4. NEW BUILDING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New building; stand alone or attached to resident hall</td>
<td>New Construction = 45,000 s.f.</td>
<td>2012 COST = $ 21,900,000</td>
</tr>
<tr>
<td></td>
<td>• Dining hall</td>
<td>Renovation = 0 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prairie street and C-store</td>
<td>Total area = 45,000 s.f.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lounge and study spaces</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Esker Hall was built in 1967 as a dining facility with lounge and meeting rooms as ancillary spaces. The building is located on the northwest side of campus near multiple residence halls. Built into a hill, Esker Hall’s main entrance is on the upper level and has southern exposure. The loading dock and service areas are on the upper level on the west side of the building. A secondary entrance into the convenience store and retail dining areas is on the east side of the lower level. Parking, located north of the building, is reserved for students living in nearby residence halls.

Major renovations took place in 1998 and 2001. The building has been well maintained over the years, but many of the mechanical, electrical, and plumbing systems are either at the end or near the end of their useful lives. Elevators are past their useful life cycle and their controls do not meet barrier-free design standards. The existing floor area of Esker Hall exceeds the allowable area for a space without fire suppression (IBC 2009 Section 503). Renovations after 1990 incorporated barrier-free design, but untouched areas do not meet that standard.

Esker’s building construction consists of poured-in-place concrete structure with masonry infill. The distance from the floor to the underside of concrete structure is 10'-0” on the upper floor and 9'-10” on the lower floor. This limited height will make it difficult to incorporate mechanical duct work. The only exception is in the main dining hall where the clearance is 20'-4.5” to the underside of the beams and 22'-10.5” to the underside of the structural slab.
The exterior envelope of face brick is in good condition and has recently been tuck pointed. Exterior fenestrations are aluminum storefront with aluminum and steel doors. Most of the entrances were replaced within the last 15 years to include power assist, but the remaining exit doors and windows are original to the 1967 building. All of the concrete stoops need to be repaired and re-caulked. In 2006, a polyurea 2-part fluid applied roof membrane was installed over the existing modified bituminous roof system. This system is in good condition with well maintained flashings and roof drains. Site runoff issues exist at the northwest corner of the building; water penetrates the transformer room from underneath the door during heavy rains.

Interior walls are a mixture of concrete masonry units, metal studs, and drywall. Some cracking has occurred in the CMU wall in the upper level locker rooms. Interior floor finishes include carpet, carpet tile, quarry tile, ceramic tile, quarry tile, and vinyl floor tile with most being beyond their useful life. Ceiling finishes are mostly acoustical tile and are showing wear. All ceiling systems will need to be replaced when a sprinkler system is installed.

The following matrix breaks the building into major components with descriptions and actions needed to upgrade the facility to meet current building codes.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Code</td>
<td>Under IBC 2009 the existing building is:</td>
<td>Under IBC 2009: (Current construction type)</td>
</tr>
<tr>
<td></td>
<td>• Assembly Group A-2.</td>
<td>• Assembly Group A-2.</td>
</tr>
<tr>
<td></td>
<td>• Construction Type IIB (open steel joists in penthouse).</td>
<td>• Construction Type IIB.</td>
</tr>
<tr>
<td></td>
<td>• There is no fire sprinkler system.</td>
<td>• Provide NFPA 13 sprinkler system.</td>
</tr>
<tr>
<td></td>
<td>• For Group A-2 occupancies, sprinklers are required if the fire area &gt; 5,000 sq.ft.; or the occupant load &gt;= 100.</td>
<td>• Allowable area per floor = 35,625 sq.ft.</td>
</tr>
<tr>
<td></td>
<td>• Both levels have exit discharge direct to grade. 3 for upper level, 5 for lower level.</td>
<td>• Total allowable area = 71,250 sq.ft.</td>
</tr>
<tr>
<td></td>
<td>• Exit travel distance is &lt;200' and meets code.</td>
<td>• Provide a 2hr fire separation between existing mechanical.</td>
</tr>
<tr>
<td></td>
<td>• Open stair is acceptable because it is not used as a means of egress.</td>
<td>Under IBC 2009: (Possible construction type)</td>
</tr>
<tr>
<td></td>
<td>• Accessibility: Projects since 1990 incorporated barrier-free design. Many original spaces are not barrier-free.</td>
<td>• Assembly Group A-2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Construction Type IIA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(requires higher fire rating)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provide NFPA 13 sprinkler system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Confirm and archive appropriate fire ratings for type IIA construction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allowable area per floor = 58,125 sq.ft.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Total allowable area = 116,250 sq.ft.</td>
</tr>
<tr>
<td>2. Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Site cast concrete columns.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Site cast concrete beams.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Site cast concrete one way joists in most areas.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Finish floor to underside of structure is 10’-0”.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Waffle slab in main dining areas. Finish floor to underside of waffle slab is 22-9” and 20’-4.5” to the underside of beams in the main dining hall.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Floor to Floor is 11’-6.5”.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Steel joist system in penthouse roof.</td>
<td></td>
</tr>
<tr>
<td>3. Brick Facade</td>
<td>• Wall construction: brick veneer on block backup with 2” rigid insulation, with no cavity.</td>
<td>• Complete tuck pointing at penthouse level.</td>
</tr>
<tr>
<td></td>
<td>• Masonry on lower and upper levels were recently tuck pointed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Penthouse level masonry in need of tuck pointing.</td>
<td></td>
</tr>
<tr>
<td>4. Doors and Windows</td>
<td>• Most windows and doors are original without insulated glazing.</td>
<td>• Replace windows and doors that don’t meet current energy standards.</td>
</tr>
</tbody>
</table>
### PHYSICAL ASSESSMENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Actions</th>
</tr>
</thead>
</table>
| 5. Roof Assembly | - Roof membrane system was recently replaced and is in excellent condition.  
- Most, but not all roof top equipment recently replaced. | - Replace remaining roof top equipment. |
| 6. Interior Construction | - Shallow floor-to-floor heights.  
- Kitchen floors are a patchwork of quarry tile replacements.  
- Interior block walls in rest areas and locker rooms are cracked and damaged.  
- Some rooms don’t comply with barrier free clearances. | - Special consideration should be given to mechanical systems being replaced in areas with low floor to floor heights. Dining areas need more ceiling height, this can be achieved with proper placement of mechanical ductwork.  
- Major renovation work should comply with barrier free design. |
| 7. Vertical Circulation | - Elevators are past their useful life cycle.  
- Controls don’t meet ADA.  
- Connecting stair near Prairie Street original to the building; rise and run meet code, guard rails need to be replaced. | - Replace elevators.  
- Replace guardrails and handrails. |
| 8. Site / Grading | - Significant grade change occurs on Eskers site.  
- Site runoff seeps under door into electrical transformer room, northwest corner of facility. | - Re-grade northwest portion of site. |
| 9. Food Service Equipment | - Majority of equipment in central kitchen is original and at the end of its useful life.  
- Most Equipment in 1998 renovation was new in 1998. | - Replace equipment with new.  
- Equipment in good working order to be reused or used as backup. |
| 10. M.E.P.T. (Mechanical, Electrical, Plumbing and Technology) | - See following pages. | - See following pages. |
The following assessment is based upon a visit to the site on Sept 12, 2012.
The existing building has a very limited floor to floor height which will make it very
difficult to install new MEP systems and maintain ceilings heights above 7 feet. In
general, most systems are original to the building and are either at or near the end of
their expected useful life.

A. Fire Protection

1) There is no existing fire sprinkler system in place in the existing building.

B. Plumbing

2) Water service – There is an existing 4” water service to the building.

3) Water softeners – There are an existing duplex water softener in place that is
   approximately two years old. Presumably, this equipment could be re-used
   provided that the load does not increase appreciably.

4) Pure water systems – There is an existing reverse osmosis system in place
   that is approximately 2 years old and serves the coffee and beverage
   stations.

5) Water distribution system – The existing piping system is galvanized and
   experiencing leaks and needs to be replaced with any renovation work.

6) Sanitary Piping – The existing sanitary piping is largely cast iron except where
   repairs have been made. In areas where repairs have been made, PVC has
   been used. The traps, especially those associated with the urinals, are in
   poor condition and many have been repaired. To make the situation worse,
   in some areas, the failing sanitary piping is located near food preparation
   areas. We were also advised that a sanitary line outside the building routinely
   experiences blockages and needs to be investigated and remedied.

7) Grease interceptors – There are two existing grease interceptors. One is a
   500 gallon, interior poly receptor. The other is a 750 gallon, exterior concrete
   interceptor. It is anticipated that the current interceptors will not be adequate
   to comply with current code requirements and will need to be replaced with
   any renovation.

8) Storm Piping - was reported to be in good condition. However, there are no
   overflow roof drains as currently required.

9) Compressed Air – there is a shop in the basement of the building and is
   equipped with an air compressor for shop air.

10) Plumbing fixtures – The plumbing fixtures in the building are varied in age and
    condition due to renovations and replacements over the last 40 years. It is
    anticipated that the majority of these fixtures will need to be replaced due to
    age, condition, or the fact that the toilet room, etc. is being removed/relocated
    as part of the renovation.

C. HVAC

1) Steam – The building is served by high pressure steam from the adjacent
   central heating plant which is then reduced to medium pressure and low
   pressure steam for use within the building. The day of our visit the HPS was
   observed to be 80 PSIG, the MPS 25 PSIG, and LPS 8 PSIG. The steam
   pressure reducing station is comprised of three pressure regulating valves.
   Pressure regulating valve #1 reduces the HPS to MPS which is then routed to
   food service equipment. Pressure regulating valves #2 and #3 are piped in
   parallel to create LPS for building heating and domestic water heating.

2) The steam condensate is routed to condensate receivers and the condensate
   is then pumped back to the central heating plant.

3) Both valves and steam traps are reported to be failing and are in need of
   replacement.

4) A single shell and tube heat exchanger is utilized to create building heating
   hot water. This heating hot water is then pumped in a primary secondary
   arrangement to the various loads. The existing base mounted pumps are
   manufactured by Armstrong and appear to be original to the building. It was
   reported that it is becoming difficult to locate replacement parts as they fail.

5) Chilled Water – The building is served by central chilled water from the
   adjacent central plant. No chilled water pumps exist in the building since the
   chilled water is pumped from the central plant. It is unlikely that the chilled
   water mains serving the building would be capable of supplying an addition as
   well.

6) In discussions with building maintenance personnel, no building capacity
   issues are known of but some question the ability of the central plant to take
   on any additional load.
C. HVAC (CONT.)

7) Air Handling Equipment - The existing air handling systems are constant volume single zone or terminal reheat systems. The air handlers are Trane Climate Changer units and are original to the buildings. The air handling units are single wall and are not equipped with access sections or access doors. Because there are no access doors it was not possible to view the interior of the units to assess their condition. We would anticipate that any significant remodeling will likely require new, modern, energy efficient variable air volume air handling systems.

8) The current air handling systems utilize the corridors as plenum returns which is no longer allowed by the current building code.

9) Air handling unit #6, located in the penthouse is equipped with angle filters which get damp and sucked out of the filter racks. When this unit is replaced, the outside air intake configuration will need to be modified to remedy this condition.

10) The maintenance shop in the lower level appears to have originally been a storage space and as a result has no ventilation system in place. There are also activities that take place in this space, such as welding, that would likely pose other code related problems.

11) Terminal heating units - consist of a mix of hot water unit heaters, cabinet unit heaters, wall fin radiation, and radiant ceiling panels. These are original to the building and are beyond normal life expectancy.

12) The zoning of the main dining room is minimal and would benefit from additional thermal zones.

13) Temperature controls – The existing temperature controls are DDC with pneumatic actuation on the central equipment such as air handling units, hot water pumps, and heat exchangers. The terminal devices are primarily pneumatic and would benefit from replacement to DDC in the future. Maintenance staff indicated that many of the TCVs are leaking and need replacement. In addition there is no method of control building pressure which needs to be addressed.

14) The existing temperature control air compressor is a 7 HP Simplex unit. While functional, a new fully electric/electronic DDC system would not utilize compressed air.

D. Electrical

1) Existing electrical service consists of a campus primary 4160Volt underground feeder to indoor S&C switchgear, then to a step down Square-D 1000KVA dual winding transformer providing 480Y/277 and 208Y/120Volt power with metering and surge protection, on to a Square-D 2000Amp main switchboard that feeds Square-D distribution and branch panels with the exception of a single Cutler-Hammer distribution panel. The majority of the electrical service equipment is in very poor condition, over 40 years old and past their life expectancy.

2) A single 208Y/120 Volt ASCO emergency transfer switch services a 100Amp Square-D emergency loads panel (both in very poor condition).

3) A Kohler natural gas generator (assumed to be 35KW or less) provides emergency power to the ASCO emergency transfer switch upon the loss of power. Condition is very poor, over 40 years old and past their life expectancy.

4) Existing elevator system consists of two 15HP Dover hydraulic elevator motors and control panels. This equipment is in poor condition.

5) Original electrical service was installed in 1968 with modifications in 1991, 1998 and 2001. Portions of current electrical equipment are in fair condition. Some of the branch panels may be able to be re-used/maintained without large scale remodeling/addition. The remaining original 1968 electrical equipment is in very poor condition, over 40 years old and past their life expectancy.

6) Arc flash and shock hazard study was completed in 2008. All electrical equipment is properly labeled. Labels are in good condition and readable.

7) Existing wiring devices consists of general use receptacles, food service equipment connections and special purpose receptacles.

8) Half of the original 1968 wiring devices were replaced in 1998 and modified in 2001. Current wiring devices are in fair condition. The remaining original 1968 wiring devices are in very poor condition, over 40 years old and past their life expectancy.

9) Existing lighting systems consist of site, interior and emergency lighting. Existing controls consist of switches, time clocks, relays and contactors.
D. Electrical (CONT.)

10) It was indicated that facility maintenance was still in the process of replacing 1968 lighting ballasts.

11) Half of the original 1968 lighting systems and controls were replaced in 1998 and modified in 2001. Current light fixtures and controls are in fairly good condition. The remaining original 1968 light fixtures and controls are in very poor condition, over 40 years old and past their life expectancy.

12) Existing fire alarm system consists of a Simplex 4100U control panel, (2) Simplex 4100U annunciator panels, as well as building wide smoke detectors, strobes and speakers.

13) Original 1968 fire alarm system was replaced in 1998 and modified in 2001. Current fire alarm system is in good working condition and possibly could be re-used/maintained without large scale remodeling/addition.

E. Information Technology

1) There are two areas within this building currently housing the existing telecommunications infrastructure. One area is the larger of the two and could possibly be expanded (reconfigured). This is where the backbone voice copper and optical fiber cables enter the building. This space has a full size floor mounted rack but no horizontal or vertical managers mounted within/adjacent to the rack keeping the existing cabling organized. The back wall is covered with sheets of plywood. Primary protection is located on that wall. Also mounted on the plywood are 66 and 110 blocks. A Telecommunications Ground Bar is located within this space. Campus television enters this space and a wall mounted amplifier is located on the back wall.

2) The other area uses a wall mounted swing out rack with category 5 and 5e patches panels (various types, flat and angled), and category 5 and 5e cabling is routed back to this wall rack. In this space 110 voice blocks are mounted on plywood directly adjacent to the wall mounted rack at 90 degrees.

3) The existing telecommunications backbone feeding this building is currently an unknown quantity of pairs for voice copper backbone and according to the Campus IT staff there is an insufficient number of Optical Fiber strands available for use for any building renovation. Current configurations for any coaxial cable going into and feeding any jacks within the building are not known. This space is not minimally complaint with the current DFD standard sizes for telecommunications rooms.

4) Telecommunications Jacks - The existing telecommunications jacks are category 5 and not compatible with the DFD standards of Category 6 with headroom of 3 dB for permanent link testing or the Campus VoIP system.

5) Wireless Access Points Cabling Only System - Existing access points are located through-out the building. The data jacks feeding these WAPs are cabled with category 5 or category 5e cabling and are not compatible with DFD or Campus standards.

6) Access Control - Existing card readers are located on the main entry door.

7) CCTV Cameras - Existing CCTV Cameras are located through-out the building.

8) No functional public address system exists in the building. Campus has been transitioning to paging over fire alarms systems, but it is believed this hasn’t yet happened at Esker Hall.
A. Fire Protection Systems

1) Fire Protection Design

A fire protection sprinkler system will be required in accordance with the following codes, ordinances, standards, and references:

- Wisconsin Department of Safety & Professional Services (SPS)
- National Fire Protection Association (NFPA)
- City of Whitewater Fire Department
- Division of Facilities Development (DFD)
- UW Whitewater Facilities, Planning, and Management

2) Fire Protection System Description

The system will consist of the following sub-systems:

- A double check valve assembly will be installed to isolate the fire protection sprinkler system from the potable water system.
- A fire pump is not required.
- Wet sprinkler system engineered in accordance with NFPA 13.
- Manual wet standpipes will be installed in accordance with NFPA 14.

B. Plumbing Systems

1) Plumbing Design

The existing plumbing systems will be replaced with possible exception of the storm water piping and the two year old water softeners. The plumbing system will be designed in accordance with the following codes, ordinances, standards, and references:

- Wisconsin Department of Safety & Professional Services (SPS)
- National Fire Protection Association (NFPA)
- City of Whitewater Fire Department
- Division of Facilities Development (DFD)
- UW Whitewater Facilities, Planning, and Management

2) Exterior Utilities

A new six (6) inch combined water service will replace the existing 4" domestic water service and will supply the domestic and fire protection systems. Piping will be ductile iron water main. Water service will connect to an existing 6" water main in W. Lauderdale Drive.

The existing six (6) inch sanitary sewer lateral will continue to serve the building.

The existing storm sewer lateral will be reused. Any new storm sewer that is connected to the roof drain conductors and clear water waste system will be constructed of PVC. The new addition storm piping will likely exit to the east, turning north, to tie into the existing sewers at the northwest corner of the site.

3) Interior Sanitary Drainage Systems

The existing sanitary drain, waste, and vent system will need to be replaced in its entirety. Underground drain and vent piping will be schedule 40 PVC except for drains serving mechanical rooms which will be cast iron hub and spigot to cope with high temperature discharge. Above ground waste and vent piping to be cast iron no hub with heavy duty couplings.

The existing grease interceptors will need to be replaced.

4) Interior Storm and Clearwater Drainage Systems

The existing Clearwater drain, waste, and vent system will continue to drain HVAC condensate discharges into the building storm drain. For the addition, underground drain and vent piping will be schedule 40 PVC with above ground piping to be cast iron no hub with heavy duty couplings and hard type M copper pipe. All horizontal above ground piping will be insulated.

Existing roof drain conductors will remain connected into a new building storm drain. Underground drain piping will be schedule 40 PVC. Above ground piping will be cast iron no hub with heavy duty couplings. All horizontal, above ground piping and roof drain bodies will be insulated. Overflow drainage to protect the roof from structural loads imposed by plugged roof drains will be provided by an overflow drain system which will drain to grade or roof scuppers.
5) Interior Water Systems

Potable cold hard water will be supplied to all public water closets, urinals, mop basins, electric water coolers, HVAC equipment, and to miscellaneous public areas. Piping will be insulated, hard type L copper.

Potable hot water will be softened and supply lavatories, sinks, mop basins, etc. in public areas. The water will be circulated back to the water heaters. Piping will be insulated hard type L copper.

6) Plumbing Specialties

Floor drains will be installed in all new mechanical equipment rooms, in all new toilet rooms larger than single occupant, and in all new Janitors’ Rooms.

Hub drains will be installed at all HVAC equipment with discharge. Existing drains to remain. Backflow preventers will isolate the HVAC equipment from potable water system and provide cross connection protection. Cold water exterior wall hydrants will be located on the perimeter of the building. Mop basins will be located in the mechanical equipment rooms to facilitate area clean up. Carriers will be supplied for all wall-hung fixtures.

7) Fixtures

Commercial grade wall hung, low flow, plumbing fixtures will be provided in public areas for ease of cleanup.

8) Plumbing Equipment

A new duplex set of steam water heaters will be provided with a house recirculation pump. A water meter will be installed to monitor water consumption and billing. Existing duplex water softeners and brine tank may need to be supplemented if demand is increased. This will need to be studied. A connection on the water service will be provided for the fire protection contractor to connect the fire suppression system.

C. HVAC Systems

1) Summary of Mechanical System

In general, the Mechanical system goals for this project are environmental comfort and quality, energy conservation, and sustainability. All proposed HVAC systems will be designed in accordance with DFD Standards. It is intended that the entire existing HVAC system be replaced in the existing building due to the age, condition, energy efficiency and code compliance.

2) Design Criteria

Outdoor Design Conditions

<table>
<thead>
<tr>
<th>Season</th>
<th>Dry Bulb Temperature</th>
<th>Wet Bulb Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer</td>
<td>91 °F db / 74 °F wb</td>
<td></td>
</tr>
<tr>
<td>Winter</td>
<td>-20 °F db</td>
<td></td>
</tr>
</tbody>
</table>

Indoor Design Conditions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
</table>
| Dry Bulb Temp   | Summer: 76 °F db  
|                 | Winter: 68 °F db |
| Relative Humidity | Summer: 50% +/− 5% |
|                 | Winter: No humidification provided |

Sound

ASHRAE sound criteria is to be utilized for space NC levels.

Miscellaneous Design Parameters

The lighting loads used in the heat gain calculations will reflect the actual heat gain associated with the proposed lighting design.

The equipment loads associated with all spaces will reflect the equipment defined by the project program and clarified in meeting minutes and project correspondence. In general terms, all classrooms will have a 50 watt per student allowance for laptop computers and the actual audio visual loads. Private offices are assumed to have one standard personal computer per office.
The occupant loads associated with all spaces will reflect the equipment defined by the project program and clarified in meeting minutes and project correspondence. No diversity is generally taken into account at a zone level. One area of clarification are the offices. The spaces are typically programmed to have one occupant but the furniture plan also makes provisions for two guests. The heat gain calculations for offices assume a total of two occupants. This approach recognizes that these spaces will often have more than one occupant but not on a long term continuous basis. However, for the purposes of completing an ASHRAE 62 ventilation calculation, these offices are assumed to have one occupant.

Heated Only Spaces
The following spaces will be heated only:

Janitor Rooms
Toilet Rooms
Mechanical and Electrical Rooms
Unoccupied Storage Rooms
Staircases
Vestibules

Stairways and vestibules will be evaluated on a case by case basis to see if cooling is warranted.

Mechanical and Electrical Rooms will be ventilated.

Air Conditioned Spaces
Corridors and spaces that are regularly occupied will be conditioned. Examples of these spaces include classrooms, computer labs, offices, conference rooms, collaboration spaces, and support space. It may be desired by the campus to air condition the kitchen which is contrary to DFD policy and will need further discussion during the design phase.

3) Site Chilled Water System
Mechanical cooling will continue to be provided from the campus chilled water system, utilizing the available capacity from the chillers located in the adjacent chilled water plant.

An existing set of underground chilled water supply and return lines serve the buildings air handling units. It is likely that the building addition will cause the existing service to be inadequate and need to be upsized.

4) Cooling Systems
There is no need for a chilled water pump in Esker Hall and the chilled water needs for the building can be met by the secondary pumps in the plant.

The central air-handling equipment is to be furnished with chilled water coils. It is anticipated that the proposed building will require approximately 500 tons of cooling capacity.

No filtration of chilled water is anticipated in this building.

There are no process cooling needs in the building with the exception of IT closets, which will be cooled by packaged DX split systems.

5) Site Steam and Condensate Systems
The campus heating needs are met by a central heating plant which distributes steam via an underground piping system to all campus buildings.

Existing underground 4" high pressure steam (HPS) branch and 2" pumped condensate (PC) branches which currently serve Esker Hall will need to be relocated to allow for the construction of the proposed addition.

All underground steam and condensate piping system will utilize steel piping in a waterproofed concrete box conduit and waterproofed poured concrete steam pits consistent with DFD standards.
6) Building Heating Systems

A steam pressure reducing station will reduce the high pressure steam to a nominal 10 PSIG for use in the building.

Condensate will be collected into a new single condensate receiver. The condensate receiver will be equipped with duplex pumps and pump condensate back to the central plant. The condensate pumps will be on the emergency power system.

Condensate flow back to the plant will be measured as it leaves the building.

New steam-to-hot water shell and tube heat exchangers will use steam to generate building heating water. The hot water pumping system will utilize variable volume pumping. Two hot water circulating pumps (one of them standby) will distribute hot water to air handling unit coils, reheat coils, finned tube radiation, and unit heaters. Hot water temperature will be reset down based on an increase in outside air temperature. The hot water heating pumps will be on the emergency power system.

The hot water heating system will utilize a combination pot feeder / bag filter piped in a bypass arrangement around pumps.

7) Ventilation Design Criteria

Ventilation air through intake louvers will be ducted to the air handling unit. Ductwork will be designed for proper mixing of outdoor air and return air so that stratification does not occur before the air handling unit heating coils. The outdoor and relief air distribution systems will be sized to utilize a full economizer (free cooling) mode of operation when outdoor air conditions permit.

Large outside air plenums with low airflow velocities and a waterproof basin will be provided in an effort to prevent snow being entrained in the air handling unit.

Outside air louvers will be sized at a maximum of 500 fpm of the net free area. Duct connections to the outside air plenums will be minimized to the greatest extent practical.

8) Central Air Handling Systems

The design will need to incorporate multiple new indoor, factory made, air handling units. These air handling units will be installed in the penthouse mechanical room in the lower level mechanical room, and in the new addition. The HVAC equipment in the mechanical rooms is to be designed to provide full access for filter replacement, coil replacement, fan shaft removal and any other equipment maintenance and replacement procedures.

Each air handling unit will utilize access sections, supply air fans, integral sound attenuators, chilled water cooling coils, hot water pre-heat coils, return fans, and filtration. Economic analysis will be needed to determine which air handling units are to contain heat recovery.

The pre filters will consist of 2” MERV 7 filters and MERV 11 bag filters.

9) Energy Recovery

Energy recovery will be used to temper incoming outside air to the air handling units that are justified by life cycle cost analysis. The energy recovery system will be a total energy / enthalpy wheel.

10) Air Distribution

The proposed air distribution system is variable air volume with hot water reheat.

As described above, multiple air handling units will be required due to existing mechanical room locations and limited floor to floor heights.
The supply, return, and exhaust air systems will be distributed using a fully ducted system constructed of sheet metal per SMACNA standards.

Supply air ductwork systems will be externally insulated, regardless of the presence of lining in some sound sensitive areas. In addition, all outside air, mixed air, and exhaust duct downstream of isolation dampers will be externally insulated. Concealed insulated ductwork will have flexible fiberglass insulation. Exposed insulated ductwork will be insulated with rigid fiberglass insulation. Fiberglass insulation will be pinned in place on sides and bottom when the ductwork exceeds 24” wide.

13) Temperature Controls

This building will be integrated into the existing campus building automation system.

All new direct digital controls with electric actuation will be used to control the air handling units, booster coils, VAV boxes, and wall fin.

The temperature control system and lighting will use a common occupancy sensor in all spaces except kitchen, corridors, and lobbies. Upon receiving a signal from the occupancy sensor that the space is unoccupied, the VAV box will be allowed to go to further closed to its unoccupied minimum airflow. This will further reduce fan energy, chilled water use, and re-heat energy use. This signal will also be used to reduce the amount of ventilation air being that is being introduced into the building when spaces are unused.

The temperature control system will use carbon dioxide (CO2) sensors in the large, densely occupied spaces to reduce the amount of ventilation air that is being introduced into the building when spaces are lightly occupied.

All cabinet unit heaters and unit heaters are to have electronic control. All control valves and dampers are to have electric actuation. Air handling units will be provided with economizer controls. All temperature control systems will be on the emergency power system. A minimum of 24 hours of temperature control training will be specified.

11) Building Exhaust

General building exhaust fan will be located in the mechanical rooms and discharge through louvers in the wall of the mechanical rooms or through hoods on the roof of the mechanical rooms. Roof mounted exhaust fans may be used to a limited extent.

The kitchen hood exhaust fans will be replaced with new.

12) Terminal Heating Devices

Finned tube radiation will be provided in all spaces with exterior exposures to improve occupant comfort and provide unoccupied heating of the building for shutdown of central air handlers when unoccupied.

VAV boxes serving occupied spaces will be provided with reheat coils. VAV boxes will modulate from maximum to minimum airflow prior to opening the hot water valve to the reheat coils. A VAV box will be furnished for each thermostatic zone.

Each thermostatic zone will take into consideration exposure, occupancy schedule, and space use. Each classroom, corner office, classroom, and conference room will be a zone. Offices will generally be zoned into groups of two to three per zone.

Cabinet unit heaters will be installed in entry vestibules and at doors leading to the outdoors. Cabinet unit heaters will be hot water type with wall-mounted thermostat and be recessed or semi recessed into the wall or ceiling whenever possible.

Unit heaters will be provided in mechanical rooms with exterior exposure and loading dock.

14) Testing, Adjusting, and Balancing

The building will be tested and balanced in accordance with AABC or NEBB Standards.
15) Indoor Air Quality

All air handling systems will incorporate the following Indoor Air Quality features:

- Ventilation (outdoor air) quantities will follow ASHRAE 62.
- Ductwork will be constructed of sheet metal.
- Supply air duct will only be lined in limited applications.
- Return, transfer, and exhaust duct will only be lined when necessary for acoustical purposes.
- Ductwork is specified to be covered during construction.
- Air handling units will be specified with stainless steel drain pans that are pitched.
- Air handling units will be dual wall construction.
- Air handling systems will be provided with bag filters.
- All VAV boxes will be designed with booster coils allowing minimum airflows without over cooling the space.

D. Electrical Systems

1) Applicable Codes, Guidelines, and Standards

Design and construction codes and standards are listed below.

The codes and standards listed are minimum requirements. Nothing is to prevent the architect, engineer, or consultant from exceeding the applicable requirements. In the case of laboratory related research buildings, the recommendations of the guidelines below and the standards and requirements suggested by the design team will often address issues not sufficiently covered in local building codes.

In all cases the most recent editions of referenced standards apply.

IEEE Institute of Electrical and Electronics Engineers
IESNA Illuminating Engineering Society of North America
NECA National Electrical Contractors Association
NEMA National Electrical Manufacturers Association
UL Underwriters Laboratories
NFPA 70 2011 National Electric Code
NFPA 72 National Fire Alarm code
NFPA 101 Life Safety Code
NFPA 110 Standard for Emergency and Standby Power Systems
NFPA 780 Standards for the Installation of Lightning Protection Systems
Wisconsin Enrolled Commercial Building Code
DFD Master Specifications
DFD Electrical Systems Standards & Design Guidelines
DFD Policy and Procedures Manuals for A/Es
DFD Day Lighting Standards for State Facilities
University of Wisconsin-Whitewater Design Standards

2) Basic Design Criteria

Load Calculation Criteria:

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Load Density (VA/Sq. Ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>1.0</td>
</tr>
<tr>
<td>Receptacles</td>
<td>1.5</td>
</tr>
<tr>
<td>Kitchen Equipment</td>
<td>1.0</td>
</tr>
<tr>
<td>HVAC</td>
<td>3.0</td>
</tr>
<tr>
<td>Elevators</td>
<td>0.75</td>
</tr>
<tr>
<td>Cooling Equipment</td>
<td>Remote Site</td>
</tr>
</tbody>
</table>
Secondary Design Voltages:
- Motors larger than ½ HP: 480V, 3 phase, 3 wire + ground
- General Lighting: 120V, 1 phase, 2 wire + ground
- Receptacles & motors less than 1/2 HP: 120V, 1 phase, 2 wire + ground

Equipment Sizing Criteria (Preliminary Estimate):
The total capacity of the service entrance switchboard shall be 2000Kva.

Branch Circuit Load Calculations:
- Lighting: Actual installed VA
- Receptacles: 180VA per outlet
- Special Outlets: Actual installed VA of equipment
- Motors: 125% of motor VA
- Kitchen Equipment: Actual installed VA of equipment

Demand Factors:
- Lighting: 125% of installed VA
- Receptacles: 100% of first 10Kva installed plus 50% of balance
- Motors: 125% of VA of largest motor plus 100% of VA of all other motors
- Fixed Equipment: 100% of total VA installed

Minimum Bus Sizes:
- 208/120V Lighting Panels: 100A
- 480V Equipment Panels: 225A
- 280V/120V General Receptacle Panels: 225A
- 480V Motor Control Panels: 600A

Diversity Factor:
A diversity factor shall be used per Wisconsin Electrical Code, in establishing power service, feeders, and equipment capacities.

Spare Capacity:
- 25% spare capacity to accommodate function changes over the life of the building shall be included in the design of the power distribution system. Power distribution equipment shall be sized to reserve 20% space for physical expansion.

Compliance with Wisconsin Governor’s Executive Order #63 shall be discussed with DFD as the design progresses.

3) Electrical Service
Electrical service shall be extended from the existing campus primary distribution system. Existing service voltage is 4,160 volts. Existing campus primary loop shall be intercepted at existing service duct bank that currently serves Esker Hall and extended to new transformer.

4) Electrical Distribution
Primary service switch gear shall consist of a single primary switch and fuse unit, 1000Kva, 4,160 to 480/277 unit substation transformer, 2000A, 277/480v main breaker with GFI relay, 2000A bus and distribution breakers. Transformer and main switch shall be sized in accordance with State electrical code and DFD guidelines. A digital meter shall be installed on switch board distribution switch to meter entire building loads.

277/480volt, 3 phase, 4 wire branch circuit panel board shall be provided in electrical closets for mechanical equipment loads and other motors. Each 277/480volt panel shall be connected to the 277/480volt distribution switchgear located in the distribution electrical room.

120/208volt, 3 phase, 4 wire branch circuit panel boards shall be provided for lighting, receptacle and kitchen equipment loads. A 480volt to 120/208volt step down transformer shall be provided in electrical closets for lighting, receptacle and kitchen equipment loads. 480volt to 120/208volt step down transformer shall be connected to the 277/480volt distribution switchgear located in the distribution electrical room.

The branch panel boards serving general loads throughout the building shall be located in dedicated electrical closets/rooms.

New 120/208volt panel boards shall be double tub type with 84 circuit capacity. Panel boards shall have copper bus with a separate ground bus. All panel boards shall have the entire front trim hinged to the box with a standard door within the hinged trim cover for access to breakers.

Mechanical equipment and other motors where possible shall operate at 480v, 3 phase, and general receptacles and computer loads shall operate at 120volts.

5) Emergency Electrical Systems
The emergency power source shall be obtained from a new natural gas fueled, 277/480volt, 3 phase, 4 wire generator and distribution system located in existing generator room.

Automatic transfer-switches for life safety and equipment will be installed. Branch circuit panels with each automatic transfer switch.

Life safety and emergency panel board shall be located in electrical closets.

Life safety distribution shall be provided for all emergency egress lighting, fire alarm system, and communications power.
Emergency distribution shall be provided for selected mechanical loads including but, not limited to boilers, heating pumps, condensate pumps, sump pumps, and elevators.

Emergency distribution panel, transfer switches and distribution panels shall be located in a dedicated electrical room separate from the normal electrical distribution room.

6) Surge Protective Devices

Medium voltage surge arresters shall be provided on the primary side of the 4,160V transformer.

Low voltage surge arrester shall be provided for the low voltage distribution section of switch board.

7) Short Circuit/Coordination and Arc Flash Hazard Study

A Short Circuit/Coordination and Arc Flash Hazard Study shall be required to be performed for the entire project and provided by equipment manufacturer.

8) Lighting Systems

A complete lighting system for all indoor illumination will be provided and will be designed to Illuminating Engineering Society recommended lighting levels. The indoor lighting system will consist primarily of energy-efficient fluorescent lighting fixtures. Incandescent lighting will be used only as requested by the Owner.

The use of high-efficiency decorative and suspended linear indirect fixtures may be considered in collaborative spaces. Fixtures may be either fully indirect or a combination of direct/indirect. Suspended fixtures shall utilize multiple T8 lamps with multiple electronic ballasts to allow for inboard-outboard dual level switching.

Storage rooms and utility spaces such as janitor’s closets, mechanical rooms, electrical rooms, etc. with lay in ceilings shall be provided with 2x4 recessed lensed fluorescent fixtures. Spaces without a ceiling shall be provided with industrial type fixtures.

Recessed down lights using compact fluorescent lamps shall be provided where appropriate and required for accenting architectural features.

Emergency egress lighting for interior and exterior spaces shall be provided from the emergency life safety distribution system. All exit fixtures shall be LED source type.

All lighting controls shall comply with the Wisconsin Energy Codes and be a combination of general switching, occupancy sensors, and light level sensors. The exterior and interior lighting shall be controlled locally.

All spaces shall utilize multi-level switching schemes to allow the lighting to be reduced, based on needs within the spaces. Switches shall be provided to allow the occupants to manually turn off lamps as desired.

Occupancy sensors shall be used for automatic off control of lighting circuits.

Emergency egress lighting shall be equipped with transfer relays to allow egress lighting to be switched normally when normal power is available and be operated to on automatically when normal power fails.

Occupancy sensors shall be ceiling or wall mounted depending of space layouts and requirements. Passive infrared (PIR), ultrasonic, or dual-technology (both PIR & ultrasonic) shall be used as required to meet the required space requirements.

The use of photo-sensors for “daylight” harvesting shall be considered based on architectural layouts. When adequate levels of daylight is available, the daylight zones shall be controlled to a preset level using automatic two step dimming controls.

9) Electrical Devices

Devices shall be flush mounted and specification grade with white finish. Cover plates shall be smooth nylon with white finish.

Receptacles located exterior shall be GFCI type and weather resistance with weather proof covers. GFCI receptacles shall also be provided for toilets rooms, vending machines, water coolers, kitchen equipment receptacles and all other code required locations.
10) Motors/HVAC Equipment

Manual motor starters shall be provided for motors $\frac{1}{2}$ horsepower at 120volts.

Combination full voltage, non-reversing, magnetic type starter and fused disconnect switches shall be used for all single phase and three phase motors $\frac{1}{2}$ horsepower and larger where variable frequency drive starters are not used. Variable frequency drive starters shall be provided as part of mechanical equipment.

11) Grounding System

A complete low-impedance grounding electrode system shall be provided for the facility. The grounding electrode system shall include the main water service line, structural steel, underground reinforcing, and ground field. The equipment grounding system shall extend from the building service entrance equipment to the branch circuits. All grounding system connections shall be made using exothermic welds or irreversible compression connections.

12) Fire Alarm System

The fire alarm system shall be a multiplex addressable microprocessor based controlled system with voice communications. The central processing unit shall monitor and record all events. All initiation devices shall be programmable and addressable.

Audible and visual signaling devices shall be provided in all public areas including double occupancy offices. Additional signaling devices shall be provided in mechanical equipment rooms. Audio/visual signals shall be placed to cover all areas of the building for alarm signaling. Fire alarm pull stations and visual and audible devices shall be located to comply with public mode operations.

Smoke detectors shall be provided in storage areas, elevator equipment rooms, stairwells, elevator shafts, elevator lobbies, and mechanical equipment rooms. An elevator recall system with all relays and controls shall be provided.

Smoke detectors shall be provided in corridors at all smoke door locations. Smoke detectors shall also be placed inside HVAC ducts at smoke damper locations, upstream of each damper location.

LCD style alarm annunciator shall be provided at the main entry.

Monitor relays shall be provided for fire protection valves and flow switches.

Fire alarm system may be connected to the existing campus fire alarm reporting system.

System shall comply with campus standards for emergency notification systems and may include but, not limited to, a building wide public address system.
E. Telecommunications Systems

1) Campus Backbone Cable

Fiber and copper outdoor rated backbone cable will need to be provided from nearest data center or other campus wiring hub (as designated by User Agency) via underground signal conduits. A starting point of 36 SM and 25 pair copper should be considered depending on campus standards. Additional .500 hardline coax may be required to serve cable TV needs. Multiple new 4” conduits are to be fed to building from existing campus wiring hub via an existing manhole. Depth of any new conduits is to be 48” or more below grade with 40” bend radius maintained for all conduit bends. Distance between MH and building entrance facility (BEF) must not exceed 250’, otherwise provide additional MH as required.

2) Telecommunications Rooms (TRs)

See space requirements (11) covered elsewhere for location and sizing of TRs. TRs should be constructed with walls from floor to deck above, ¾” fire-retardant plywood on all walls, no drop ceiling tiles, anti-static flooring, and no windows. Connect TRs with minimum (4) 4” conduits. Calculate percent full to determine if additional conduits are needed for future flexibility and provide additional conduit pathways as needed. Doors are typically secured with card access, off public corridors, not trapped by restrooms, elevators, or other MEP utilities. Provide cold air supply to front of racks and return grille at back of racks. Temperature to be maintained at all times (24x7x365) between 68 and 77 degrees F and relative humidity between 40% and 55%. Two or three data racks are typically required, each having two dedicated power circuits. Additional power circuits are required on walls for wall mounted equipment and convenience. Overhead cable runway to be connected to top of all data racks and securely fastened to at least two walls for stability. Provide a minimum of six 20 Amp, 120 volt electrical circuits in this room.

The MTR may also be considered the building entrance facility (BEF).

Systems typically located within TRs include cable and electronics for: voice, data, paging, security CCTV, access control, fire alarm, audio-visual, cable TV, cable connections to other floors, cable connections to outside campus or telco services, connections to roof or antennae, and other systems as determined by User Agency or local departments.

3) Telephone System

Telephone system hardware, electronics, and handsets are presumed to be provided by the User Agency. Voice cabling, pathways (conduit, back boxes and cable tray) outlets, faceplates, termination blocks, backboards, termination and testing are included as part of this project.

4) Data System

Data system electronics including switches, routers, servers, distributed (rack mounted) uninterruptible power supplies and other electronic equipment are presumed to be provided by the User Agency. Data cabling (backbone fiber optic and horizontal copper), pathways (conduit, back boxes and cable tray), outlets, faceplates, patch panels, equipment racks, terminations, and testing are included as part of this project.

5) Cable TV System (CATV)

CATV system electronics such as signal processors, and amplifiers are presumed to be provided by the User Agency. Amplifiers are included as User Agency provided due to the unknown nature of the cable feed, satellite feed and signal level or quality. CATV cabling, pathways, backboards, terminations and testing are included as part of this project.

6) Security Access Control System

Responsibility to provide access control systems varies by campus and building use. At a minimum, the engineer should provide back box, conduit, and raceway for card readers and other devices as required by User Agency, back to the TR.

7) Security Closed Circuit TV Systems (CCTV)

Responsibility to provide CCTV systems varies by campus and building use. At a minimum, the engineer should provide back box, conduit, and raceway for cameras and other devices as required by User Agency back to the TR.

8) Overhead Paging System

Responsibility to provide overhead paging and mass notification systems varies by campus and building use. At a minimum, the engineer should provide wall space, power and raceway to anticipate requirements. User Agency is to determine requirements and coordinate with engineer.
9) **Synchronized Clock System**

A synchronized clock (wireless master-clock system) shall be provided for each dining space. User Agency shall decide whether analog or digital devices shall be used. Clocks shall be wall mounted, battery powered and obtain their signal wirelessly from a central transmitter in the building. The transmitter shall receive its signal from GPS satellite data. The system could utilize either licensed or unlicensed frequencies. The system shall integrate with any existing system on campus.

10) **General Requirements**

Structured cabling system should be designed so that no horizontal voice or data cable exceeds 295 feet in length. Station voice and data cabling is to be Cat 6, 4-pair, UTP copper. Refer to DFD guidelines and master specifications sections for mandatory, minimum performance criteria. All cable for all systems should be routed in conduit or cable tray. J-hooks may be permitted in unexposed areas for the last few feet of run between cable tray and conduit. Plenum rated cable is the Campus Standard therefore all telecommunications cabling provided within this building should be plenum rated. Every workstation outlet is assumed to consist of one voice and two data jacks, unless directed otherwise by User Agency. Private offices should have two workstation outlets located on opposite walls. Open offices with modular furniture should have minimum of one work station outlet. A minimum of 3 data outlets should be provided at every point of sale location where cash registers will be located. Any location that has a television/digital signage outlet is to have a minimum of one category 6 jack and one coaxial cable F-connector. Design to accommodate cabling needs of special areas such as large lecture halls as determined by User Agency, subject to DFD approval.

For voice backbone cable requirements and all other requirements not discussed in this narrative consult the DOA Telecommunications Guidelines for Structured Building Wiring Systems. Begin fiber optic backbone cable count between TRs and MTR at 18 strands 50 micron laser optimized MM, and 18 strands SM. Station jacks are to be terminated with either TIA 568A or 568B pin configurations. Both are acceptable to DFD. Consult with User Agency and DFD prior to final design to determine which pin out is required on this campus. Provide additional data jacks in hallway ceilings for future wireless access points.

Provide grounding and bonding system for all telecommunications systems and equipment, bonded to one central location at the main electrical service for the building. Provide telecommunications grounding bus bars in every TR.

Back boxes to be 4x4 with single gang mud ring connected to 1” conduit stubbed to nearest accessible ceiling or cable tray.

11) **Space Requirements**

A minimum of one telecom room (TR) should be provided on each floor. TR size to be at a minimum the industry recommended size of 10’x11’, centrally located on the floor plan, stacked one above the other. TRs should be located no farther than 250 feet from the farthest voice/data station outlet in order to maintain the required 295’ wiring length. Wire lengths beyond this limit may cause systems to fail.
Esker Hall and the Hamilton Room in relation to the campus.
To develop a clear understanding of the programmatic needs for Esker Hall, Workshop Architects and Ricca Newmark met with stakeholders and focus groups. With a thorough tour of the facility and campus, additional information on space use and needs surfaced.

**Current Operations**

**Hamilton Room assessment**
The Hamilton Room is a 6,000 square foot ballroom with a permanent stage, and is supported by storage and two private backstage bathrooms/dressing rooms. The space is located in the University Center. Current seating capacity is 350 with a round table configuration, 450 with a rectangular table configuration, and 575 in an auditorium lecture arrangement. Large student events over 350 cannot be held at the Hamilton site and are often held in the north campus gymnasium, which is not ideal. A total of 228 events occurred in the Hamilton Room from July 1st, 2011 to June 31st, 2012. 80-90% of the events require a stage. An appropriate pre-function area does not exist. For large banquet events buffet serving is in UC concourse with lines forming through the serving corridor. Introduction meetings for large conferences need to be broken into two sessions. Sound and lighting systems are out of date. Transformer locations for lights make too much noise. The cooling system can’t control the heat from the mechanical rooms below which makes the ballroom warm in the summer months.

**Esker Hall assessment**
The Esker dining hall is located on the lower level with a 10,000 net square foot dining area that seats 522 with an additional 12,000 square feet of support space. Support space is split between the two floors with the production kitchen on the upper level and the dish washing and serving lines on the lower level. The control point for the dining hall is located on the upper level; students circulate down to the serving area by a main stair or separate elevator, which doesn’t meet universal design criteria. Four meeting rooms are located on the upper level, totaling 5,500 square feet. Two medium size rooms can accommodate 130 persons each, in an auditorium arrangement, and 54 persons each, in a classroom arrangement. Two smaller meeting rooms accommodate 64 persons each, in an auditorium arrangement, and 33 persons each, in a classroom arrangement. A private dining room is located on the lower level and allows for 60 seats. This room can also be reserved for meetings. Esker Hall also houses two retail food venues and a convenience store on the lower level adjacent to the parried street lounge, which seats 150 in a cafe style arrangement.
Programmatic needs identified:

Large programming venue
Students need a programming space that can accommodate 600 people. Banquet functions need space to accommodate 550 seated at rounds, plus room for buffet lines. A pre-function space, 1/3 the size of the main hall with separate toilet rooms is needed. Considerations for separate entrances, ticketing, and crowd control would enable the venue to operate independently from the rest of the facility. To add formality to the space, a permanent stage is desired. A request for options that incorporate a student oriented event space for dances and performances was voiced.

Conference venue desired in academic core
Conferences are often tied to academic programs; stakeholders stated that a conference venue needs to be located in the south campus, near the academic core. Students prefer to use the University Center meeting rooms over the Esker meeting rooms, which often sit empty.

Dining environment
A cozy dining experience is desired. Esker is too impersonal for students, who communicated a need for an intimate dining experience. The intense use of Esker for summer camps drives the occupancy requirements for the dining venue. Expanded capacity for these camps is needed. The scatter concept that was used in Drumlin hall will not work for the camps. Camps are best served with two lines and limited options, yet the servery must be able to accommodate the retail dining aesthetic during the academic year, when fresh served food and display cooking is required. Camp capacity for July is 1,000-1,200 people with food being served in an hour.

Social and study space on north campus
Students in north campus residence halls need closely located lounge and study spaces. Residents stated that both the University Center, and the library in south campus, are too far. Although residence halls have lounge spaces, students desire destination lounges. The idea of a north campus satellite of the University Center was developed in response.

High value of Esker site
Land use strategy will impact the use of Esker. The campus should maximize the value of Esker’s site, due to the limited developable land in this region of campus because of the LAWCON restrictions on surrounding land.

Recreation functions
Master plan issue: The existing residence life fitness center will need replacement when Wells residence hall is taken offline. There could be potential for some fitness program functions to be relocated to Esker Hall.
Future Operations and Recommendations:

Resident Dining Demand & Recommendations
Data provided by the University suggests that a new resident dining facility at Esker Hall would require approximately 370 seats and occupy 22,918 gross square feet, less than the 28,892 currently shown on the main floor. This scenario is based on a continuation of current participation practices, which are less than the typical campus peak hour participation rates. The seemingly low current peak hour rates are consistent, however, with the feedback from current users.

Adjusted Future Operations:
An adjusted resident dining demand program, however, suggests a larger space to accommodate increases in both residential beds as well as increases in participation rates during peak service periods. These increases are consistent with operations on other campuses and are typical where older facilities have undergone major renovations. An adjusted program suggests a 466 seat resident dining facility occupying 18,635 net square feet, as shown in the adjacent table.

Meeting and event space requirements:
An event space of 10,000 square feet is needed to accommodate the number of people for a banquet and or dance, along with a pre-function lounge of 3,400 square feet. Eight sanitary fixtures and 4 lavatories will be required for each gender. Toilet rooms should be accessed directly from the pre-function lounge. A green room with a unisex toilet should also be provided.
Once the programming and the physical assessment were complete, the design team developed four concepts. From stakeholder feedback, the design team refined the studies and developed budgetary calculations and phasing recommendations to inform the pending master planning process. Comparable broad scope programs were developed for each option.

**Study Options:**

**Study 1 - Renovate Esker Hall as is and Expand the Hamilton Room.**
- Expanded Hamilton Room in UC.
- Renovate Esker Hall into state-of-the-art dining facility.
- Temporary food service required during renovation.
- Meeting functions remain in Esker.

**Study 2 - Relocated Dining and Lower Level White Boxed.**
- No work in UC.
- Residential dining moves to upper level of Esker.
- Major programming venue located in lower level of Esker.
- Underutilized meeting rooms omitted.
- Prairie Street lounge and social functions increase.
- Relocation of dining allows phasing.

**Study 3 - “Union North”**
- No work in UC.
- Residential dining moves to upper level of Esker.
- Major programming venue located in lower level of Esker.
- Lounge and social space added.
- Recreation/fitness added.
- Meeting rooms remain.
- Prairie Street lounge and social functions increase.
- Relocation of dining allows phasing.

**Study 4 - New Building.**
- No work in UC.
- Residential dining moves to a newly built facility.
- The new building includes the Prairie Street lounge and social functions.
- Relocation of dining allows phasing.

---

### Broad Scope Program Summary

<table>
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<tr>
<th>Space Type</th>
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<th>Proposed Study 2</th>
<th>Proposed Study 3</th>
<th>Proposed Study 4</th>
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| Assignable Area (ASF)    | 57,319   | 63,963           | 49,267           | 62,260           | 33,017           |
| Gross Area (GSF)         | 84,551   | 98,522           | 72,218           | 96,718           | 45,000           |
| Efficiency Factor        | Existing | 68%              | Exist+Add        | Exist+Add        | Exist+Add        | New              | 73%              |
### OUTLINE PROGRAM

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<th>Space Type</th>
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</table>

### PROPOSED SPACES

| New resident dining                | 1        | 8,388    | 8,388    | 1        | 9,188    | 9,188    | 1        | 8,388    | 8,388    | 1        | 8,388    | 8,388    |              |
| Servery                            | 1        | 5,589    | 5,589    | 1        | 5,589    | 5,589    | 1        | 5,589    | 5,589    | 1        | 5,589    | 5,589    |              |
| Back of house food service kitchen | 1        | 13,635   | 13,635   | 1        | 5,590    | 5,590    | 1        | 5,000    | 5,000    | 1        | 5,590    | 5,590    |              |
| Dish wash                          |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Coolers                            |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Freezers                           |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Dry storage                        |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Break room                         |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Offices                            |           |          |          |           |          |          |           |          |          |           |          |          |              |
| C-store                            | 1        | 1,200    | 1,200    | 1        | 1,200    | 1,200    | 1        | 2,900    | 2,900    | 1        | 2,900    | 2,900    |              |
| Retail food venue                  | 1        | 1,200    | 1,200    | 1        | 1,200    | 1,200    | 1        | 2,000    | 2,000    | 1        | 2,000    | 2,000    |              |
| Specialty food concept             |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Kitchen/serving                    | 1        | 1,000    | 1,000    | 1        | 1,000    | 1,000    | 1        | 1,000    | 1,000    | 1        | 1,000    | 1,000    |              |
| Dining                             |           |          |          |           |          |          |           |          |          |           |          |          |              |
| Catering Kitchen / support         | 1        | 590      | 590      | 1        | 590      | 590      | 1        | 590      | 590      | 1        | 590      | 590      |              |

| Total Assigned Area                | 47,322   | 30,012   | 22,767   | 26,517  | 26,517  |              |
## OUTLINE PROGRAM

### MEETING / EVENT SPACES

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<th>Space Type</th>
<th>Existing</th>
<th>Proposed Study 1</th>
<th>Proposed Study 2</th>
<th>Proposed Study 3</th>
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<tr>
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Can expand to adjacent rec. area for a total of 12,600 s.f.
## OUTLINE PROGRAM

### LOUNGE & CASUAL SPACES

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<th>Quantity</th>
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### PROPOSED SPACES

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</table>

### OUTLINE PROGRAM

### FITNESS & RECREATION

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<th>Quantity</th>
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<th>ASF total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Proposed Study 1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Proposed Study 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposed Study 3</td>
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</tr>
<tr>
<td>Proposed Study 4</td>
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### PROPOSED SPACES

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<th>Quantity</th>
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<th>ASF total</th>
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<tr>
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<td>Fitness Center</td>
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<td>Locker Rooms</td>
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<td>6,300</td>
</tr>
<tr>
<td>Recreation Area</td>
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<td>6,300</td>
<td>6,300</td>
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<tr>
<td><strong>Total Assigned Area</strong></td>
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## PROGRAM ASSESSMENT

### OUTLINE PROGRAM

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<th>Proposed Study 2</th>
<th>Proposed Study 3</th>
<th>Proposed Study 4</th>
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<td>ASF Each</td>
<td>ASF Total</td>
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<td>ASF Each</td>
<td>ASF Total</td>
</tr>
<tr>
<td>Esker Hall</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trash/Recycling/Can wash</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Maintenance Shops</td>
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<td></td>
<td></td>
<td></td>
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**Total Assigned Area**

<table>
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<tr>
<th>Existing</th>
<th>Proposed Study 1</th>
<th>Proposed Study 2</th>
<th>Proposed Study 3</th>
<th>Proposed Study 4</th>
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<tr>
<td>7,998</td>
<td>3,500</td>
<td>3,500</td>
<td>3,500</td>
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</table>

New Building
The Campus requested a separate budget number for expanding the Hamilton Room at the University Center. This expansion would address the capacity needs for formal banquet settings and large student events by adding an addition to the east of the existing Hamilton Room. Structurally, one bay of the existing building would need to be replaced to achieve the required ceiling height required in the Hamilton Room. The new expansion would include a permanent stage, a green room and a loading dock. A new pre-function lounge, within the addition, would have new toilet rooms, which would allow for the University Center to be separated from any event taking place in the Hamilton Room. The lower level of the expansion would include storage space and mechanical rooms. The mechanical and electrical capacity would need to increase to accommodate the new addition and major site utilities would need to be relocated. The parking and site features to the east will also need to be re-configured.

**Pros:**
- Capacity needs are met in a formal setting.

**Cons:**
- Major infrastructure needs reconfiguring.
<table>
<thead>
<tr>
<th>Room Type</th>
<th>Total Area</th>
<th>No Work Except MEP Upgrades</th>
<th>Light Renovation</th>
<th>Medium Renovation</th>
<th>Heavy Renovation</th>
<th>New Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballroom</td>
<td>9,533</td>
<td></td>
<td>5,762</td>
<td>1,411</td>
<td></td>
<td>2,360</td>
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<tr>
<td>Pre-Function</td>
<td>3,563</td>
<td></td>
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<td>3,563</td>
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<tr>
<td>Stage</td>
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<td></td>
<td></td>
<td></td>
<td>712</td>
</tr>
<tr>
<td>Green Room</td>
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<td>261</td>
</tr>
<tr>
<td>Storage</td>
<td>5,232</td>
<td></td>
<td></td>
<td></td>
<td>5,232</td>
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<tr>
<td>Loading Dock</td>
<td>364</td>
<td></td>
<td></td>
<td>364</td>
<td></td>
<td>364</td>
</tr>
<tr>
<td>Lower Level Meeting Room</td>
<td>1,000</td>
<td></td>
<td></td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Assigned Area       | 20,665     |                              |                  | 5,762             | 2,411            | 12,492           |
| Total Gross Area          | 27,804     |                              |                  |                   | 27,804           |

Efficiency Factor: 74.32%
BUDGET SCENARIO #1.2

Total Construction Cost = $12,100,000
Total Project Cost = $15,200,000

*2012 DOLLARS

KEY POINTS
- Renovate Esker Hall into state-of-the-art dining facility.
- 466-559 seating capacity for dining hall.
- Temporary food service required during renovation.
- Meeting functions remain in Esker.

Considered a base budget model, Esker Hall scenario 1.2 includes a complete replacement of mechanical, electrical, and plumbing systems. A new fire suppression system meeting NFPA 13 is included as are new elevators to meet current ADA standards. Maintaining program uses and locations minimizes building demolition. Major renovations will take place in the kitchen, servery, and dining hall to bring these spaces up to a standard equal to or better than Drumlin Hall. New furniture, ceiling design, and casework will create an intimate environment, a need expressed by the students. Acoustic design will assist in shaping this intimate environment. The convenience store and Prairie Street Lounge will receive a medium level renovation that includes new floor and wall finishes, ceiling treatments, and furniture. The upper level meeting rooms will have a light level of renovation that includes new paint, carpet and ceiling tile replacement. Toilet rooms and fixtures will also be replaced, addressing universal design requirements. A temporary dining facility would be needed during the construction.

Pros:
- Minimized demolition cost.
- Minimized upper level renovation cost.

Cons:
- Temporary dining hall is required.
- Kitchen and support are separate from servery and dining.
- Doesn’t address the exterior aesthetic of the existing building.
<table>
<thead>
<tr>
<th>PROGRAM ANALYSIS FOR BUDGET SCENARIO # 12</th>
<th>CONSTRUCTION AREA (Assigned Square Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL AREA</strong></td>
<td><strong>NC WORK EXCEPT MEP UPGRADES</strong></td>
</tr>
<tr>
<td>DINING SEATING</td>
<td>8,388</td>
</tr>
<tr>
<td>SERVERY</td>
<td>5,589</td>
</tr>
<tr>
<td>KITCHEN / SUPPORT</td>
<td>13,635</td>
</tr>
<tr>
<td>MEETING ROOMS</td>
<td>6,126</td>
</tr>
<tr>
<td>LOUNGE SPACE</td>
<td>3,660</td>
</tr>
<tr>
<td>C-STORE</td>
<td>1,200</td>
</tr>
<tr>
<td>PRAIRIE STREET RETAIL FOOD VENUE</td>
<td>1,200</td>
</tr>
<tr>
<td>OPERATIONS AND MAINTENANCE</td>
<td>3,500</td>
</tr>
<tr>
<td><strong>TOTAL ASSIGNED AREA</strong></td>
<td><strong>3,500</strong></td>
</tr>
<tr>
<td><strong>TOTAL GROSS AREA</strong></td>
<td><strong>70,718</strong></td>
</tr>
</tbody>
</table>

Efficiency Factor: 61.23%
BUDGET SCENARIO #2

**Total Construction Cost =** $13,400,000  
**Total Project Cost =** $16,800,000  
*2012 DOLLARS

**KEY POINTS**
- Residential dining moves to upper level of Esker.
- 510-612 seating capacity for dining hall.
- Meeting rooms omitted.
- Relocation of dining allows phasing.

Major program uses and locations change in scenario two. The main dining hall and servery are relocated to the upper level, adjacent to the kitchen and support spaces. A small addition will be placed at the existing entry to accommodate queuing for the new dining area. The convenience store and Prairie Street Lounge remain in the same location and receive a medium level renovation that includes new floor and wall finishes, ceiling treatments, and furniture. The remaining lower level spaces will receive a basic white box renovation to include floor, wall, and ceiling finishes, as well as basic lighting. Toilet rooms and fixtures will also be replaced, addressing universal design requirements. A complete replacement of mechanical, electrical, and plumbing systems would be included. A new fire suppression system meeting NFPA 13 would be included along with new elevators to meet current ADA standards. If properly phased, a temporary dining facility is not needed during the construction.

**Pros:**
- No temporary dining facility is needed.
- Kitchen and dining are on the same level.
- Future lower level space remains flexible for future campus needs to be determined.

**Cons:**
- Ceiling in new dining area is low: 8’-0” to 9’-0”.
- MEP systems will need to be phased during construction.
<table>
<thead>
<tr>
<th>PROGRAM ANALYSIS FOR BUDGET SCENARIO #2</th>
<th>CONSTRUCTION AREA (Assigned Square Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL AREA</td>
</tr>
<tr>
<td>DINING SEATING</td>
<td>9,188</td>
</tr>
<tr>
<td>SERVERY</td>
<td>5,589</td>
</tr>
<tr>
<td>KITCHEN / SUPPORT</td>
<td>5,590</td>
</tr>
<tr>
<td>WHITE BOX</td>
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<tr>
<td>LOUNGE SPACE</td>
<td>3,000</td>
</tr>
<tr>
<td>C-STORE</td>
<td>1,200</td>
</tr>
<tr>
<td>PRAIRIE STREET RETAIL FOOD VENUE</td>
<td>1,200</td>
</tr>
<tr>
<td>OPERATIONS AND MAINTENANCE</td>
<td>3,500</td>
</tr>
<tr>
<td><strong>TOTAL ASSIGNED AREA</strong></td>
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<td><strong>TOTAL GROSS AREA</strong></td>
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</tr>
<tr>
<td>Efficiency Factor</td>
<td></td>
</tr>
</tbody>
</table>
BUDGET SCENARIO #3

Total Construction Cost = $21,600,000
Total Project Cost = $27,100,000
*2012 DOLLARS

KEY POINTS
- Residential dining moves to upper level of Esker.
- 466-559 seating capacity for dining hall.
- Major programming venue located in lower level of Esker.
- Lounge and social space added.
- Recreation / fitness added.
- Meeting rooms remain.
- Prairie Street lounge and social functions increase.
- Relocation of dining allows phasing.

Scenario three includes a major addition and an expanded program as described in study D. This study maximizes the value of Esker’s site. Uses and locations change with the main dining hall and servery relocating to the upper level adjacent to the kitchen and support spaces. An addition would include some of the dining area and student lounge space. This study provides a large programming event space and recreation area, along with an expanded convenience store and Prairie Street Lounge, located in the renovated lower level. A new mechanical room would be included in the addition, making phasing easier for mechanical systems.

Pros:
- No temporary dining facility is needed.
- Kitchen and dining are on the same level.
- Fills a need for lounge space for the north campus residents.
- Taller ceilings can be achieved in the dining area.

Cons:
- Event Space can’t be used for formal events,
- MEP systems will need to be phased during construction.
<table>
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<tr>
<th>Folder Analysis for Budget Scenario #3</th>
<th>Construction Area (Assigned Square Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Area</strong></td>
<td><strong>No Work Except MEP Upgrades</strong></td>
</tr>
<tr>
<td><strong>Dining Seating</strong></td>
<td><strong>Light Renovation</strong></td>
</tr>
<tr>
<td><strong>Server</strong></td>
<td><strong>Medium Renovation</strong></td>
</tr>
<tr>
<td><strong>Kitchen / Support</strong></td>
<td><strong>Heavy Renovation</strong></td>
</tr>
<tr>
<td><strong>Rec Area</strong></td>
<td><strong>New Construction</strong></td>
</tr>
<tr>
<td><strong>Fitness</strong></td>
<td><strong>Total Assigned Area</strong></td>
</tr>
<tr>
<td><strong>Event Space</strong></td>
<td><strong>Total Gross Area</strong></td>
</tr>
<tr>
<td><strong>Meeting Rooms</strong></td>
<td><strong>Efficiency Factor</strong></td>
</tr>
<tr>
<td><strong>Lounges Space</strong></td>
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</tr>
<tr>
<td><strong>C-Store</strong></td>
<td><strong>3,500</strong></td>
</tr>
<tr>
<td><strong>Prairie Street Retail Food Venue</strong></td>
<td><strong>3,500</strong></td>
</tr>
<tr>
<td><strong>Operations and Maintenance</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

| **Dining Seating**                   | 8,388                                    |
| **Server**                           | 5,589                                    |
| **Kitchen / Support**                | 5,590                                    |
| **Rec Area**                         | 6,300                                    |
| **Fitness**                          | 4,900                                    |
| **Event Space**                      | 8,133                                    |
| **Meeting Rooms**                    | 4,530                                    |
| **Lounges Space**                    | 8,400                                    |
| **C-Store**                          | 2,900                                    |
| **Prairie Street Retail Food Venue** | 4,050                                    |
| **Operations and Maintenance**       | 3,500                                    |
| **Total Assigned Area**              | 62,280                                   |
| **Total Gross Area**                 | 96,718                                   |
Scenario four is a new constructed building that creates a new state-of-the-art dining facility as a stand-alone structure or as a space integrated into a newly constructed residential hall. It would contain the convenience store and prairie street retail dining along with lounge and study spaces.

**Pros:**
- No temporary dining facility is needed.
- Kitchen and dining are on the same level.
- Fills a need for lounge space.
<table>
<thead>
<tr>
<th></th>
<th>CONSTRUCTION AREA (Assigned Square Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO WORK EXCEPT MEP UPGRADES</td>
</tr>
<tr>
<td>DINING SEATING</td>
<td>8,388</td>
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<td>SERVERY</td>
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<td>KITCHEN / SUPPORT</td>
<td>5,590</td>
</tr>
<tr>
<td>C-STORE</td>
<td>2,900</td>
</tr>
<tr>
<td>PRAIRIE STREET</td>
<td>4,050</td>
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<tr>
<td>RETAIL, FOOD VENUE</td>
<td></td>
</tr>
<tr>
<td>LOUNGE SPACE</td>
<td>3,000</td>
</tr>
<tr>
<td>OPERATIONS AND</td>
<td></td>
</tr>
<tr>
<td>MAINTENANCE</td>
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<td><strong>TOTAL ASSIGNED</strong></td>
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<td><strong>TOTAL GROSS</strong></td>
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Efficiency Factor 66.70%
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### UW Whitewater Esker Hall

#### Whitewater, WI

**Total Construction Cost Breakdown**

**Cost Model Estimate**

November 28, 2012

#### Appendix

<table>
<thead>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>Total Cost</td>
<td>Cost / GSF</td>
<td>Total Cost</td>
<td>Cost / GSF</td>
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<td><em>Excavation/Foundation</em></td>
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<td><em>Enclosure</em></td>
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<tr>
<td><em>Mechanical Systems</em></td>
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<tr>
<td><em>PLUMBING</em></td>
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**Subtotal**

$273.35  $7,139,800  $158.81  $11,230,808  $168.48  $12,410,299  $207.19  $20,038,815  $159.74  $16,180,095  $1,295,048

**Cost Contingency / Fee / Insurance:** 8.00%

$570,871  $890,465  $593,86  $1,603,105

**Construction Totals**

$7,706,761  $12,129,272  $13,413,461  $21,641,920  $17,481,143

**Cost per Gross Square Foot**

$299.4 GSF / GSF  $171.52 GSF / GSF  $181.96 GSF / GSF  $223.76 GSF / GSF  $188.51 GSF / GSF

**Gross Square Feet**

26,088 GSF  70,718 GSF  73,718 GSF  96,718 GSF  45,000 GSF

**Other Costs**

25%  $1,926,690  $3,312,318  $3,312,318  $3,312,318  $5,410,480  $4,370,786

**Total Project Costs**

$9,633,451  $15,161,590  $16,766,599  $27,052,400  $21,853,929

**Total Project Cost per GSF**

$369.2 GSF / GSF  $214.40 GSF / GSF  $227.44 GSF / GSF  $279.70 GSF / GSF  $485.64 GSF / GSF

**Above Cost Model Is Considered in 2012 Construction Costs**

**Escalate Total Project Cost to 2014**

8%  $13,404,127  $16,374,318  $18,168,111  $29,216,592  $23,602,243

**Cost per Gross Square Foot**

$398.0 GSF / GSF  $231.55 GSF / GSF  $245.64 GSF / GSF  $302.00 GSF / GSF  $324.49 GSF / GSF

**Escalate Total Project Cost to 2016**

8%  $11,236,457  $17,684,479  $19,556,760  $31,553,920  $25,490,422

**Cost per Gross Square Foot**

$430.71 GSF / GSF  $182.83 GSF / GSF  $202.20 GSF / GSF  $326.25 GSF / GSF  $366.45 GSF / GSF

**Escalate Total Project Cost to 2018**

8%  $12,135,374  $19,099,237  $21,121,301  $34,076,233  $27,529,656

**Cost per Gross Square Foot**

$465.17 GSF / GSF  $197.47 GSF / GSF  $218.38 GSF / GSF  $352.35 GSF / GSF  $611.77 GSF / GSF
MAIN LEVEL FLOOR PLAN FOR SCENARIO #1.2
LOWER LEVEL FLOOR PLAN FOR SCENARIO #1.2
UPPER LEVEL FLOOR PLAN FOR SCENARIO #1.2
LOWER LEVEL FLOOR PLAN FOR SCENARIO #1.2
MEETING NOTES

PROJECT  
Esker Dining Hall Feasibility Study
University of Wisconsin – Whitewater  
DFD Project 12H1D, WSA Commission 12-168

MEETING HELD  
24 August 2012  
10:30 AM to 11:30 PM  
Esker Hall

PREPARED BY  
Workshop Architects

PRESENT  
Kick-Off Meeting
Kevin Trinastic  
Bob Barry  
Tom Pellizzi  
Tom Hinspater  
Tami McCullough  
Mike O’Connor  
Kim Adams  
Jay Creggs  
Brent Biloden  
Jan van den Kieboom  
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Purpose  
Review the A/E proposal and scope of the study with key personnel and stakeholders.
Summary
Two options emerged for Esker Hall: dining hall or conference/event center. Factors to be considered in the decision include: summer camp use, new residence halls, need for larger event space on campus, and dated kitchen and mechanical systems.

Minutes
1) Goal: to determine the most appropriate future use of Esker Hall
   - What is the impact on Esker Hall with new resident halls coming online?
   - Address conference/event needs for campus.
   - Explore alternative ideas: Esker as dining hall vs. Esker as conference/event facility.
   - Cost impact of replacing Esker vs. upgrading.
   - Implement Esker study into new campus master plan.

2) Esker project background
   - UW-W continued growth in enrollment.
   - Hamilton room in UC is too small. It needs to be expanded or replaced. Current capacity is 450; 600 desired.
   - Esker Hall was renovated in 1999; the kitchen and mechanical systems are original to 1967.

3) Options identified:
   - Option 1: Dining
     - Renovate Esker Dining Hall to be a state-of-the-art dining facility
     - Expand the Hamilton Center to meet current campus event space needs.
   - Option 2: Conference/event facility
     - Renovate Esker Dining Hall to become a conference/event facility
     - Create a new state-of-the-art dining facility as a stand-alone structure or as a space integrated into a newly constructed residential hall.
4) Esker schedule:

- Schedule presented as follows:
  - 9/6/12 On-campus programming meetings
  - 9/13/12 Esker engineering review walk-through
  - 9/27/12 Concept review on-campus meeting
  - 10/18/12 Draft Final deliverable review meeting
  - 11/1/12 Final report issued

- Proposed change to the schedule:
  - **9/13/12** On-campus programming meetings
  - 9/13/12 (week of) Esker engineering review walk-through
  - 9/27/12 Concept review on-campus meeting
  - Allow two weeks for campus review to select preferred option
  - 11/1/12 Draft Final deliverable review meeting
  - 11/5/12 Final report issued

- Tami McCullough needs final report by year's end (2012)

5) Other items discussed:

- Impact on summer camps needs to be addressed in study
- Programming meeting needs students as partners.
- Bonding issues effect schedule. Financing analysis will be done by campus.
- Workshop Architects to include cost escalations table in the report.
- Dan Day (DFD) will provide hazardous material study to include in the report.

6) Action Items:

- Tami will send campus map to workshop showing proposed locations of new resident hall.
MEETING NOTES

PROJECT

Esker Dining Hall Feasibility Study
University of Wisconsin – Whitewater
DFD Project 12H1D, WSA Commission 12-168

MEETINGS HELD

18 September 12
Esker Hall

PREPARED BY

Workshop Architects

PURPOSE

PROGRAMMING MEETINGS
Meet with key groups to discuss possible uses of Esker Hall and expansion of the Hamilton Room at the University Center.

Dining Facilities and Maintenance Staff

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Summary
Esker currently feels too large and too cold; students do not enjoy their time there. In addition to the options of creating an event/conference center or a new dining hall, the third option of creating a community center emerged. The Esker community center would serve as a UC north and could combine dining, conference, and lounge spaces. Existing lounge space in residence halls has been converted to additional dorm rooms as attendance has risen, which has created a dearth of student social space. With its proximity to the north residence halls, Esker offers an intriguing opportunity to create a living learning environment.

Minutes
1. Options discussed at previous meeting were presented:
   - Option 1: Dining
     - Renovate Esker Dining Hall to be a state-of-the-art dining facility.
     - Expand the Hamilton Center to meet current campus event space needs.
   - Option 2: Conference/event
     - Renovate Esker Dining Hall to become a conference/event facility.
     - Create a new state-of-the-art dining facility as a stand-alone structure or as a space integrated into a newly constructed residential hall.
     - It was noted that other solutions may surface though the course of the day’s discussions.
2. Issues listed by Tom Hinspater
   - The ‘Domino Effect’
     - Sequence of taking venues offline is important.
   - Hamilton room is not big enough for some events.
     - Some events are turned away because of small size.
   - Where is the growth going to occur?
     - The campus is split in two halves; east and west, with housing and food service in both.
3. Existing seating capacity of Esker Hall Dining:
   - 462 Main dining hall.
   - 60 Warhawk Room
   - 125 Prairie Street.
4. Esker’s Prairie Street needs to stay open because of the high revenue volume.
   - Prairie Street consists of a convenience store and two retail venues
     - Made to order sub sandwiches
5. UC - Hamilton Center
   - Athletics push some events
   - New Hotel being planned for Whitewater
   - Conferences happen year round
   - Existing Capacities
     - 495 straight tables
     - 450 round tables - buffet style
     - 400 round tables - meals served
   - Service corridor is used to access buffet tables set up in pre-function entryway for U.C.
   - Storage under stage doesn't meet current code.
     - Need more efficient conference storage
   - Operable walls are difficult to use and labor intensive.
   - Ideal situation for the Hamilton Room:
     - Seating for 600 at round tables with buffet inside the room plus dance floor.
     - Pre-function should be 30% of Hamilton Room.
     - Separate entry secure from University Center.
     - Restrooms should be within that secured area separate from U.C.

6. Future chiller expansion to the east could affect any Esker Hall addition.

7. Consider putting both conference center and dining hall in Esker Hall.

8. Esker Hall is used heavily during summer camps
   - Need to increase dining capacity by 100 during summer
   - Toilets are too small
   - Meal periods are the same for all users vs. staggered for academic students

9. Transition / phasing is needed for any redevelopment of Esker Hall.

10. How does Esker Hall work as a dining facility today?
    - All you care to eat – all day.
    - Center Marketplace concept causes congestion - problems with long lines.
      - 90% of customers start at the closest line to the stair.
    - Custodial Closets are inadequate.
• Seating does not feel intimate because the volume is big and ceilings are tall.
  o Some students feel uncomfortable with the tall ceilings.
  o The number of seats is not the problem it’s the seating style.
  o Majority of tables seat 6, making it uncomfortable to dine alone.
  o Few 4 top tables exist, no 2 tops are provided.
• Main kitchen is far from serving, yet most food is prepared in the island out in the dining space.

11. Could Esker be viewed as a U.C. north?
• The campus is also split into north and south sections, with housing, dining and athletics in the north half and academics in the south half. The University Center is located in the southern half.

12. Should lounge space be added to make dining more intimate?
• Not in an all you can eat facility.
• Do not want to encourage students to stay and eat all day on one card swipe.

13. What do students want for food service?
• A vocal minority wants healthy eating options.
• Majority like fried foods.
• Fresh foods and freshly made items are important.
• Want what is trendy – Students today know food and view cooking as fun i.e. food network.
• Authentic international foods.
• Flexibility to change concepts.

14. Increased attendance
• 400 new beds will be added to campus in the fall of 2015.
• Lounge space in existing dorms has been converted into dorm rooms.
• Estimated total campus bed count is 2600. Tami McCollough to get exact number to consulting team.

2) Facility staff needs.
• Dedicated storage and break rooms.
• Working custodian rooms – Mop sink, proper storage, and space to work.
• Add carpenter shop under addition to Hamilton Room.
Event and Reservation Staff

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Minutes

Hamilton Room Discussion

1) Capacity
   - Currently seats 350 comfortably with round tables.
   - Seats 450 with rectangle tables.
   - Seats 600 in auditorium style.
   - Professionally staffed max capacity for events = 450, student staffed max capacity = 350
     ○ Difficult to bus tables when at capacity.
   - Large student events over 350, mostly dances, are held at the Williams Center gymnasium.
   - Ideal capacity for events would be 550. (round tables)

2) Quality of space
   - Sound and lighting systems need to be replaced. Replace with LED.
Current Breakout rooms are bad.
- Have proper A/V in all rooms.
- Relocate transformers. Current locations create noise issues
- Current exit door to south work for large groups.
  - Mass exiting when working with multiple large sessions.
- Jay will send reservation #’s for U.C., Esker and Drumlín to consulting team.
  - Estimated Turn away factor.

3) Location and use of conference center
- New Conference Center from a student use benefit: (Jan Bilgen)
  - If used by students, it should be in the center of campus.
  - If used by non-students, it should be on the perimeter of campus.
- Esker location for conference center could be challenging.
- Continuing Ed Sessions
  - Welcome sessions held in the Hamilton Room
  - Breakout sessions are held in classroom buildings near the U.C.
- Bus Access is important.
- Career Fair uses 18,000 sf of space.
- Off campus student feel uncomfortable in Res Life facilities.
- Acoustics in Esker need to be improved.

4) Stage Discussion
- Prefers permanent stage. (Jay)
- Could have less depth than existing, but not narrower.
- The stage creates a focal point.
- Makes the perception of the room more formal.
- Portable stage creates more flexible yet is labor intensive.
- 80-90% of events in the Hamilton Room require the stage.
- Single green room can replace two separate dressing rooms.

5) Summer Camps Discussion
- Camp numbers are increasing
  - In the last 3 years reservations have doubled.
  - July capacity = 1000 - 1200
- All are served lunch from 11:15 – 12:15 in Esker Hall

6) Pre-function Area Discussion
- Food service supported space
- Formal setting
- Room for piano
- Provide for mass exiting
Residential Life Staff

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Minutes

1) Residence Halls
   • New res hall completed in 2015 on site #3 (refer to site map)
   • 24 current learning communities in resident life.
      ○ Require classroom
      ○ Near food?
      ○ 20-25 student seminar room
      ○ Problem with PR & GPR funds.
   • Parking perceptions need to be addressed in master plan.
      ○ Students feel they need to park next to their dorms.
      ○ Some say the campus is one big parking lot.

2) Social Space
   • How much social space is being planed for new res hall?
      ○ Tami to forward res hall master plan to consultant team.
   • If Esker were friendlier, would students use the lounge spaces?
   • Order of use priority for lounge/social space.
      ○ Use own lounge space - 1st.
      ○ Closest walk - 2nd.
• Down Under in the U.C. is used on Thursday night due to popular programmed event.
• Way to look at res life social space.
  o Structured = programmed; planned events.
  o Organic = in their home; hang out in pajamas.

3) Other Uses for Esker Hall:
• Fitness and Rec sports?
  o Fitness center will disappear when Wells Hall is taken down.
• Health and Counseling?
  o Concern with privacy.
• Music practice rooms?
• Study Center?
  o It isn’t cost effective to duplicate space available elsewhere on campus (Maura)

**Stake Holders**

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**Minutes**

1) Goals of new dining hall or conference center:
  • Relationship building
  • Diversity learning.
  • Interaction

2) Power of peer influence on this campus is strong.

3) Could the campus support a “Union North”?
• Need a living learning community.
• Small meeting rooms / study spaces similar to library.
• Conversation needed with Library staff.
• is there a need for auxiliary space?
4) Residence hall lounge vs destination hangout space
• There is a difference between a Res Hall floor lounge and a destination hangout space.
• Floor Lounge = comfy home life.
• Destination hang out = amenities not found in Res Hall
5) The beauty of U.C. Dining is that it brings different types of people together
Customer Focus Group

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Minutes

1) For dining, students prefer the U.C.
   - UC has tailored menu choices
   - Esker is the generic food source, "dorm food", still need it as an option because of the price.
   - Seating options at the UC better and more cozy and warm.
   - Fireplace lounge is attractive.

2) Esker is not working
   - Esker feels too big.
   - Students are terrified to eat there alone.
   - Need more intimate seating areas.
   - There is no incentive to stay.
   - All students stated they have never used a meeting room in Esker
   - They would not hold meeting in Esker.
   - Prairie Street is a small version of the UC.

3) Needs for Esker
   - Need more study space close to Res Halls
   - Fireplace would add warmth to Esker.
• Comfortable dining = open lounge with niches
• Spontaneous collaboration spaces
• If health center would move to Esker it shouldn't be paired with food.
• Conference center is a mis-fit with Res. Hall?
• Esker as "Community Center"
• Explore first year experience/retention.
• What traditions could be started.
• Pre Game festivities at Esker.
• Rock Climbing
• Flexibility
• Gaming area w/ passive restaurant.

4) Library lessons
• Last year the library became the new place to meet up with friends.
• New learning commons was added
• Freshman won't walk to the library.
# MEETING NOTES

## PROJECT

**Esker Dining Hall Feasibility Study**

University of Wisconsin – Whitewater  
DFD Project 12H1D, WSA Commission 12-168

## MEETINGS HELD

**September 9, 2012**  
Esker Hall

## PREPARED BY

Workshop Architects

### Dining Facilities and Maintenance Staff

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<thead>
<tr>
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</tr>
</thead>
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## Purpose

To review existing facility conditions and present three planning studies showing different space allocations for Esker Hall and the Hamilton room in the University Center. See attached PDF for presentation.
Meeting Notes:

1. Esker Hall Facility Assessment
   A. General:
      • The building appears to have been well maintained over the years but many of the plumbing and HVAC systems are either at or near the end of their expected useful lives.
   B. Façade/Building Envelope Analysis:
      • Replace inefficient windows.
      • Lower façade tuck pointing work was complete recently. Penthouse masonry still needs to be tuck pointed – work could be done anytime.
      • Roof assembly is excellent.
      • Shallow floor-to-floor heights.
   C. Building Systems:
      • Generally, if installed in last 12-15 years elements are acceptable.
      • Older elements are probably original and should be replaced.
      • Maintenance issues are adding cost for old systems.
      • Old systems are not energy efficient.
      • Install sprinkler system in building.
   D. Food service equipment:
      • Equipment in upper floor main kitchen is original to 1960’s.
      • Equipment in lower level servery areas are 10-15 years old.
   E. See attached slides 4-10 for additional assessment information.

2. Programming meeting update:
   A. Meetings held with the following groups on 9-18-12:
      • Foodservice and Facility Staff
      • Events and Reservation Staff
        o Continuing Education
        o Athletics
        o University Center
      • Residential Life
      • Stakeholders
        o Students
        o Student Affairs
        o Facility Planning and Maintenance
        o University Center
      • Student Customer Group
B. Programming insights:
- Students desire warm, comfortable, intimate social space.
- There’s a need for both pajama lounge and destination social space on north campus.
- Prairie Street fulfills a retail dining need and social need for north campus. More may be needed.
- Many groups wondered if Esker could serve as a satellite union for north campus.
- Students don’t use Esker meeting rooms.
- 2011 – 2012 total meetings in Esker = 400, in UC = 6,200.
- Summer camps drive Esker capacity.
- Large student events have moved to the north campus gymnasium, which is not ideal.
- Is there a possibility of combining large event space and dining in Esker?
- Many desire conferences to take place in the academic core.
- There’s a need for a large event space more than a conference center.

C. Food service needs:
- Phasing (ability to maintain service) is critical.
- Existing Esker Dining Program:
  - Kitchen Support plus Servery = 16,597 sf.
  - Dining Seating Areas = 16,667 sf.
  - 611 seats.
- Proposed Dining Program:
  - Kitchen Support plus Servery = 13,000 sf.
  - Dining Seating Areas = 10,000 – 12,000 sf.
  - 676 seats.

D. Conference and event needs:
- Current Hamilton Room capacity = 350 at round tables.
- Desired capacity = seating for 600 at round tables.
- Must be self contained for access and control.
- Fixed stage.
- Proper pre-function space.
- Expanded storage and support spaces.
- Toilet rooms located in the self contained area.
3. Concept exploration studies were presented and study assessment sheets were handed out to the meeting participants asking for pros and cons for each study. Each study approached a different space and use allocation for Esker Hall. Each study has a different cost impact based on total effected area.

A. Study "A"

1) Description:
   - Resident dining stays in Esker.
   - Expanded Hamilton Room in UC.
   - Renovate Esker Hall into state-of-the-art dining facility.
   - Temporary food service required during renovation.
   - Meeting functions remain in Esker.
   - Budget impact would include a new addition to the Hamilton room plus renovation costs to Esker Hall.

2) Participant Comments:
   Pros:
   - All new lower level space could be meeting rooms with the removal of the maintenance shop.
   - Hamilton Room is central to campus.
   - Keeps Prairie Street function.
   - Meets needs if meeting space and/or social space is needed.
   - Keeps a formal feel for some of the events held annually. (eg. Hamilton Room)
   - Food options are all located on main level of Esker - better universal design.
   - Better event location in the U.C.
   - Better logistical support and can use existing staff.
   - Better mission of U.C. vs. split location.
   - Better for camps/conf. use
   - Hamilton could be divided for additional spaces.
   - Increased meeting rooms for Esker.
   - Keeps (conference) functions at the academic core.
   - Maintains current Esker meeting space.
   - Expanded main event space in the center of campus.
   - All of dining in Esker is in the lower level.

   Cons:
   - Esker cooler and freezer needs = current plus 50%.
   - Increased capacity of Hamilton room, but does everyone park around the U.C.?
   - Main dining hall is still a large space.
• Concern about Hamilton expansion's impact on loading dock, parking, etc.  
  Issues already exist now; hate to compound them further.  
• Can Hamilton be phased?  
• Upper control point for dining hall on lower level.  
• Esker logistics - dock and kitchen on different levels. Potential to move dock to the north of Esker.  
• Temporary food service needed during construction.  
• Disrupts Hamilton Room for one year during construction.  
• Doesn't allow for growth of students.  
• Utility relocation for the Hamilton Room expansion.  
• Are Meeting rooms needed? Maybe re-purpose?  
• Specialty foods and convenience store are separate. Why?

B. Study "B"  
1) Description:  
  • A New constructed dining facility: stand alone or connected to another building.  
  • No work in UC.  
  • Esker Hall is converted into a meeting and event center.  
  • Temporary facility not required.  
  • Results in significant increase of meeting and events space campus-wide.  
  • Budget impact is higher due to the increase in new construction for a new stand alone dining facility.  

2) Participant Comments:  
Pros:  
  • Brand new (building) for state of the art dining facility.  
  • Ability to hold entire conference in one building and not scattered.  
  • Student centered social space.  
  • Building (Esker) works great as a conference center.  
  • No phasing issues with this scheme.  
  • Increases meeting room space.  
  • No disruption of Hamilton Room.  
  • Gives dramatic space to north campus.  
  • Allows for growth.  
  • Adds 25,000 sf. for campus use.  
  • Nice conference center.  
  • No temporary food location.  

Cons:  
  • Do we need this much conference center.
Parking access for outside visitors.
Might be better as student social space.
Need more information on whether the campus could use/support a year round conference center.
No work in U.C. - might take away from the feel/scope of some of the visible wants in the U.C.
Suspect new meeting rooms will be underutilized.
Is a conference center really needed or desired?
Split in specialty food and convenience store.

C. Study "C"

1) Description:
- Residential dining moves to upper level of Esker.
- Major programming venue located in lower level of Esker.
- Underutilized meeting rooms omitted.
- Prairie Street lounge and social functions increase.
- Relocation of dining allows phasing.
- Budget impact is the lowest because study only includes renovating Esker Hall plus a small entrance addition.

2) Participant Comments:
Pros:
- Flexibility of space.
- Accommodates graduation overflow, which now is at drumlin.
- ADA less of an issue.
- Could be phased so dining is always up and running.
- Maintains Esker dining in same area.
- Kitchen at same level as dock and dining.
- Like that the large event area is provided without the need for work at Hamilton Room.
- Very student focused - aesthetic wise
- Fun Sports theme atmosphere.
- Cool possible balcony / large room space.
- Minimized cost.
- Phased (construction) dining.
- Provides large living room.

Cons:
- Loading Dock too small and access to large delivery trucks limited.
• Cooler and freezer space needs to be expanded current plus 50%.
• Maintenance shop -- should we move these functions out of Esker and the U.C.?
• No meeting rooms.
• Parking? No north side access is shown to multi-purpose event space. This is where the parking is.
• Can this be phased? Or, is the whole building offline during construction.
• Is there enough parking for large events.
• Decentralized for event support.
• Not Ideal for camps/conference use - distant from academic core.
• Increased staff needed.
• Takes away existing meeting rooms.
• Doesn't allow for growth.
• Is Esker offline during construction?
• Are major campus functions willing to come here?

4. Other Discussion:
   A. Is a conference center needed?
      • As a business, no.
      • As a gathering space, perhaps.
   B. The U.C. doubles the amount of meeting space with the 2008 addition. They have not reached the maximum reservation demand, but they do not know what the future demand will be.
   C. There has been some conversation with the Whitewater business community about a future hotel. The planned hotel will have some food service but no meeting rooms. It should be considered with the master plan.
   D. Food service phasing during construction needs to be a critical part of this study. If Esker is renovated in place, a temporary facility will be needed. Oklahoma State used trailer facilities during their remodel. Trailers are combined to create one large room for dining and food prep.
   E. For study "A" at the Hamilton Room, existing dock might be too small with a future expansion. Consider adding a third dock.
   F. Is Esker Hall the right place for Dining?
      • Yes, it's the biggest core for student housing.
   G. By adding student spaces into the project, program revenue dollars contribute to building a new facility.
H. Students could use a "living room" on this side of campus.
I. Dining space looks small in study "C".
J. Study "C" is financially responsible, but doesn't address the long term needs of the campus.
K. Create a hybrid of "B" & "C".
L. Vision for mini union to serve north campus.

M. Spaces to be considered in Esker Study
   • Addition for residential dining.
   • Lounge areas (study & social).
   • Student study rooms/meeting rooms.
   • Social restaurant/grill with programming venue.
   • C - Store.
   • Fitness area (to replace Wells functions).

5. Next Steps
   A. Create a hybrid of B & C
   B. Create vision for mini union to serve north campus
   C. Include:
      • Addition for residential dining
      • Lounge areas (study & social)
      • Student study rooms/meeting rooms
      • Social restaurant/grill with programming venue
      • C - Store
      • Fitness area (to replace Wells functions)
   D. Continue to develop Hamilton Room concept.
Work Completed

• Facility Assessment Walk Through (9-12-2012)
  • UW-W facility staff
  • Henneman Engineering
  • Workshop Architects

• Programming Meetings (9-18-2012)
  • Ricca Newmark
  • Workshop Architects

• Programming Studies (10-9-2012)
Facility Assessment

- Façade/Building Envelope Analysis
- Henneman Walk Through
- Big Picture
Facility Assessment - Façade/Building Envelope Analysis

Exterior wall issues:
- Lower masonry walls recently tuckpointed
- Penthouse masonry need tuckpointing
- Walls have 2” rigid insulation without a cavity
- Most windows are original without insulated glazing

Roof issues:
- Roof membrane system recently replaced - excellent condition
- Most roof top equipment recently replaced, but not all

Interior construction issues:
- Shallow floor-to-floor heights
- Projects since 1980's incorporated barrier-free design
- Many original spaces are not barrier-free
- Kitchen floors patchwork of quarry tile replacements
Facility Assessment - Henneman Walk Through

**Mechanical issues:**

- Steam traps, valves and pumps beginning to fail and difficult to maintain
- Filters are collapsing in one air handling unit - perhaps moisture carryover at the intake louver
- No building pressure control
- Duct systems are believed to be lined – no longer allowed in DFD buildings.
- HVAC systems are primarily constant volume reheat systems – not energy efficient
Facility Assessment - Henneman Walk Through

Plumbing Issues:

• The existing RO system is approximately 2 years old – serves coffee and beverage stations

• The existing soft water system is approximately 2 years old

• Existing grease interceptors are likely too small to comply with current code requirements

• Underground sanitary lines have blockage issues

• Sanitary lines, p-traps in particular, are beginning to fail and need replacement
Fire protection issues:

- No existing sprinkler system
- DFD projects are typically sprinkled
- Code requires sprinkler system in Assembly type occupancies
Facility Assessment - Henneman Walk Through

**Electrical issues:**

- Original main service still in place and should be replaced
- Original generator still in service and should be replaced
- Panel boards, conduit and wires were updated with each successive project
- Still replacing / servicing some original light fixture ballasts
- Fire Alarm system was recently replaced

**IT issues:**

- Equipment and cabling is fairly new.
- There are no dedicated IT rooms
Facility Assessment - Big Picture

General: The building appears to have been well maintained over the years but many of the plumbing and HVAC systems are either at or near the end of their expected useful lives.

Façade/Building Envelope Analysis:
- Replace inefficient windows
- Complete tuckpointing work – could be done anytime
- Roof assembly is excellent
- Shallow floor-to-floor heights

Henneman Walk Through:
- Generally, if part of a project in last 12-15 years elements are acceptable
- Older elements are probably original and should be replaced
- Maintenance issues are adding cost for old systems
- Old systems are not energy efficient
- Install sprinkler system in building

Other:
- Food service equipment in back kitchen areas are original
Programming Meetings

- Foodservice and Facility Staff
- Events and Reservation Staff
  - Continuing education
  - Athletics
  - University Center
- Residential Life
- Stakeholders
  - Students
  - Student Affairs
  - Facility Planning and Maintenance
  - University Center
- Student Customer Group
Programming Insights

• Students desire warm, comfortable, intimate social space.

• There’s a need for both pajama lounge and destination social space on north campus.

• Prairie Street fulfills a retail dining need and social need for north campus. More may be needed.

• Many groups wondered if Esker could serve as a satellite union for north campus.
Programming Insights

• Students don’t use Esker meeting rooms.
  • 2011 – 2012 total meetings in Esker = 400, in UC = 6,200.

• Summer camps drive Esker capacity.

• Large student events have moved to the north campus gymnasium, which is not ideal.

• Is there a possibility of combining large event space and dining in Esker?

• Many desire conferences to take place in the academic core.

• There’s a need for a large event space more than a conference center.
Programming Needs

Foodservice

- Phasing (ability to maintain service) is critical

- Existing Esker Dining Program:
  - Kitchen Support plus Servery = 16,597 sf
  - Dining Seating Areas = 16,667 sf
  - 611 seats

- Proposed Dining Program =
  - Kitchen Support plus Servery = 13,000 sf
  - Dining Seating Areas = 10,000 - 12,000 sf
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Programming Needs

Conference and Events

- Current Hamilton Room capacity = 350 at round tables.
- Desired capacity = seating for 600 at round tables.
- Must be self contained for access and control.
- Fixed stage.
- Proper pre-function space.
- Expanded storage and support spaces.
Study A

- Expanded Hamilton Room in UC.
- Renovate Esker Hall into state-of-the-art dining facility.
- Temporary food service required during renovation.
- Meeting functions remain in Esker.
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Study A

- Expanded Hamilton Room in UC.
- Renovate Esker Hall into state-of-the-art dining facility.
- Temporary food service required during renovation.
- Meeting functions remain in Esker.
Study B

- No work in UC.
- Esker Hall is converted into a meeting and event center.
- Newly constructed dining facility: stand alone or connected to another building.
- Temporary facility not required.
- Results in significant increase of meeting and events space campus-wide.
Study B

- No work in UC.
- Esker Hall is converted into a meeting and event center.
- Newly constructed dining facility: stand alone or connected to another building.
- Temporary facility not required.
- Results in significant increase of meeting and events space campus-wide.
Study C

- No work in UC.
- Residential dining moves to upper level of Esker.
- Major programming venue located in lower level of Esker.
- Underutilized meeting rooms omitted.
- Prairie Street lounge and social functions increase.
- Relocation of dining allows phasing.
Study C

- No work in UC.
- Residential dining moves to upper level of Esker.
- Major programming venue located in lower level of Esker.
- Underutilized meeting rooms omitted.
- Prairie Street lounge and social functions increase.
- Relocation of dining allows phasing.
Next Steps

- Determine preferred direction (today)
- Develop outline program
- Develop Total Project Budget
- Review concept & budget with Committee (2 weeks)
- Make final concept/budget refinements
- Review initial study draft (4 weeks)
- Submit final study
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MEETING NOTES

PROJECT

Esker Dining Hall Feasibility Study

University of Wisconsin – Whitewater
DFD Project 12H1D, WSA Commission 12-168

MEETING HELD

September 25, 2012
University Center

PREPARED BY

Workshop Architects

Dining Facilities and Maintenance Staff

PRESENT

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Purpose

To present a refined concept study for Esker Hall with budgets prepared by CG Schmidt. The goal of the study was to maximize the site with an addition that incorporated comments from the previous meeting. Those comments included an expanded program with lounge/study space and fitness area to replace the one in Wells Hall.

Meeting Notes:

1. Review of 10-9-12 meeting.
   A. Study "A": Expand Hamilton Room and renovate Esker Hall.
   B. Study "B": Build new dining hall and renovate Esker Hall into Conference Center.
   C. Study "C": Renovated Esker Hall to include resident dining and large event space.
   D. Create a hybrid of B & C.
   E. Create vision for mini union to serve north campus.
   F. Include:
      - Addition for residential dining.
      - Lounge areas (study & social).
      - Student study rooms/meeting rooms.
      - Social restaurant/grille with programming venue.
      - C - Store.
      - Fitness area (to replace Wells functions).
   G. Continue to develop Hamilton Room concept.

2. Hamilton Room Expansion.
   A. Key Features and issues:
      - 7000 square foot addition includes ballroom expansion, new pre-function space and toilet rooms.
      - Expanded ballroom to seat 600 people comfortably at rounds, an increase of 200 over current capacity.
      - Relocation of utilities will need to happen along with parking and loading dock reconfiguration. Pedestrian traffic will also be disrupted with the expansion.
      - Would require partial demolition and reconstruction of existing to provide required ceiling height.
      - There is potential to add some meeting rooms by repurposing lower level areas.
      - Total project budget for Hamilton expansion is $8,700,000.
   B. Participant Comments:
      - Conferences and camps have met their limit with using classroom space for conferences.
• When Planet Purple takes place in the U.C., meeting rooms for the rest of the campus become unavailable.

3. Esker Hall redevelopment and expansion.
   A. Key Features:
   • This study turns esker into a student focused building, a mini union.
   • Total building = 97,000 GSF; 71,000 GSF of renovated space and 26,000 GSF addition.
   • Dining seating area is located in the addition on the main level and takes advantage of southern exposure.
   • Programming event space located in the tall volume on the lower level.
   • Recreation space located in the tall volume adjacent to the event space with a movable partition between the two. These two spaces can be combined for larger events such as dances.
   • Fitness area replaces Wells Hall fitness room to include cardio and studio space.
   • Two lounge/study spaces are located on main level one adjacent to a fireplace and the other to coffee.
   • Private study rooms and meeting rooms on main level.
   • Two medium sized meeting rooms located on the main level.
   • Total project budget for Esker Hall redevelopment and expansion is $33,600,000

B. Participant Comments:
   • The Scatter concept shown for food service will not work for summer camps. The food serveries need to be right off kitchen where simple lines can form.
   • It was mentioned that UW Platteville has lounge and event space in their commons near resident halls which is very active at night. They could see north campus residents supporting an event space.
   • Staffing needs to be considered for lounge space and events. Are programs scheduled by the UC staff or could Res Life provide service?
   • Potential for Jitters to move to Esker Hall. Jitters is a student run coffee venue in Wells.
   • Conferences and camps have met their limit with using classroom space for conferences.
   • When Planet Purple takes place in the U.C., meeting rooms for the rest of the campus become unavailable.
   • Some from the campus liked the meeting rooms that can be reserved by students who are not part of an origination. Currently, you have to be a member of a student origination to rent rooms in the U.C.
   • Who will run the fitness and Rec space? The Fitness room in Wells is run by athletics and they do not pay rent.
- Two key items to consider with the budget 1) Eskers bond expires in two years and 2) where does the campus want their price point compared to other UW system campuses?
- Workshop Architects and their consultants need to provide multiple budgets that address bare bones renovation to a more robust renovation along with full replacement.

4. Other Budget considerations.
   A. Replace Esker w/ new UC Student Life Annex.
      - 97,000 GSF New Construction.
      - Total project budget = $40,300,000.
      - 10-15% efficiency to be gained if new construction.
   B. Build new stand-alone Dining Facility only.
      - Includes; Residential Dining, Retail, C-Store, and Support.
      - 45,000 GSF New Construction
      - Total project budget = $18,700,000.

5. Next Steps
   A. The campus desires that the study provide a series of budget scenarios. The information will be used during the campus master planning to evaluate different options. The study will not present a final recommended scenario.
   B. Scope And budgets will be outlined for the following scenarios:
      1. Base project.
         - Renovate as is.
         - Functions such as dining and meeting rooms stay in current locations.
         - New MEP throughout entire building.
         - Finishes only on upper floor.
         - Extensive renovation of food service.
         - include temporary dining hall in budget.
      2. Move Dining to upper level.
         - New MEP throughout entire building.
         - Include small addition to upper level for entry and queuing of students.
         - White box finish out on lower level.
         - Maintain Prairie Street and C-store location.
      3. Move Dining to upper level plus expanded student space. "Union North".
         - New MEP throughout entire building.
         - Include addition to upper level for lounge and study space.
         - Finish out lower level to include event space and expanded Prairie street and C-store.
4. New buildings, stand alone or attached to resident hall. Itemized budget to include.
   - Dining hall only.
   - Prairie street and C-store.
   - Lounge and study spaces.
   - Performance venue.
   - Cardio Fitness.
   - Include line item to white box all of Esker with MEP replacement.
   - Line item to raze Esker.

C. Next Meeting:
   - An initial report draft will be reviewed.
   - Campus requests that the final report be submitted by the end of the semester.

Attached presentation slides dated September 25, 2012.
Esker Dining Hall Feasibility Study

October 25, 2012
PREVIOUS STUDY

**Study A**
Expand Hamilton
Renovate Esker
$$

**Study B**
Esker becomes conf. cntr.
Build new dining hall
$$$  

**Study C**
Esker becomes mini-union
Res. Dining to upper level
$
What we heard

• Create a hybrid of B & C

• Vision for mini union to serve north campus

• Include:
  • Addition for residential dining
  • Lounge areas (study & social)
  • Student study rooms/meeting rooms
  • Social restaurant/grille with programming venue
  • C - Store
  • Fitness area (to replace Wells functions)

• Also, develop Hamilton Center concept
Dining Lounge
Lounge / Study
Club / Grille
Recreation space
**Option:**

**Expand Hamilton Center**
Demolition, Renovation, Addition  
$8.7m

**Esker becomes North Campus Student Life Annex**
Complete Renovation of Existing Esker  
26,000 SF Addition  
Total  
$20.3m  
$13.3m  
$33.6m

**Replace Esker w/ new NC Student Life Annex**
97,000 GSF New Construction 
$40.3m

**Build new stand-alone Dining Facility only**
45,000 GSF New Construction 
(Residential, Retail, C-Store, Support)  
$18.7m
Next Steps

- Make final concept/budget refinements
- Review initial study draft (4 weeks)
- Submit final study