



FACILITIES MASTER PLAN HEARTLAND COMMUNITY COLLEGE NOVEMBER 2020

LINCOLN

NORMAL

PONTIAC

LEGAT ARCHITECTS
DESIGN | PERFORMANCE | SUSTAINABILITY



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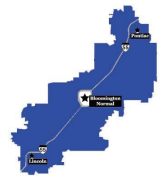


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PREFACE



PREFACE



- 0.6 Leadership at HCC
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Committee and Design Team
- 0.8 Executive Summary

LEADERSHIP AT HEARTLAND

BOARD OF TRUSTEES

Jeff Flessner - Chair
Janet M. Hood - Vice Chair
Becky Ropp - Secretary
Mary Campbell
Pat Hardesty
Thomas Whitt
Nicole Van Dyke - 2019-20 Student Trustee
Katie Boland - 2020-21 Student Trustee

This plan is dedicated to Gregg Chadwick, who passed away only months before its completion. Gregg served as Chair of the Heartland Community College Board of Trustees from 2009 to 2020. Without his tireless commitment and love for our College, neither this plan nor the future it represents would have been possible.

ADMINISTRATION

Keith Cornille, President
Rick Pearce, Provost and Vice President, Academic Affairs
Sarah Diel-Hunt, Vice President, Enrollment and Student Services
Letisha Trepac, Vice President, Finance and Administration
Kelli Tillery Hill, Vice President, External Relations



FACILITIES MASTER PLAN STEERING COMMITTEE AND DESIGN TEAM



The Facilities Master Plan Steering Committee comprised College faculty, staff, student representatives and individuals from Legat Architects. The committee's role included providing input, communicating to peers about the progress and topics of the Facilities Master Plan, encouraging discussion about facility and campus issues and recommending the Facilities Master Plan Objectives to the College's administration and Board of Trustees.

FACILITIES MASTER PLAN STEERING COMMITTEE MEMBERS

Wayne Bass - Co-Chair
Nancy Cox
JD Davis
Lauren Denofrio
Kori Folkerts
Anakin Fox - Student
Carol Hahn
Jim Hubbard - Co-Chair
Jennie Kearney
Matthew Lathrop
Laura Mai
Chris Miller
Doug Minter
Lauren Sheley
Stephanie Turner
Nicole Van Dyke - Student
Jon Willoughby

LEGAT ARCHITECTS

Michael Lundeen
Principal, Associate Director of Higher Education

Jeffrey Sronkoski
Principal, Director of Higher Education

Jason Kubichan
Project Architect

Steve Blye
Senior Designer, Creative Director

EXECUTIVE SUMMARY

The 2020 Facilities Master Plan documents a comprehensive three-part process that evaluated and prioritized campus needs and facility improvements while carefully considering Heartland Community College's Strategic Plan. The priorities of the Facilities Master Plan were determined from campus community input and from the community needs identified by a Community Scan. The plan reflects academic programs that are overutilized in terms of space and identifies growth opportunities that support community needs. Internal and external data sources indicate that Heartland is currently positioned to expand its vocational programs and offerings, particularly in the areas of Agriculture, Health Sciences, and Career Technical Education (CTE). It should be noted that expansion of these vocational areas need not come at the expense of the College's healthy transfer programs, which currently account for approximately 70 percent of student enrollment. On the contrary, these new and expanded vocational areas can help support and grow Heartland's transfer programs.

The Facilities Master Plan includes recommended short- and long-term facility improvements, as well as academic program needs and opportunities for growth. Proposed solutions support the Strategic Plan, President's Priorities, Board of Trustees' input, Community Scan and Objectives developed in Part 1. The College had two previous Master Plans (1997 and 2007) that were reviewed during the process.

The College's Cabinet, Board of Trustees, President, and Facilities Master Plan Steering Committee (FMPSC) provided guidance through the phases of the planning process. This included a confirmation of the Objectives, staff/faculty pre-programming meetings, creation of concepts, development of three preferred concepts, "test fits" of programs at existing buildings and development of the 20-year Facilities Master Plan.

FACILITIES MASTER PLAN PROCESS - PART 1

Legat Architects conducted a series of 77 interviews with the Board of Trustees, students, staff, faculty, administrators and area career center staff in November 2019 to begin the "Part 1" process. These interviews were held with stakeholders from every level of the College community and reflected the concerns of individual segments of the broader Heartland community. Over 200 facilities requests were garnered from these interviews. The FMPSC then used a rubric to score each of the 200+ requests based on numerous criteria (including the College's Strategic Plan goals) that developed the following Heartland Facilities Master Plan Objectives:

FACILITIES MASTER PLAN OBJECTIVES: Career and Technical Cluster

Academic Support Cluster

- Classroom Improvements
- Library Improvements

STEM Cluster

- Health Sciences
- Science
- Agriculture Complex

- Career and Technical Education

Student Success Services Cluster Enrollment and Student Services

- Fitness and Recreation
- Student Life Improvements
- Centralize Student Services and One-Stop Enrollment Center - Credit and Non-Credit

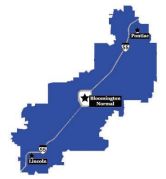
Community Engagement Cluster

- Child Development Lab
- Challenger Learning Center
- Event Space Improvements
- Performing Arts

Strategic Institutional Enhancements Cluster

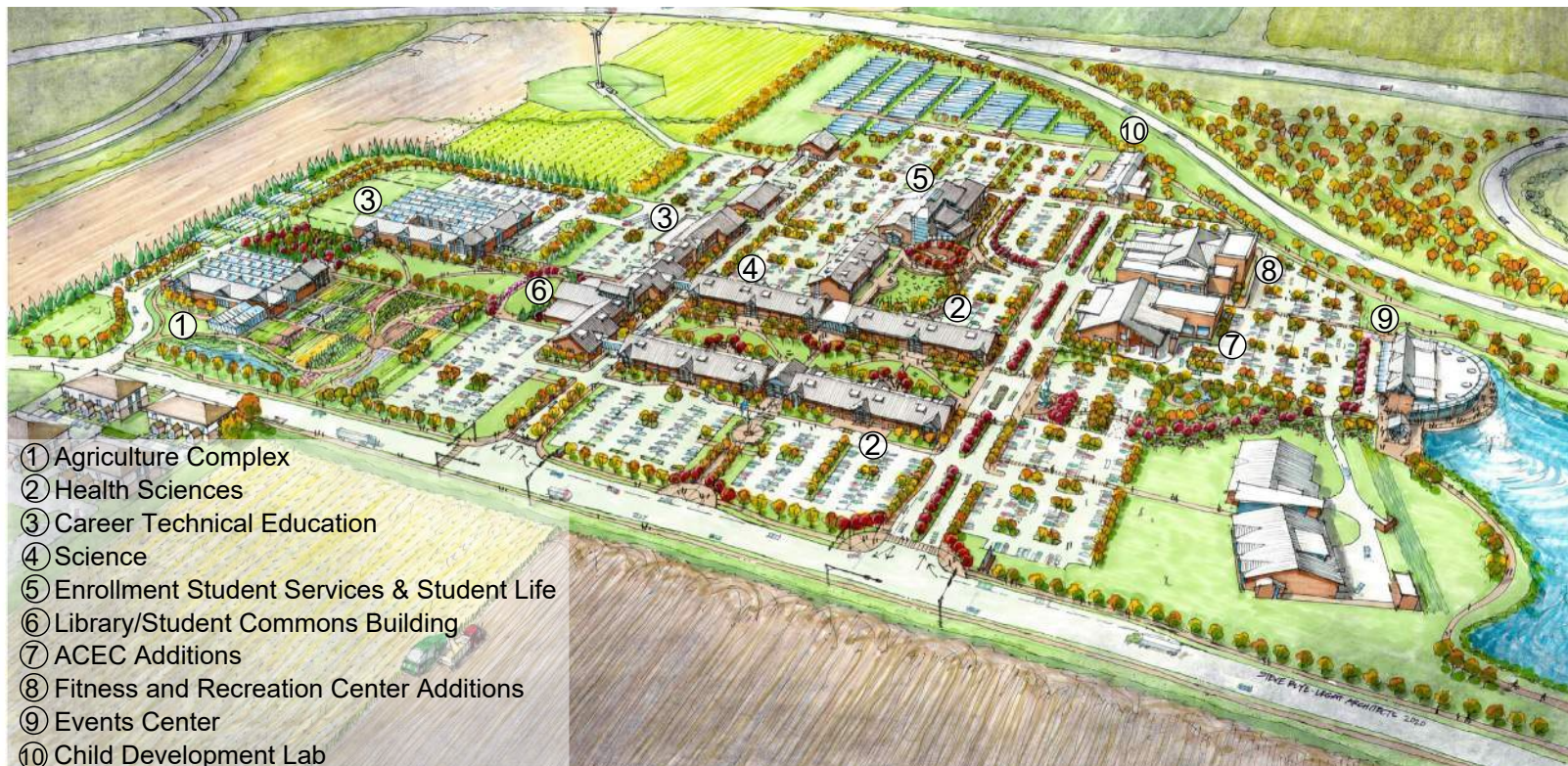
- Building Maintenance and Interior Improvements
- Information Technology
- Landscape and Outdoor Improvements
- Public Safety
- Signage and Wayfinding
- Sustainability, Energy and Power (Infrastructure)

FACILITIES MASTER PLAN PROCESS - PART 2



Following the completion of Part 1, the design team conducted a series of 13 pre-programming workshops with faculty and administration to understand the requested program area requirements identified in each of the Part 1 Objectives. These requests were then compared with industry benchmarks for similar spaces and developed for planning purposes. The meeting groups included Enrollment and Student Services, Career Technical Education, Agriculture Complex, Student Life, Science, Health Sciences, Performing Arts, Event Spaces, Fitness and Recreation, Classroom Improvements, Library Improvements, Information Technology and Public Safety.

The design team then developed nine campus options for the Normal Campus. Each option meant to address all Objectives by siting new buildings, building additions or renovations on the main campus. Legat Architects worked with the college leadership to refine the nine initial options down to three preferred options that best aligned the College's vision and mission with the Objectives. A key factor in determining the Facilities Master Plan was combining the Enrollment and Student Services and Student Life spaces into one location, which will be more central within the Normal campus and create a "front door" for the campus. All three options were based on "anchor elements" later identified as the highest priorities of the Facilities Master Plan. These anchor elements included Agriculture, Health Sciences, Career Technical Education, Science, Enrollment and Student Services, and Student Life.



- ① Agriculture Complex
- ② Health Sciences
- ③ Career Technical Education
- ④ Science
- ⑤ Enrollment Student Services & Student Life
- ⑥ Library/Student Commons Building
- ⑦ ACEC Additions
- ⑧ Fitness and Recreation Center Additions
- ⑨ Events Center
- ⑩ Child Development Lab

20-Year Facilities Master Plan

EXECUTIVE SUMMARY

OPTION DEVELOPMENT - PART 2

Careful study and evaluation of the three options led to the creation of a “Student and Community zone,” which included locating the Enrollment and Student Services and Student Life spaces near the Fitness Recreation Center (FRC), Child Development Lab (CDL) and Astroth Community Education Center (ACEC). This led to the College’s decision to locate Enrollment and Student Services and Student Life within the existing Workforce Development Center (WDC). Relocating Enrollment and Student Services and Student Life areas into the WDC will create a student activity-centric building and a new student quad south of the WDC.

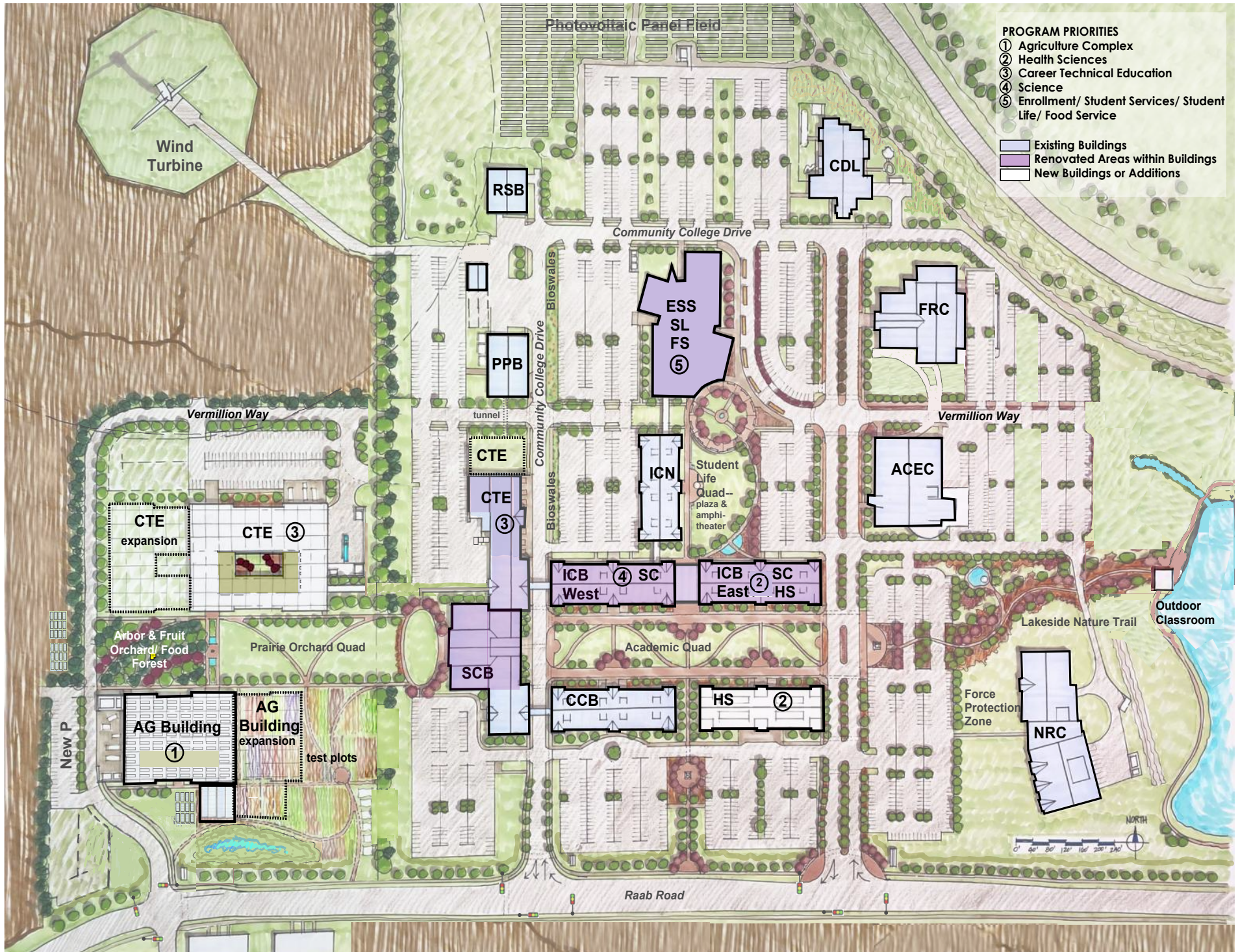
The decision to move Enrollment and Student Services and Student Life into the WDC led to the College’s decision to have Career Technical Education vacate the WDC to new facilities that are better able to support the programs. Therefore, this design option includes two new buildings on the existing farmland west of the main campus: a new Career Technical Education building and an Agriculture Complex. The space between these two new buildings will create a new quad that stretches west and connects them to the main campus while integrating agriculture and CTE programs.

Another future building is located at the east end of the existing academic quad to house new and existing programs, particularly Heartland’s growing Health Sciences program. This location encloses and completes the academic quad as it was originally conceived in the 1997 master plan. Existing health science labs are indicated to be renovated to meet current program needs. If significant renovation to existing space occurs, the focus of the proposed new Health Sciences Building may change to house and support other programs as well as health sciences.

This design option satisfies the Science Objective with renovations to existing space. Science labs will be renovated and added at vacated or underutilized spaces within the Instructional Commons Building (ICB).

The 20-year Facilities Master Plan also locates additions or new construction to support the following Objectives: Performing Arts, Event Space Improvements, Child Development Lab and Fitness and Recreation. Similarly, improvements to the Lincoln and Pontiac campuses are identified in the Facilities Master Plan and should be implemented parallel to the priority projects.

This Facilities Master Plan intends to be a planning guideline for the College to support its priorities, plans and goals. Priority Objectives are intended to be seen as short-term goals and additional Objectives should be thought of as longer-term goals.



Priority Projects Plan

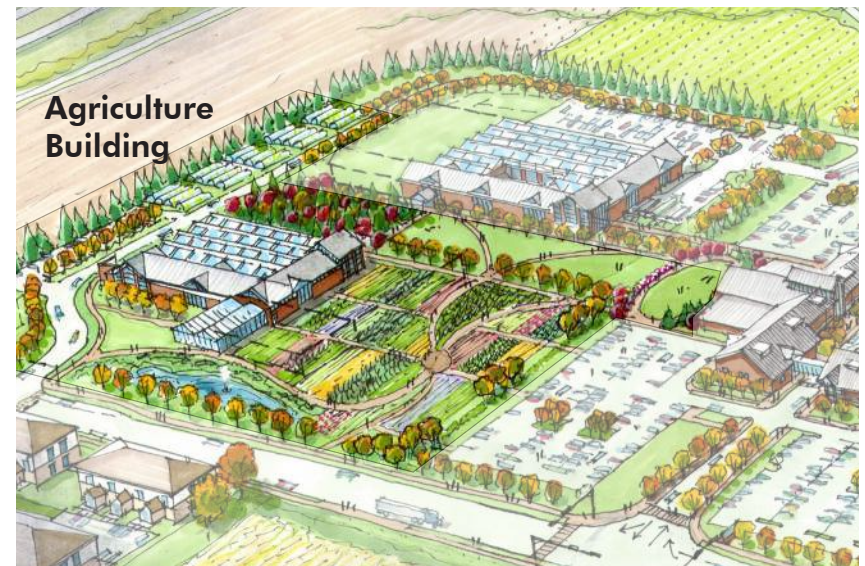
EXECUTIVE SUMMARY

The Facilities Master Plan organizes the overall campus by locating all potential program space and site improvements identified as Objectives. Recognizing the College's future goals or priorities may change, the plan provides an outline for possible future decisions. The plan also identifies five priority areas that align with the Strategic Plan and campus needs. These priority items include an Agriculture Complex, Health Sciences, Career Technical Education, Sciences and Enrollment and Student Services. In addition to these priorities, the College recognizes the need for other campus improvements in the following areas: classrooms, library, fitness and recreation, Child Development Lab, Challenger Learning Center, event space, performing arts, building maintenance, information technology, landscape and outdoor spaces, public safety, signage/wayfinding and sustainability infrastructure. Some of these projects are intended to be completed in parallel as ongoing maintenance projects or as campus priorities evolve.

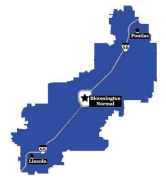
The Heartland Community College Board of Trustees identified the following Objectives as the highest priorities of the Facilities Master Plan.

FACILITIES MASTER PLAN PRIORITIES

The **Agriculture Complex** is located just west of the campus and south of the proposed CTE building to balance being close to the main campus facilities while still providing access to the fields. The programs planned for the Agriculture Complex will support the needs of the community by offering classes for Soils Management, Plant Science, Precision Agriculture, Mechanics, Horticulture and Agricultural Test Farming. The location adjacent to the CTE building enables course offerings that create synergies between the two programs and offer flexibility in the use of lab space for both CTE and agriculture. The building is planned to be approximately 48,384 GSF and includes lab space, classrooms, greenhouses, offices and support space. Its location adjacent to the farm fields allows for equipment to be brought directly into the building. Adjacent test plots, hoop houses and farm fields will allow students full access to all aspects of agriculture.



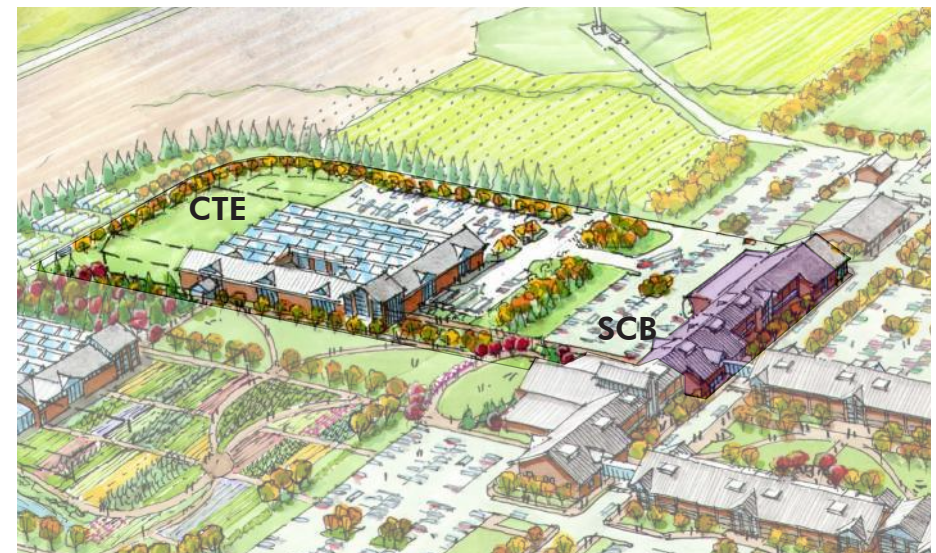
Agriculture Complex



Health Sciences

Health Sciences is a priority program to be expanded for Heartland. It provides the opportunity for growth and new course offerings. The Community Scan and current events emphasize the need for health care workers. The Facilities Master Plan identifies a new 61,000 GSF Health Sciences Building located on the academic quad. Another, more immediate approach to expand health sciences would be to improve existing labs and renovate adjacent classrooms and computer labs so that new programs can be offered. Space planned for health sciences includes simulation labs, additional radiography lab, EMT, massage therapy, dental hygiene, pharmacy and veterinary technician.

Career Technical Education expansion and improvements allow the College to offer additional and new courses to meet community and workforce needs in areas such as welding, electric vehicle repair, battery technology, industrial robotics, industrial network wiring and advanced manufacturing. Construction of a new building will provide proper facilities for existing programs. CTE is planned in a two-phase approach to minimize new construction costs and maximize currently underutilized spaces. Initially, the Facilities Master Plan identifies using existing unused kitchen and dining room space within the Student Commons Building (SCB). This work may also include an addition at the north end of the SCB. The Facilities Master Plan identifies a new CTE building west of the SCB and north of the Agriculture Complex. This building would be built in phases from 40,000 GSF up to 110,000 GSF. Flexibility will allow the building space to respond to changes in technology and the needs of the community. The plan includes extending Vermillion Way around the new CTE building to the new Agriculture Complex.



Career Technical Education

EXECUTIVE SUMMARY



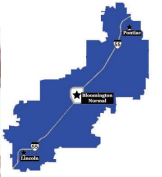
Sciences

Heartland provides science programs at the west end of the Instructional Commons Building (ICB). The information gathering phase of plan development identified that **Science** labs are overutilized, out of date, and unable to meet the demands of the science programs. The need for additional Science labs and remodeling resulted in this area being a priority Objective. The Facilities Master Plan recommends moving organic chemistry closer to ICB west, remodeling existing science labs and providing additional anatomy and biology labs on the first and second floors of ICB.

The Facilities Master Plan recommends **Enrollment and Student Services and Student Life** (ESS) be relocated to the existing Workforce Development Center (WDC) as a “one-stop shop.” Relocating the ESS functions for a new or enrolling student in the WDC will create a front door and entrance to the College campus. The WDC sits deep within the campus footprint, drawing an individual into the campus to explore the College. The interviews with staff and students identified a desire for Student Life to be adjacent to Enrollment and the Fitness and Recreation Center. The renovation would include locating food service and the bookstore within the WDC.



Enrollment and Student Services and Student Life



The Facilities Master Plan Objectives identify other various improvements to the Heartland campus. Although not listed as priorities, these Objectives are also important to incorporate into every project and implement in parallel. Chapter 4 provides detail on all Objectives including improvements to the library, classrooms, events and fine arts spaces, public safety, information technology, fitness and recreation, Child Development Lab, infrastructure/maintenance, landscape/outdoor and signage/wayfinding.

Additionally, Heartland's Lincoln and Pontiac campuses need to have strategies in place to minimally improve classrooms as well as student study and support spaces. Renovations to these satellite campuses should occur in response to the educational and economic needs of their respective local communities. Finally, as with the Normal campus, signage/wayfinding and interior improvements could help to heighten and emphasize the branding of the College.

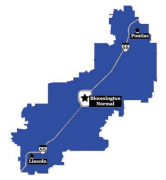
Chapter 5 focuses on design guidelines for all projects and is broken into five subchapters: Design Summary, Landscape, Building and Interior Design and Sustainable Strategies. Heartland has made great strides toward sustainability with the wind turbine. Strategies and projects such as energy reductions, geothermal heating/cooling and photovoltaic arrays are important to achieve the state's goals for carbon neutrality. These guidelines are starting points for design and planning projects to ensure integration with the existing campus. These can also provide benchmarks for identified improvements to the campus.



1

OVERVIEW OF PART 1





CHAPTER 1: OVERVIEW OF PART 1



- 1.18 Planning Process and
Diagrams
- 1.20 Strategic Plan and
Community Scan
- 1.22 Existing Conditions

PLANNING PROCESS AND DIAGRAMS

PROCESS OVERVIEW

The Heartland Community College Facilities Master Plan was developed in three phases.

PART 1: INVENTORY AND ASSESSMENT

Part 1 provided an overview of the College and included existing site analyses, building analyses, space utilization studies and an environmental scan. Part 1 also included extensive interviews with user groups campuswide and a prioritization process to arrive at the recommended Objectives used in Part 2.

PART 2: CONCEPT DEVELOPMENT AND PRIORITIZATION

Part 2 focused on developing options and solutions for the Objectives established in Part 1. Part 2 options included renovations, relocation, new construction, infrastructure repairs and means of addressing sustainability needs.

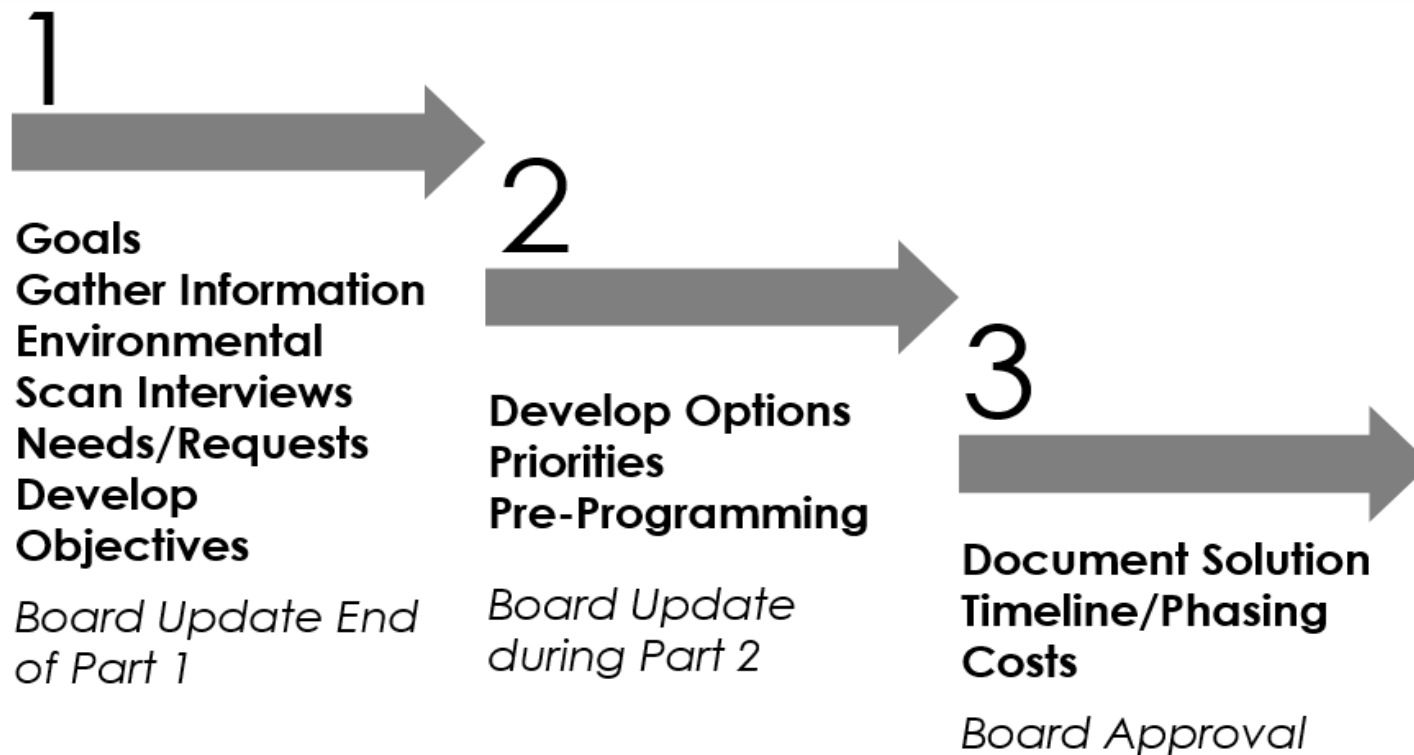
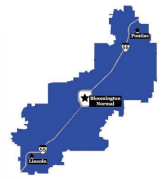
PART 3: FACILITIES MASTER PLAN DEVELOPMENT

Part 3 included fully documenting the findings from Part 1 and Part 2, prioritizing the projects and developing financial costing for the implementation of the campus improvements.

To ensure the success of this Facilities Master Plan process, Heartland community College created a Facilities Master Plan Steering Committee (FMPSC) to represent Heartland's diverse programs and communities across its multiple campuses. The FMPSC evaluated input from stakeholders and provided recommendations to College leadership.

During March 2020, a report called *Part 1: Inventory and Assessment* was completed for the College's Normal, Pontiac and Lincoln campuses. The intent of the Part 1 report was to document the College's existing facilities and to create a clear set of Objectives. The Part 1 report provided the basis for solutions developed in the Part 2 phase of the Facilities Master Plan process.





During Part 1, Heartland gathered information regarding goals and existing conditions, and then sought external inputs for economic and demographic information on District #540, the College's service district. From this information was born the Community Scan, an assessment of Heartland's environment and instructional opportunities. Thus, the Facilities Master Plan is entirely oriented around how Heartland can better serve the needs of its service district.

With guidance from the FMPSC, Legat Architects led a series of 77 interviews with the Board of Trustees, students, staff, faculty, administrators and other stakeholders during Part 1 of the Facilities Master Plan process in November of 2019. The interviews generated more than 200 top-five requests, which were evaluated by the FMPSC and later became Objectives.

Following the completion of Part 1, the design team conducted a series of 13 pre-programming workshops with faculty and administration to better understand the requested program area requirements for the Objectives. These workshops drove the development of nine master plan options based on the requested programs' spaces, new academic programs and square footage requirements. Legat Architects worked with College leadership to refine the nine options down to the three that best aligned the College's vision and mission with the Objectives. Ultimately, the College chose one option for the design team to further develop. The process leading to this option is further detailed and explained in Chapters 3 and 4.

STRATEGIC PLAN

The Heartland Community College 2017 Strategic Plan documents the vision, mission and value statements of the College. The FMPSC adopted the Strategic Plan as the goals and guiding principles for the Facilities Master Plan process.

STRATEGIC PLAN PRIORITIES AND GOALS:

PROMOTE STUDENT SUCCESS

- Increase percentage of students progressing toward and completing their educational and career goals
- Improve student satisfaction
- Increase student achievement of the College's Essential Competencies

ENSURE RESOURCE STEWARDSHIP

- Improve employee satisfaction
- Maintain or increase the College's financial health
- Maintain or increase value of the College's physical assets

SERVE AS A COMMUNITY RESOURCE

- Meet emerging workforce needs through education and training programs
- Fulfill unmet community demand for personal enrichment and professional learning

MODEL EFFECTIVE COMMUNICATION, COLLABORATION AND TRANSPARENCY

- Intentionally obtain and incorporate employee input
- Improve internal dissemination of information
- Share resources, responsibilities and results to achieve Collegewide goals

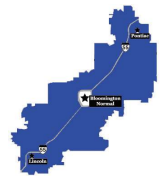
PRESIDENT'S PRIORITIES:

In addition to the Strategic Plan, the President's Priorities were adopted by the FMPSC as a guiding principle for evaluating requests and needs. These include the following:

- Increase access for all in our district
- Enrollment growth or opportunity
- Enhance our academic offerings/portfolio
- Respond to workforce needs
- Further student completion and success
- Foster a culture of inclusion and diversity
- Ensure asset (financial and physical) sustainability



HEARTLAND COMMUNITY SCAN



HEARTLAND COMMUNITY SCAN

The purpose of Heartland Community College's Community Scan Report is to provide an overview of the external/environmental conditions that may impact the future of HCC over the next decade and beyond, particularly in the area of facilities. The Community Scan Report was researched and drafted along with the creation of the Facilities Master Plan to provide a distillation and analysis of key data points in demographics, economics, education and workforce trends at the national, state and district levels. The primary source of the data is an Environmental Scan completed for Heartland by Northern Illinois University.

This data was essential in determining the goals and priorities of the Facilities Master Plan. There are several economic and demographic factors suggesting that Heartland, unlike many of its peer institutions, is positioned to expand its catalog of programs and offerings. Data indicate a current and growing need within the Heartland service district in three broad vocational areas: Agriculture, Technology and Health Sciences. Heartland's service area is primarily rural in nature and bears a rich history of agricultural production and economics. Other factors that are impacting growth in these areas include the aging out of existing workers in the technology sector and the recent migration of manufacturing companies like Brandt and Rivian into the region.

Sources of data for the Community Scan Report include but are not limited to the following:

- The Heartland Community College 2019 Environmental Scan completed by the Center for Governmental Studies at Northern Illinois University (December 2019)
- EMSI – Economic Overview and Program Demand Gap Analysis (November 2019)
- EMSI Q3 2018 Data Set (US Census Bureau)
- Heartland Institutional Research High School Profile Report (2019)
- Data collected by HCC programs and service areas



HEARTLAND
COMMUNITY COLLEGE

FACILITIES MASTER PLAN
COMMUNITY SCAN REPORT
March 2020

EXISTING CONDITIONS

LOCATIONS AND FACILITIES

Heartland Community College District 540 is centrally located in Illinois and has three campuses serving Livingston, Logan, McLean, Tazewell and DeWitt counties. The Normal location is the main campus and hub, which includes education, administration, management and facilities control. Heartland Community College also offers select classes at campuses in Lincoln and Pontiac.

NORMAL CAMPUS

1500 West Raab Road
Normal, IL 61761
258 Acres

PONTIAC CAMPUS

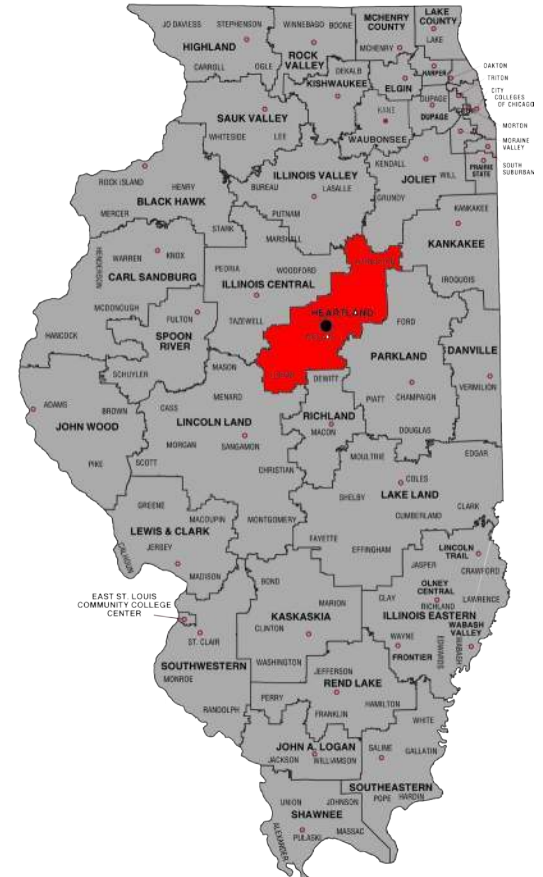
211 East Madison Street
Pontiac, IL 61764
Leased Facility

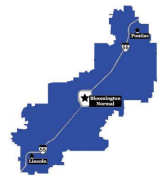
LINCOLN CAMPUS

2201 Woodlawn Road, #200
Lincoln, IL 62656
Leased Facility

HCC ONLINE

www.heartland.edu





HISTORICAL HEARTLAND COMMUNITY COLLEGE MASTER PLANS

1997 MASTER PLAN

The original Master Plan included recommendations for the development of Heartland's initial set of buildings as well as guidelines for future growth. The plan focused on land use, open space, landscape framework, building massing and siting, vehicular and pedestrian circulation and programmatic needs. The plan provided a road map for the campus in the first five to ten years with the overall goal of ensuring that short-term decisions reflected and contributed to a clear, long-term vision for the campus.

2007 MASTER PLAN

The original Master Plan was updated in 2007. The new Master Plan focused on the growth of traditional student enrollment and long-term enrollment potential. It also addressed increasing tuition and admission requirements at universities as well as the evolving expectations of community colleges and how HCC could better support the community. Proposed buildings that were built included: Child Development Lab, Multi-Purpose Auditorium and Business Conference Center, Fitness and Recreation Center, Receiving Building, Instructional Commons North Building and Student Center, as well as various site improvements.



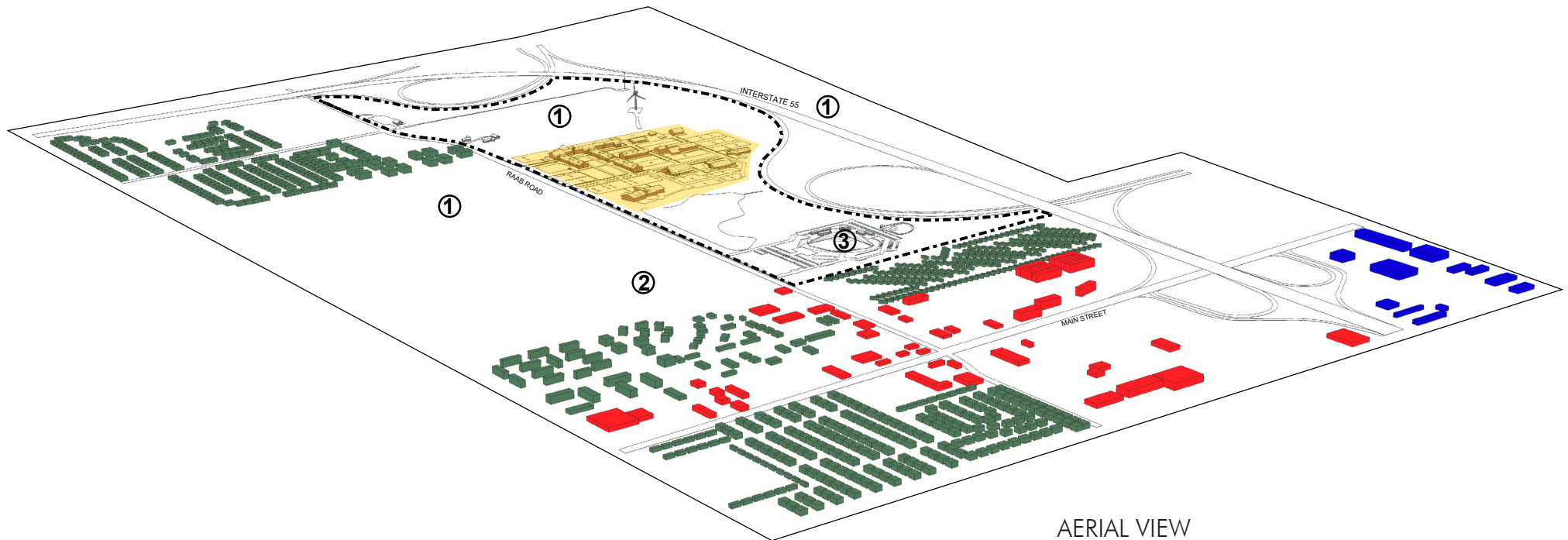
Academic Quad with Student Commons Building
In Background



Student Commons Building

EXISTING CONDITIONS

NEIGHBORHOOD CONTEXT



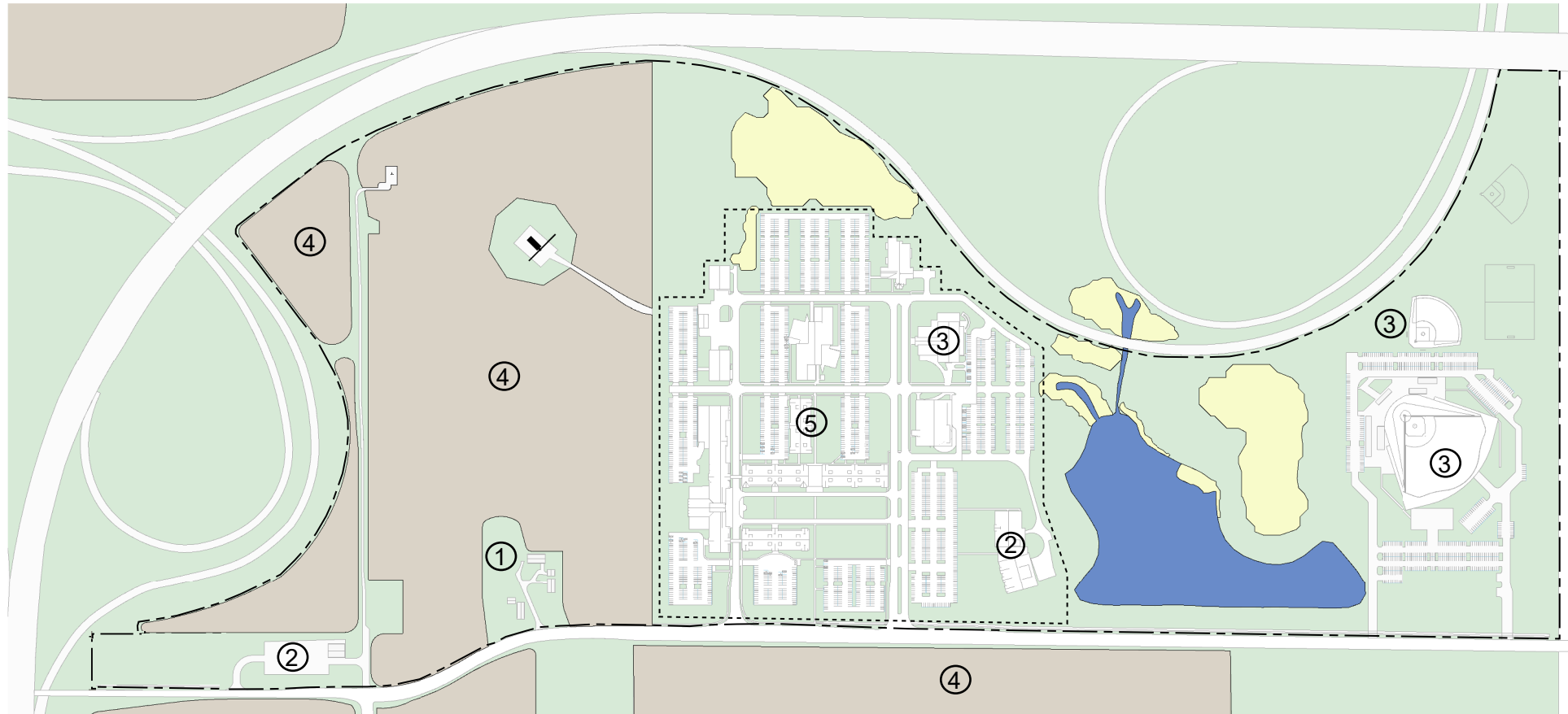
CONTEXT KEY

 RESIDENTIAL	 ROAD/INTERSTATE	① FARMLAND
 COMMERCIAL	 MAIN CAMPUS	② GOLF COURSE
 INDUSTRIAL	 PROPERTY LINE	③ SPORTS FACILITIES





CAMPUS USAGE LEGEND



ACRE QUANTITY

FARMLAND	95 ACRES
LANDSCAPE/POND/RETENTION	38.6 ACRES
PARKING LOTS/ROADS/OTHER	23.6 ACRES
BUILDINGS/CAMPUS/GROUNDS	38.3 ACRES
OTHER/UNASSIGNED	63 ACRES

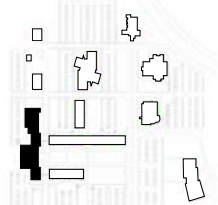
TOTAL SITE 258 ACRES

KEY

① HOMESTEAD	④ FARMLAND	■ BODY OF WATER
② NATIONAL GUARD	⑤ MAIN CAMPUS	■ GRASS/GREEN SPACE
③ SPORTS FACILITIES	--- PROPERTY LINE	■ PRAIRIE/WETLAND

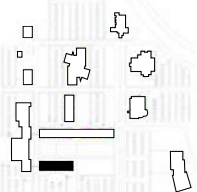
EXISTING CONDITIONS

CAMPUS BUILDING INFORMATION



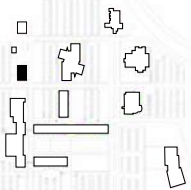
Constructed in 2000
Total Building Square
Footage = 104,835 (SF)

**Student Commons Building
(SCB)**



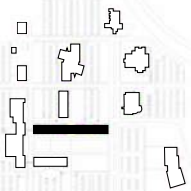
Constructed in 2000
Total Building Square
Footage = 49,161 (SF)

**Community Commons Building
(CCB)**



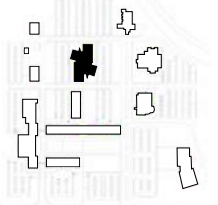
Constructed in 2000
Total Building Square
Footage = 14,436 (SF)

**Physical Plant Building
(PPB)**



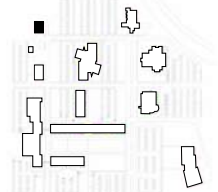
Constructed in 2000
Total Building Square
Footage = 98,295 (SF)

**Instructional Commons Building
(ICB)**



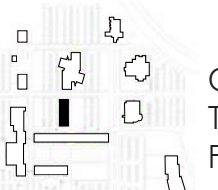
Constructed in 2007
Total Building Square
Footage = 101,425 (SF)

**Workforce Development Center
(WDC)**



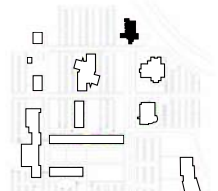
Constructed in 2008
Total Building Square
Footage = 7,556 (SF)

**Receiving and Storage Building
(RSB)**



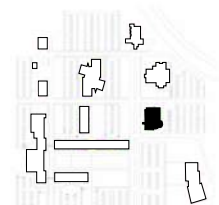
Constructed in 2009
Total Building Square
Footage = 44,350 (SF)

**Instructional Commons North
(ICN)**



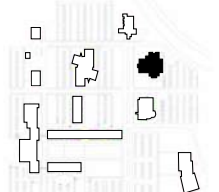
Constructed in 2009
Total Building Square
Footage = 20,100 (SF)

**Child Development Lab
(CDL)**



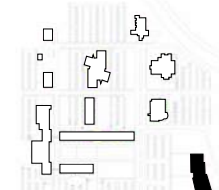
Constructed in 2010
Total Building Square
Footage = 40,751 (SF)

**Astroth Community Education Center
(ACEC)**



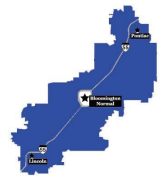
Constructed in 2010
Total Building Square
Footage = 46,784 (SF)

**Fitness Recreation Center
(FRC)**

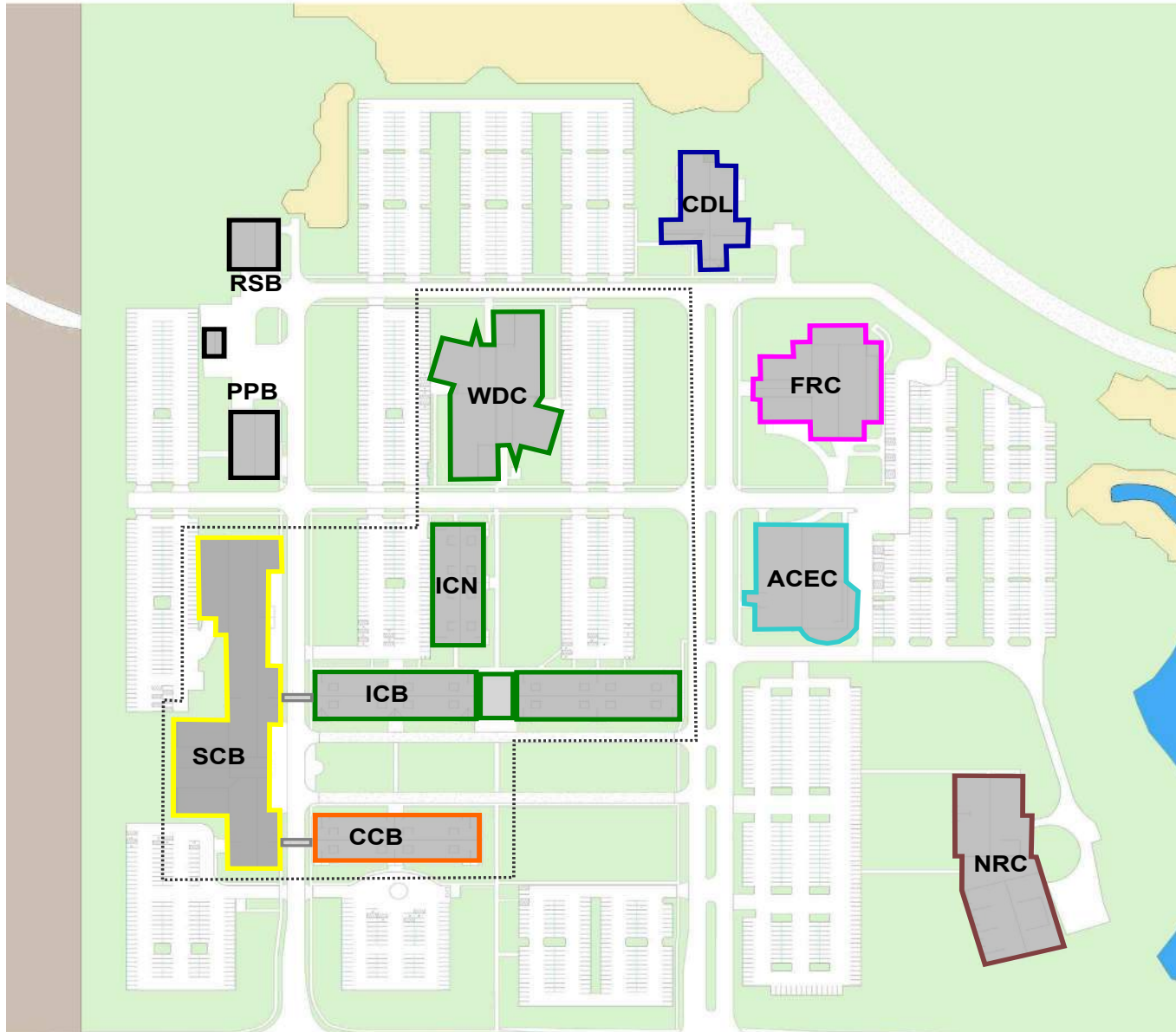


Constructed in 2014
Total Building Square
Footage = 56,326 (SF)
10,780 (Usable)

**Normal Readiness Center
(NRC)**
Owned by Illinois National Guard



BUILDING LOCATOR MAP



BUILDING KEY

- ACEC** - Astroth Community Education Center
- CCB** - Community Commons Building
- CDL** - Child Development Lab
- FRC** - Fitness and Recreation Center
- ICB** - Instructional Commons Building
- ICN** - Instructional Commons North
- NRC** - Normal Readiness Center
- PPB** - Physical Plant Building
- RSB** - Receiving and Storage Building
- SCB** - Student Commons Building
- WDC** - Workforce Development Center
-  - Academic Zone

SPACE UTILIZATION STUDY

INTRODUCTION

The space utilization analysis studies the operational capacity and space required to support the current programs at typical classrooms, computer labs, specialty labs and multipurpose spaces at the Normal campus. The 2018-2019 academic year data, provided by the College's scheduling department, served as the baseline for utilization. Campus building utilization was studied for Monday - Thursday, Friday and Saturday. For each day of the week, the utilization was further analyzed by time of day: 8:00 am - 1:00 pm, 1:00 pm - 5:00 pm, and 5:00 pm - 10:00 pm.

Based on industry standards, a college benchmark for average classroom utilization is 65% during peak times (Monday - Thursday mornings and afternoons). A secondary benchmark for classrooms is 40 hours of total actual time of use during a 7-day week/24-hour day. The benchmark for average lab utilization is 50% during peak times, Monday - Thursday or 30 hours of total actual use during a 7-day week/24-hour day.

FINDINGS

The compiled data provide a baseline snapshot of the academic use of the campus. Utilization data become useful as the College evaluates its instructional space needs. As the numbers below indicate, Heartland is below the benchmark, but that does not paint the full picture. The utilization study indicates there is capacity for Heartland to offer more programs using existing classrooms and most lab spaces. Certain labs, such as Nursing, Biology and Anatomy & Physiology, are overutilized and likely require additional lab space. A summary of each space type and supporting utilization charts follow.

CLASSROOM UTILIZATION

Peak Utilization: Monday - Thursday (Mornings/Afternoons) = **41.6%**

Total Hours of Utilization: Monday - Saturday (Mornings/Afternoons/Evenings) = **20.82 Hours**

SPECIALTY LABS UTILIZATION

Peak Utilization: Monday - Thursday (Mornings/Afternoons) = **32.1%**

Total Hours of Utilization: Monday - Saturday (Mornings/Afternoons/Evenings) = **16.27 Hours**

COMPUTER LABS UTILIZATION

Peak Utilization: Monday - Thursday (Mornings/Afternoons) = **47%**

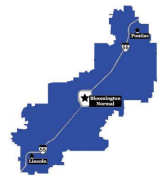
Total Hours of Utilization: Monday - Saturday (Mornings/Afternoons/Evenings) = **24.94 Hours**

CONFERENCE & MULTIPURPOSE UTILIZATION

Peak Utilization: Monday - Thursday (Mornings/Afternoons) = **5.9%**

Total Hours of Utilization - Monday - Saturday (Mornings/Afternoons/Evenings) = **.75 Hrs**





Heartland Community College - Master Plan

HCC Campus Utilization Summary - Computer Labs

Classrooms		Room Utilization M-Th					Fr	Sa	Total Hours					
Building	Seats	Rooms	8a-1p	1p-5p	5p-10p	Peak	8a-5p	8a-5p	8a-1p	1p-5p	5p-10p	8a-5p	8a-5p	Total Hrs
FRC	30	1	74.2%	100.0%	63.3%	87.1%	50.50%	34.79%	14.83	16.00	12.67	4.50	3.09	51.09
ICB	230	9	78.8%	45.3%	47.7%	62.0%	16.34%	0.00%	15.77	7.24	9.54	0.74	0.00	33.29
ICN	278	9	57.0%	25.8%	28.2%	41.4%	3.00%	0.00%	11.40	4.13	5.64	0.15	0.00	21.32
NRC	36	2	0.0%	0.0%	0.0%	0.0%	0.00%	45.31%	0.00	0.00	0.00	0.00	9.00	9.00
WDC	451	15	53.6%	36.3%	26.5%	44.9%	12.11%	1.06%	10.72	5.80	5.29	0.57	0.11	22.49
Main Campus	1025	36	58.3%	35.6%	31.8%	47.0%	11.3%	3.9%	11.67	5.70	6.35	0.59	0.63	24.94
Lincoln	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pontiac	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Campuses	1025	36	58.3%	35.6%	31.8%	47.0%	11.3%	3.9%	11.67	5.70	6.35	0.59	0.63	24.94

	M-Th AM	M-Th PM	M-Th Evening	Peak AM/PM
Main Campus	58.3%	35.6%	31.8%	47.0%
Lincoln	-	-	-	-
Pontiac	-	-	-	-
All Campuses	58.3%	35.6%	31.8%	47.0%

Average Peak Computer Lab Utilization: Monday - Thursday (Mornings/Afternoons) = 47%

Total Average Hours of Computer Lab Utilization: Monday - Saturday (Mornings/Afternoons/Evenings) = 24.94 Hours

SPACE UTILIZATION STUDY

Heartland Community College - Master Plan

HCC Campus Utilization Summary - Classrooms

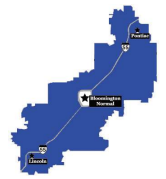
Classrooms		Room Utilization M-Th					Fr	Sa	Total Hours					
Building	Seats	Rooms	8a-1p	1p-5p	5p-10p	Peak	8a-5p	8a-5p	8a-1p	1p-5p	5p-10p	8a-5p	8a-5p	Total Hrs
FRC	60	2	49.6%	5.7%	7.5%	27.7%	10.83%	0.00%	9.92	0.92	1.50	2.17	0.00	14.50
ICB	678	21	57.2%	26.7%	20.3%	42.0%	0.00%	0.00%	11.43	4.28	4.06	0.00	0.00	19.77
ICN	196	6	66.7%	45.3%	15.1%	56.0%	0.00%	3.13%	13.35	7.25	18.08	0.00	0.00	38.68
NRC	160	4	22.5%	11.5%	10.0%	17.0%	0.00%	50.00%	4.50	1.83	2.00	0.00	4.50	12.83
WDC	288	9	34.3%	55.7%	28.9%	45.0%	0.00%	15.04%	0.34	8.92	5.79	0.00	1.28	16.33
Main Campus	1382	42	50.0%	33.1%	19.8%	41.6%	0.5%	8.4%	8.60	5.30	6.11	0.10	0.70	20.82
Lincoln	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pontiac	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Campuses	1382	44	50.0%	33.1%	19.8%	41.6%	0.5%	8.4%	8.60	5.30	6.11	0.10	0.70	20.82

	M-Th AM	M-Th PM	M-Th Evening	Peak AM/PM
Main Campus	50.0%	33.1%	19.8%	41.6%
Lincoln				
Pontiac				
All Campuses	50.0%	33.1%	19.8%	41.6%

Average Peak Classroom Utilization: Monday - Thursday (Mornings/Afternoons) = 41.6%

Total Average Hours of Classroom Utilization: Monday - Saturday (Mornings/Afternoons/Evenings) = 20.82 Hours





Heartland Community College - Master Plan

HCC Campus Utilization Summary - Specialty Labs

Lab Type	Room Utilization M-Th						Fr	Sa
	Seats	Rooms	8a-1p	1p-5p	5p-10p	Peak	8a-5p	8a-5p
Workforce Development	154	9	26.7%	16.0%	18.9%	21.3%	5.46%	3.10%
Kitchen/Food Prep	68	3	16.1%	11.9%	0.0%	14.0%	11.83%	0.00%
Art	90	7	21.7%	22.3%	15.7%	22.0%	28.99%	0.00%
Science	228	10	61.0%	56.7%	28.9%	58.9%	2.22%	0.00%
Nursing	200	6	40.0%	15.5%	14.7%	27.8%	19.45%	0.00%
Athletics	30	1	10.0%	12.5%	14.2%	11.3%	0.00%	0.00%
Main Campus	770	36	36.1%	28.0%	18.6%	32.1%	11.8%	0.8%
Lincoln	-	-	-	-	-	-	-	-
Pontiac	-	-	-	-	-	-	-	-
All Campuses	770	36	36.1%	28.0%	18.6%	32.1%	11.8%	0.8%

Total Average Hours			Fr	Sa	Total Hrs
8a-1p	1p-5p	5p-10p	8a-5p	8a-5p	
5.33	2.56	0.24	0.24	4.67	13.04
3.22	1.90	0.00	0.53	0.00	5.66
4.33	3.57	3.14	1.35	0.00	12.40
12.20	9.07	5.78	0.11	0.00	27.17
8.00	2.49	2.93	0.95	0.00	14.36
2.00	2.00	2.83	0.00	0.00	6.83
7.22	4.48	2.84	0.55	1.17	16.27
-	-	-	-	-	-
-	-	-	-	-	-
7.22	4.48	2.84	0.55	1.17	16.27

Highly Utilized Labs > 50%	% Room Utilization M-Th			
	8a-1p	1p-5p	5p-10p	Peak
BIO / A&P Science ICB 1001	45.00	46.88	60.00	45.94
Science A&P ICB 1005	100.00	100.00	95.00	100.00
Science Micro Biology ICB 1009	50.00	62.50	20.00	56.25
Science ICN 1401	67.50	61.46	0.00	64.48
Science ICN 1401	55.00	43.75	0.00	49.38
Science Org Chemistry ICN 1404	20.00	56.25	25.00	38.13
Science Biology ICB 1405	100.00	62.50	93.33	81.25
Science Earth ICB 1409	42.50	65.62	10.00	54.06
Physics Astronomy WDC 1005	69.17	11.46	50.00	40.32
Nursing ICB 1803	41.25	0.00	0.00	20.63
Nursing ICB 1806	51.67	0.00	0.00	25.84
Nursing Lab ICB 1811	92.08	49.48	87.92	70.78
WDC 1001	60.00	0.00	0.00	30.00
WDC 1004	50.00	52.08	30.00	51.04
WDC 1605	60.00	41.67	53.12	50.84
WDC 2607	60	50	60	55.00

Average Peak Specialty Labs Utilization: Monday - Thursday (Mornings/Afternoons) = 32.1%

Total Average Hours of Classroom Utilization: Monday - Saturday (Mornings/Afternoons/Evenings) = 16.27 Hours



2

CAMPUS NEEDS AND OBJECTIVES





CHAPTER 2: CAMPUS NEEDS AND OBJECTIVES



2.34 Needs and Objectives Overview

2.36 Facilities Master Plan Objectives

NEEDS AND OBJECTIVES OVERVIEW

SUMMARY

A key ingredient to identifying goals and developing consensus is gathering information from all stakeholders including students, faculty, administrators, Board of Trustees members and community partners. This information was gathered by first sending out a list of questions to all participants and scheduling interviews using the College's organizational chart. Here the goal was to listen and collect written requests and needs from the campus community and understand its concerns firsthand.

The interviews included identifying classroom, lab and office locations for each program area discussed. Conversations ranged from a general discussion of Heartland's direction to specific lab deficiencies, campus landscape and future programs. Interviews with campus community members including students and board members generated a wide variety of ideas and requests. All written and verbal requests were documented to determine the common threads or issues of the College. These requests were summarized by the design team and evaluated by the Facilities Master Plan Steering Committee (FMPSC). Each issue or topic was evaluated through a set of criteria developed by the FMPSC using the Strategic Plan and other criteria. The evaluations and grading later determined the list of Objectives used to identify what is to be addressed in the Facilities Master Plan.

USER GROUP INTERVIEWS

With guidance and scheduling assistance from the FMPSC, Legat Architects facilitated 77 user group interviews across the three campuses to receive input about space needs and other concerns.

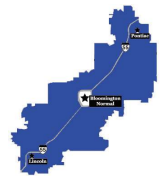
Prior to the actual face-to-face meetings, the architects issued an interview agenda to assist the user groups in preparing for these interviews. The agenda introduced the purpose of the Facilities Master Plan and posed 26 questions to consider within the following topic headings: Collegewide, Teaching, Enrollment and Support, Campus Buildings, Circulation and Space and Your Area of Responsibility.

After considering the questions, each user group was asked to identify its "Top Five" requests to be addressed in the Facilities Master Plan, then submit them to the FMPSC before the interviews. The responses to the interview agenda and the interview minutes for each user group are included in the Part 1 Appendix.

TOP FIVE REQUESTS

More than 400 Top Five request line items were generated, discussed and confirmed with the various user groups during the interviews. Since there were many similar requests among the user groups, the list was culled to approximately 200 request line items, providing the content for the evaluation rubric.





EVALUATION RUBRIC

A rubric was created for the FMPSC's use in evaluating the requests. The 200+ request line items were sorted into the following six rubric categories: Academic, Student Life, Administrative, Enrollment and Student Services, Infrastructure and Community.

RUBRIC/REQUEST EVALUATION

RUBRIC SORT BY HIGH SCORE

Unique #	Category	Group	Request #	Request / Project Title	Quantity	Overall Score	Growth/Env.Scen	Community Need	Universal Design/ADA	Grant	Sustainability	Student Exp.	Employee Experience	Community Exp.	Strategic Direction	Comments	Request Origination
1081	AC	B	17	Develop an Agriculture Building/Complex. Chance to build something from the ground up specifically for the agriculture program. - Agriculture students need ready access to fields and greenhouse spaces, with covered spaces (outdoor classroom?) for traditional agriculture courses	2	18	2	2	2	2	2	2	2	2	2		AA10.7, AA1
1082	AC	B	18	Increase size of Agriculture Lab - Modular lab spaces so students can do more group work – larger lab spaces (right now limited to 20)	1	18	2	2	2	2	2	2	2	2	2	Roll into Req. #17	AA10.7
1129	AC	B	65	New Advanced Manufacturing/Work Ready Spaces: Career and vocational/Technical spaces - Additionally space for electronics, solar technologies, robotics, PLC and clean lab environments	1	18	2	2	2	2	2	2	2	2	2		P1
1004	AC	A	5	Outdoor accessibility for green space/Outdoor Lab	2	17	2	2	2	2	1	2	2	2	2	See #17	AA10.3, AA7.1
1016	AC	A	17	Develop an Agriculture Building/Complex. Chance to build something from the ground up specifically for the agriculture program. - Agriculture students need ready access to fields and greenhouse spaces, with covered spaces (outdoor classroom?) for traditional agriculture courses	2	17	2	2	2	2	1	2	2	2	2		AA10.7, AA1
1017	AC	A	18	Increase size of Agriculture Lab - Modular lab spaces so students can do more group work – larger lab spaces (right now limited to 20)	1	17	2	2	2	2	1	2	2	2	2	See #17	AA10.7
2004	CO	B	5	Potential partnership or residency with community and community theaters	1	17	2	2	2	1	2	2	2	2	2	Roll into Req. #23	P-2
2005	CO	B	6	ACEC was designed to keep it more of an auditorium, but now there is a want for a theater, musical space or performing Arts center. - Concern was brought up what direction does the ACEC want to be. Where/what do we want to provide the community? Do we want to be an event center, conference center?	3	17	2	2	2	1	2	2	2	2	2	Roll into Req. #23	P-2, AA4.3, ER-1,

The FMPSC sorted the requests by their scores into top third, middle third and bottom third groupings based on highest to lowest scores. Similar requests were combined. After group discussions to understand different viewpoints of how the request was supported by the criteria, consensus was achieved for the following 19 Objectives that guided the Facilities Master Plan design process. Six FMPSC subgroups wrote each Objective's initial description, which was then refined over later committee meetings. The Board of Trustees discussed and approved the Objectives. It was also suggested by the board to group the Objectives into six clusters: Academic, STEM, Career and Technical, Student Success, Community Engagement and Strategic Institutional Enhancements.

FACILITIES MASTER PLAN OBJECTIVES

ACADEMIC SUPPORT CLUSTER:

Classroom Improvements

Study existing classroom conditions to modernize classrooms that support an active learning environment and implement the technology needed to support this teaching environment.

Furniture should be fluid, flexible and adaptable from class period to class period. The Pontiac and Lincoln campus classrooms would receive equal renovation treatment to address their specific needs. Scope to include review and updates.



Library

Improve the library to support technology and student group study. The College library is outdated for use in today's digital world.

Some areas of needed improvements include adding recording studios, increasing student computer stations, enhancing the space for noise reduction, increasing group study areas and improving aesthetics and user circulation.





STEM CLUSTER:

Health Sciences

Increase offerings and provide facilities that simulate a health care environment. Ensure capacity for growth of future programs.

The plan suggests developing a simulation lab that mimics medical environments. These could include hospital, emergency room, nursing home, physician's office, EMT lab, nursing/CNA lab, physical therapy clinic, dental and/or veterinarian space. This could be accomplished by renovating the existing Health Sciences areas or relocating the entire program.

Science

Study options to update older science labs and expand capacity to address overutilization to help science disciplines function better.

Spaces identified could include anatomy labs, physiology labs, chemistry labs, storage areas and preparation spaces. Potential items for improvements include more fume hoods, labs and chemical storage, as well as new equipment, furniture and finishes. A lab resource room for students to make up a lab, work on a project and perform research is needed. Expansion and connectivity for STEM/STEAM should be considered.

Agriculture Complex

Provide solutions to the identified need to increase agricultural academic programs. Centralizing agricultural programs could increase enrollment in a workforce profession that is applicable to the general region.

A potential direction is utilization of the College's west campus farmland acquisition to create an Agriculture Complex. The complex could include the following programs: crops/soils classroom, test plots, food forest, computer labs with technology, student commons/lounge, admin and office space, conference room, events/conference/competitions/table fair space, precision agriculture labs, plants science labs, mechanics lab and greenhouses.



FACILITIES MASTER PLAN OBJECTIVES

CAREER AND TECHNICAL EDUCATION CLUSTER:

Career and Technical Education

Improvements to Industrial Technology/Career and Technical Education (CTE) include updating deficient CTE space or relocating it to better support the unique requirements of these experiential learning programs.

Various improvements were identified to create additional services and opportunities for students to prepare for the workforce.

Improvements could be dedicated engineering lab spaces, prep and storage space for faculty, open computer lab, additional testing space for MOS exams, video production space and interdisciplinary creative learning space/makers lab. Space could also be developed for programs like robotics, manufacturing, advanced technology, alternative energy technologies and expanded trades offerings. Windows within the corridors would showcase lab activity.

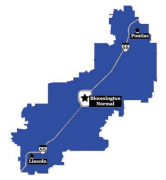
STUDENT SUCCESS SERVICES CLUSTER:

Enrollment and Student Services

Develop options to remodel or relocate Enrollment and Student Services (ESS) to meet students' needs and highlight ESS as a hub for students. The various ESS areas initially were located together but have been scattered throughout the campus over the years due to space challenges, changes in processes and division reorganizations. As adjacency is very important for a successful and efficient student experience, ideal relocation/renovation would centralize all services and create a vibrant, active hub for students and the public.

The hub could function as the campus “front door,” which is not well identified at HCC. Other improvements could include: relocation of counseling services near other student services while maintaining privacy, computer stations in the financial aid suite, a reception space to control check-in/processing and serve as a security station, a conference room, spaces for a transfer center and Career Connections, aesthetic improvements and a space with clear flow and an evident entry.





STUDENT SUCCESS SERVICES CLUSTER (CONT.)

Fitness and Recreation

The Fitness and Recreation Center has multiple types of users including students, employees and student athletes. Improvements include allocating fitness space for different user types, adding more physical fitness square footage, dedicating fitness space for students who are not athletes, providing nutrition education/a health bar and adding outdoor exercise trails around Birky Lake.



Student Life Improvements

Improve student life areas to better support and encourage student gathering, studying and staying on campus. Overall, student life improvements are needed for co-curricular and recreational spaces in all buildings across campus. The campuses need the ability to change space for existing programs and those that are growing.

Improvements to Student Life could be accomplished by updating student areas across campus with more flexible and comfortable furniture, charging outlets and additional technology. In addition to updating specific areas, program space for an e-sports venue/room could be added, as well as more campus dining options, a Peace and Dialogue Center, larger veterans center, space for table fairs, student-friendly cafeteria/seating, more inviting quad/seating, a campus walking trail, increased access to library/computers during the evening hours, a student nurse and a dedicated area for distance learning.



FACILITIES MASTER PLAN OBJECTIVES

COMMUNITY ENGAGEMENT CLUSTER:

Child Development Lab

Develop options to update the area dedicated to the Child Development Lab. The current demand for childcare space is higher than the space available. Improvements include adding labs with the goal of increasing the current programs available.

Updates could be accomplished by increasing the childcare labs and expanding the facility. Additionally, improvements could be made to the outdoor education and play spaces, as well as working with facilities to increase the safety of the physical space and adding technology to support the needs of the facility.

Challenger Learning Center

Update the Challenger Learning Center's technology and rethink the use of space to accommodate programming. The Challenger Learning Center is a key connection to the Bloomington/Normal community.

HCC could invest in new technologies such as virtual reality, augmented reality, and touch screen displays. Revisit the CLC development design package from five years ago that included a need for a multipurpose space, additional storage and a conference room. Explore potential connections to performance and conference space needs.

Event Space Improvements

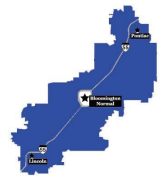
Develop a long-term plan to better support conferences and events. The current auditorium within the ACEC building does not function well as a flexible large conference space. There is a need for a multifunctional space to support large conferences, community outings and events with a capacity to support 150-400 people.

Performing Arts

Develop a long-term plan to better support performing arts and related facilities. These facilities would offer new opportunities for social, educational and economic connections between the College, students and community.

Dedicated performing arts facilities are needed – namely, theater and musical performance and rehearsal spaces. Support facilities include theatrical lighting, sound system, back of house support, ensemble rehearsal space, instrument storage, practice rooms, audio and music recording/production studio (radio, podcasts, etc.) and a lobby for receptions and fundraisers.





STRATEGIC INSTITUTIONAL ENHANCEMENTS CLUSTER:

Building Maintenance and Interior Improvements

Buildings need continual maintenance and upgrades to improve usage and occupant experience. Fund deferred maintenance and focus on the following: 1) making each campus building feel distinct and identifiable, 2) adding comfort and beauty and 3) improving accessibility and communication.

Possible improvements could include integrating color, art, texture and material finishes in corridors, lobbies and meeting spaces, enclosing bridges and cover walkways, creating gender-neutral toilet rooms, remodeling staff and faculty office and support areas, adding meeting space in ICN and including permanent art installations such as tile work, murals, art finishes, art to hang, etc.



Information Technology

Improve the overall IT infrastructure throughout campus to provide a safe and convenient campus environment. Consider an increase in physical space for current IT staff and overall room for growth.

Improvements for IT would include developing disaster recovery for IT systems, replacing Legacy Hardware with new, up-to-date hardware, installing a reliable cooling system for areas needed, having up-to-date security cameras across campus, adding and ensuring up-to-date charging stations for personal devices throughout campus, streamlining redundant Internet routing and implementing better Wi-Fi coverage across the campus, including the addition of the quad/outside spaces.



FACILITIES MASTER PLAN OBJECTIVES

STRATEGIC INSTITUTIONAL ENHANCEMENTS CLUSTER (CONT.)

Landscape and Outdoor Improvements

Create a landscape plan including softscape, hardscape and parking lots to develop, maintain and beautify the outdoor spaces and increase usage. The HCC main campus needs to develop a “sense of place” with a variety of exterior destinations that also serve as wayfinding mechanisms. Invest in improvements and maintenance to prevent continued deterioration and erosion of the landscape.

Potential improvements could include the more obvious flowers, shrubs, ground coverings, exterior lighting on buildings and in parking lots, outdoor seating and garden spaces, as well as possibly pavilions, connection of currently disconnected lots to improve flow, a new walking path around the lake and exterior art that would help increase usage and improve the character and appeal of the campus.

Public Safety

Improve security, safety and accessibility campuswide. Improve public safety presence around the main campus. Enhance accessibility with Universal Design throughout the campus.

Develop and begin to implement standards for door security across campus. Review standards for windows in doors and suites. Assess video camera placements, currency and effectiveness. Enhance emergency notification systems including loud voice, sirens, strobes and messaging. Create a public safety suite/area to include emergency operations center/incident management space and employee work center.

Signage and Wayfinding

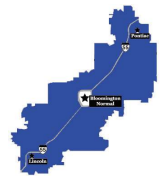
The HCC campus is difficult to navigate for visitors and new students. Develop a comprehensive strategy for signage, building identification, campus entrances and wayfinding.

In addition to traditional signage, building names and artwork as landmarks should be considered as wayfinding mechanisms.

Sustainability, Energy and Power (Infrastructure)

Develop a comprehensive energy reduction strategy and use it to further reduce HCC’s energy consumption and progress toward development of more on-campus renewable energy systems. The effort will lead to further advancement toward the Illinois governor’s call for carbon neutrality.



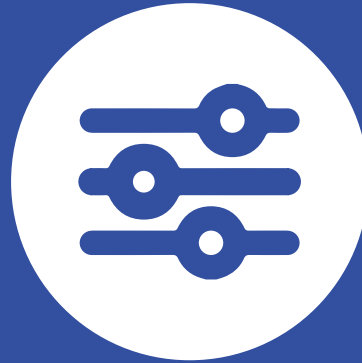


The completion and approval of the Objectives are important in the Facilities Master Plan process Part 1. The Objectives document the consensus for areas of need and potential growth on the campus. The Objectives also directly support the Strategic Plan and the programs identified in the Community Scan.

Objectives can be implemented via relocating programs, renovation or new construction. Part 1 also assessed and documented campus land use, circulation, administrative space, student areas, instructional space and utilization. Understanding this information and how the campus is used helped to create meaningful options in Part 2 of the Facilities Master Plan process.

The next step in the process was the development of options in response to the Objectives in the context of the existing campus. These options initially looked at the functional areas of academic, community, student life and enrollment and student services and how they can interrelate to promote Heartland's Strategic Plan. The options were narrowed down to meet specific program needs and to determine the costs associated with implementation of the plan.

Part 2 of the Facilities Master Plan begins with the next chapter, "Concept Development," and will identify the many options studied by the College and the design team.



3

CONCEPT DEVELOPMENT





CHAPTER 3: CONCEPT DEVELOPMENT



- 3.46 Concept Development Overview
- 3.47 Pre-Programming
- 3.50 Development Zones and Options
- 3.54 Concept Option: Site and Buildings

CONCEPT DEVELOPMENT OVERVIEW



The concept development phase is built on the foundation of the Objectives that were established during the Part 1 assessment and evaluation. Some of the Objectives, such as the Agriculture Complex, are addressed with a new building, some by consolidating existing services and others by locating new lab space adjacent to existing programs. Other Objectives are described as improvements to existing space. The College identified five of the Objectives as anchor elements used to guide the concept development.

The pre-programming meetings with faculty and administrators identified the number and type of lab, classroom, offices and support space that are needed for each area identified as an Objective.

The design team also studied the original Master Plan from 1997 and compared the current site and building uses. The Objectives and pre-programming meetings helped to determine areas of potential growth, program deficiencies and how student services work together across campus.

The design team developed nine options that addressed the Objectives and campus layout with various solutions. The College provided feedback on how well these addressed campus issues, adjacency, Objectives and the Strategic Plan. These nine options were narrowed down to five for further study and understanding of how the anchor elements were organized.

The five options were further studied by implementing the information learned from the pre-programming meetings and then narrowed down to three options to be presented to the Board of Trustees for feedback and direction.

It should be noted that pre-programming is a good planning process to initially understand the program deficiencies, needs and future growth. However, this analysis is preliminary and requires additional input and utilization study before designing or implementing a project. The College should plan to program in detail each area to



PRE-PROGRAMMING

PRIORITY PROGRAMS

Agriculture Complex

New 45-49,000 GSF Complex + Parking
Program Spaces Include: Precision Agriculture Lab, Plant Science Lab, Soils Lab, Computer Lab, Mechanics Lab, Greenhouses, Prep/storage, Classrooms, Study, Offices, Conference Space, Event Space

Existing NSF	Proposed NSF	GSF	
-			
NA	29,080	48,384	New Construction

Health Sciences

Option 1 Remodel & Add Space, Option 2 New HS Building

Program Spaces Include: Radiology Labs, Nursing Labs, Simulation, Debriefing & Observation, Practice Lab, EMT, Physical Therapy, Vet Tech, Dental Hygiene, CNA, Classrooms, Testing Computer Lab, Mental Health Lab, Massage Therapy, Study space, Support & Storage space

20,600	Opt 1 Req. Additional Space (New or Renovation)
16,601	Opt 1 Remodel Existing Space
37,201	61,382 Opt 2 New HS Bldg

Career Technical Education

Renovate Portion of SCB and New Construction

Program Spaces Include: Industrial Tech - EV repair, Manf Lab, Battery Handling, Ind.& Networking Lab, Industrial Robotics, HVAC, Const Lab, Welding Lab, Advanced Manufacturing, Digital Media Lab + Clasrm, Server/Racks, BTL Clsrm, Mtg Room BTL, Computer Science Classrooms, Open Comp Learning Room, Collaborative Student Space, CTE Conference/Advisory Board Room, Display Space, Flex Open Lab, and Tech Hybrid Class/Lab.

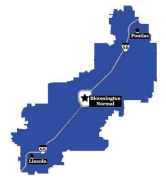
24,745	16,490	20,000	Renovation at SCB
	38,007	60,811	New Construction

Science

Renovate Existing Lab and Prep Space
New/Replaced Program Space BIO A&P, BIO Enviro, BIO Earth Studio, Replace Org Chem & Support
New BIO Greenhouse

11,236	11,236		Renovate Ex Labs & Support
	9,200		New Renovated space
	500		New





PRIORITY PROGRAMS

Enrollment & Student Services

	Existing NSF	Proposed NSF	GSF
Total	20,235	24,069	Renovation at WDC
Enrollment Suite & Lobby (MSF) Subtotal	11,400	11,400	
Fin. Aid, Admissions/Recruitment, Advisement, Transfer Center Subtotal	-		Renovation at WDC
Student Services	8,835	12,669	
Testing 2001/2002	2,026	3,600	
Registrar Office (across hall)	1,355	1,355	
Early College Opportunities	330	330	
Trio/SSS/Rise Suite 1000	2,163	2,163	
Students SAAS SCB 1415	165	165	
Success Connections (new) 6 offices, conf		1,260	
Dean of Students SCB 1406	155	155	
Project Rise Office 1000		400	
Counseling suite 2410 -	2,141	2,141	
Career Connections (new) 4+ offices		600	
Cashier/Payments	500	500	
Orientation (Auditorium)			

Student Life

Subtotal	4,305	10,163	Renovation at WDC
Student Multipurpose (+2 meeting spaces)	1,236	1,236	
Add Student Mtg Space + 3-4 Clubs Rm + 2 Conf	-	1,100	
Veteran Center	300	1,000	
Game Room	1,542	3,100	
Student Life Staff Space 1606-14 + 4 add offices	1,227	1,727	
Esports (estimate)		2,000	

Dining/Cafeteria/Kitchen

Subtotal	11,038	5,000	Renovation at WDC
Dining Room 1801	4,401		
Commercial Kitchen 1804/1809	2,765		
Servery/Subway/Café 1803	2,815		
Demonstration Kitchen 1802	1,057		

DEVELOPMENT ZONES AND OPTIONS

ZONES:

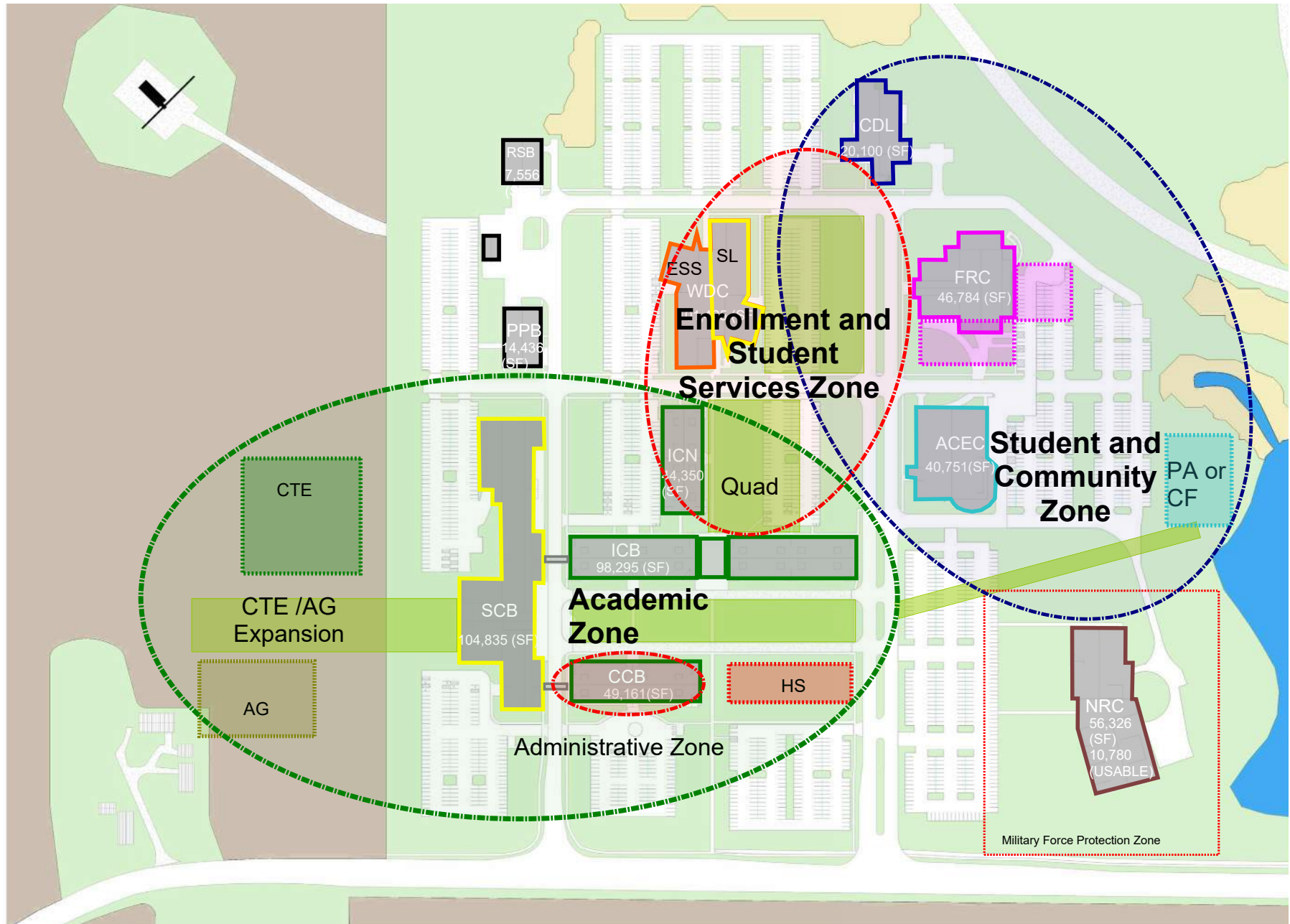
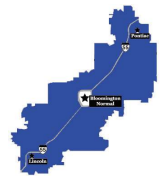
During the development of concepts, the College and Legat Architects realized the potential benefit of centralizing functions of the College into different campus zones. Locating similar campus uses allows for program efficiencies, increases student and staff campus involvement, decreases travel times around campus and provides dedicated areas and space for students, faculty, and the community. The main zones identified include an Academic zone, Student and Community zone and Enrollment and Student Services zone.

The Enrollment and Student Services zone was a major driver of the Facilities Master Plan. Combining the Enrollment and Student Services and Student Life functions at one location, the Workforce Development Center (WDC), capitalizes on the services students use frequently on campus. This zone, located on the north side of campus, draws individuals farther into campus and creates a “front door.” The key to establishing and developing this zone is the relocation of Enrollment and Student Services and Student Life into the WDC and a new student life quad south of the WDC and east of the Instructional Commons North building (ICN).

The Academic zone exists with the Instructional Commons Building (ICB), Student Commons Building (SCB) and ICN building near the academic quad. The Facilities Master Plan expands this zone to the west with the development of a new CTE building and a new Agriculture Complex that stretch west from the existing library. A new Health Sciences Building to the east of ICB completes the existing academic quad and grows the academic zone.

The Student and Community zone is located on the northeast side of campus and provides services that the local community uses on a regular basis. The zone includes the performing arts and conferences in the Astroth Community Education Center (ACEC), childcare in the CDL, exercise and fitness opportunities in the Fitness and Recreation Center (FRC) and a future events center located near Birky Pond.

The importance of creating the Enrollment and Student Services zone and pulling together all of enrollment and student services to a central place on campus, specifically the WDC, is a cornerstone of the Facilities Master Plan. Locating these functions, along with student life, near the FRC solves multiple Objectives identified by the College.

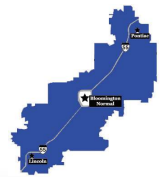


DEVELOPMENT ZONES AND OPTIONS

OPTIONS:

Incorporating the Facilities Master Plan Objectives, zoning concepts and input from the College, Legat Architects developed nine distinguishable options for the Facilities Master Plan. Each option carefully considered addressing the anchor elements of the plan via new construction, renovations and/or additions to existing structures. Creating visual representations of each of these options helped to illustrate positives and negatives for each of them. Each option was intended to provide ideas and considerations that would benefit the College in the short-term and long-term.

After narrowing the options down to five, the College decided to move forward with three: options B, D and E. These options provided the best Facilities Master Plan solutions for the College. Legat Architects then further developed each of these three options and the College's leadership and board ultimately chose option D. A detailed description of option D is provided on the following page.



CONCEPT OPTION: SITE AND BUILDINGS

OPTION D

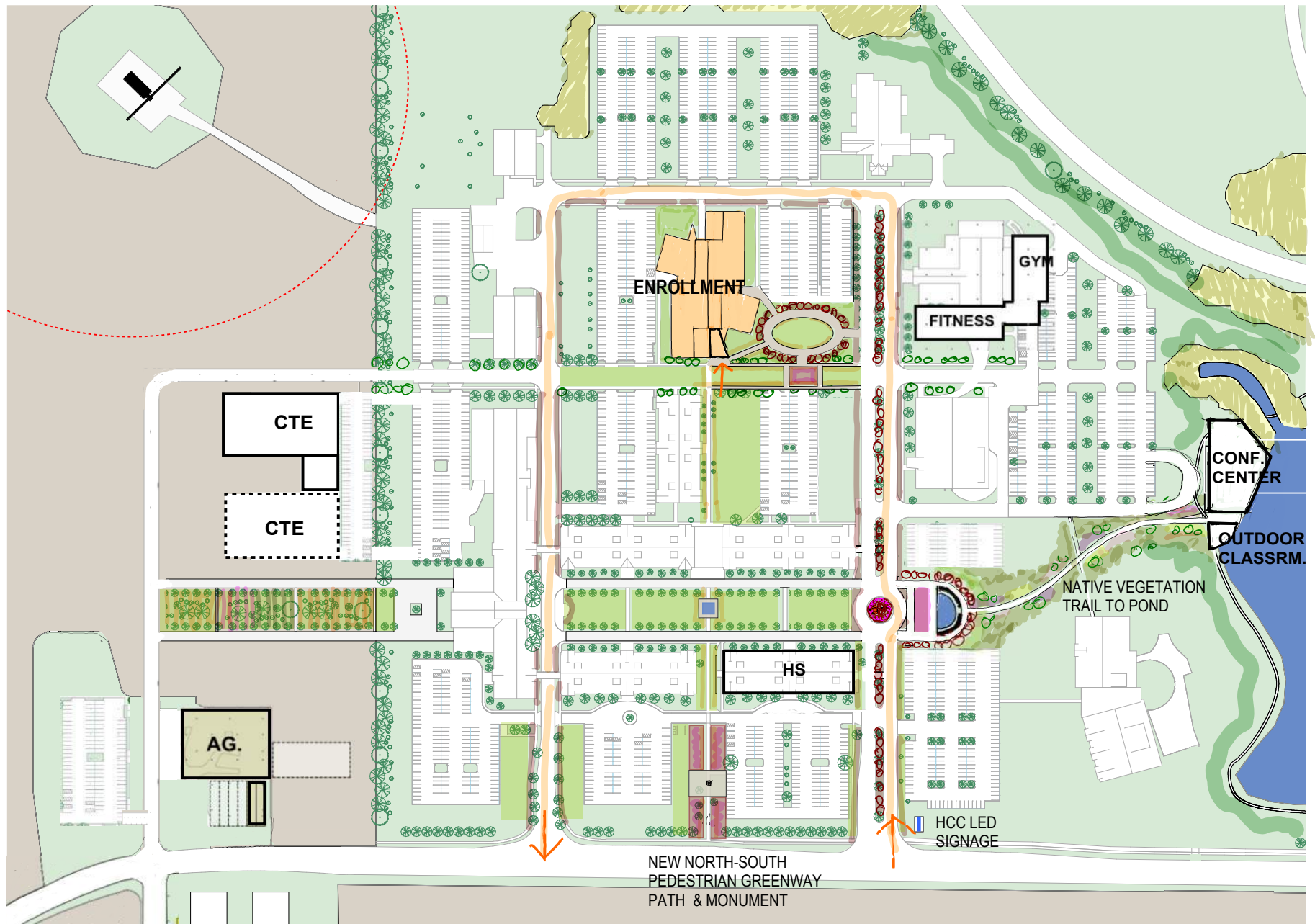
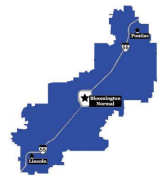
Option D centers on the idea of drawing students and community members into the heart of campus. It proposes to relocate Enrollment and Student Services and Student Life functions to the WDC. Activities that prospective students and current students engage in frequently are all located in one area. Additionally, a new student life quad south of the WDC would promote student engagement and activity. Creating and clustering such student-centered spaces will result in a better utilization of space. This option also increases the focus on organizing a student zone, community zone and academic zone on campus.

Career Technical Education is placed in the farmland west of the main campus to create a central location for all CTE programs. Farther south near Raab Road is the recommended new Agriculture Complex. Connecting and bridging these two new structures is the new prairie orchard quad that creates an open space extension of the existing campus that is flanked by technology and agriculture. In the farmland, a new road connects the campus from Raab Road to the back of campus for services and vehicular circulation. The new Health Sciences Building is located in the southeast corner of the academic quad to complete the planned quad and the design put forward in the College's original 1997 Master Plan.

Outdoor improvements include landscape renovations to the existing academic quad, construction of a native vegetation path connecting the campus to Birky Pond and a new outdoor classroom with a trail around the pond. Future buildings and additions were proposed for other Facilities Master Plan Objectives including additional fitness and gymnasium space, performing arts and an event/conference center.

Option D provided a cohesive solution to the Facilities Master Plan Objectives. The College made a decision to pursue option D as the framework to develop the Facilities Master Plan. Chapter 4 provides additional planning and detail for the option.





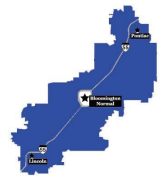
Option D Site Plan



4

THE FACILITIES MASTER





CHAPTER 4: THE FACILITIES MASTER PLAN

4.58 Facilities Master Plan Overview

4.60 The Consensus Facilities Master Plan:
Site Organization

4.62 The Consensus Facilities Master Plan:
Building Organization

4.64 Lincoln and Pontiac Campuses

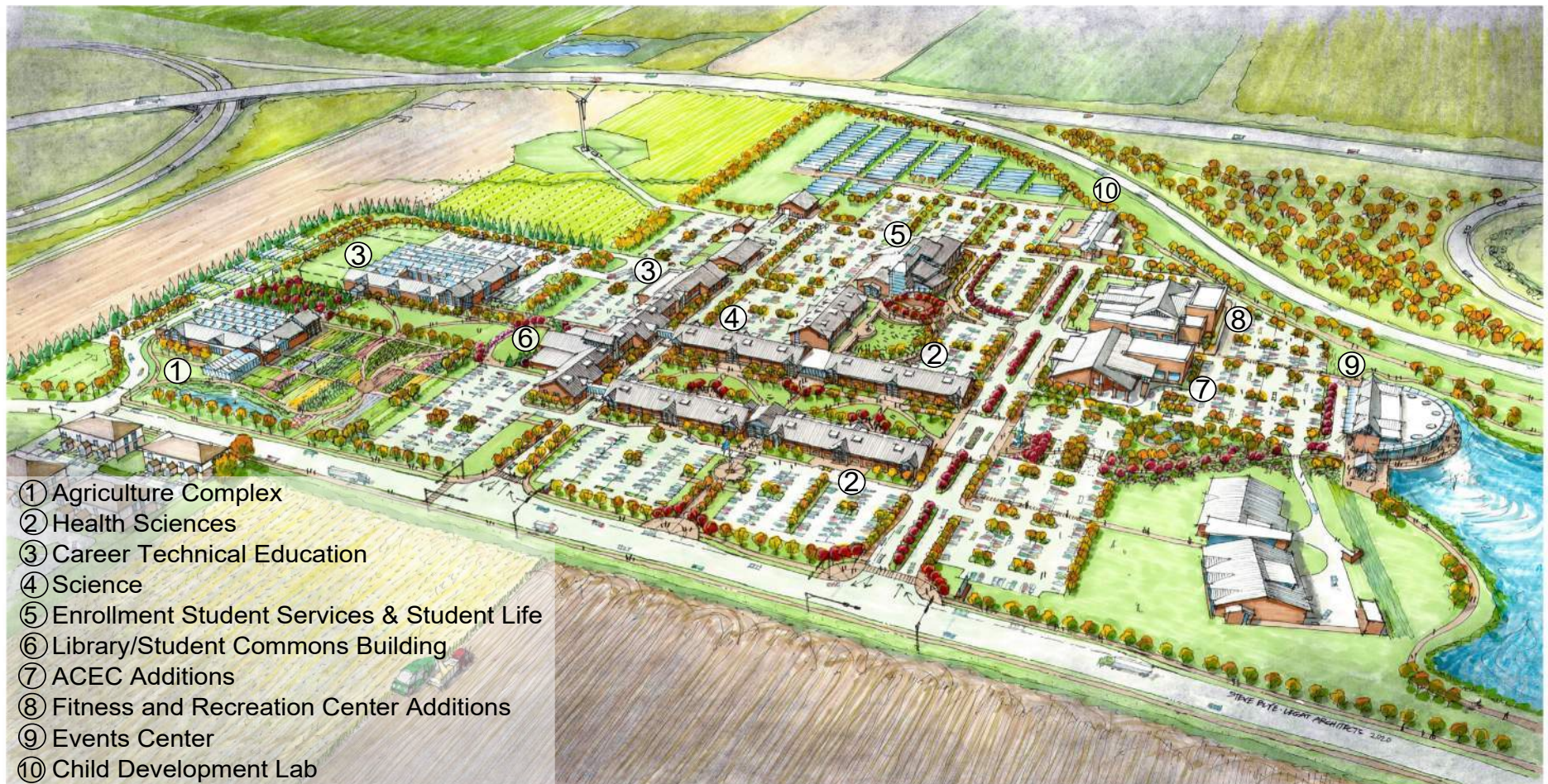
4.66 Recommendations of the Facilities Master Plan

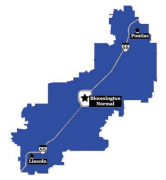
4.90 Facilities Master Plan Cost Estimating and Budgeting

4.92 Future Facilities Master Plans

FACILITIES MASTER PLAN OVERVIEW

The 20-year Facilities Master Plan organizes the overall campus by locating all potential program space and site improvements identified as Objectives. Recognizing the College's future goals and priorities may change, the plan is meant to provide an outline for future decisions, yet remains flexible. The plan also identifies five priority areas that align with the Strategic Plan, Community Scan and campus needs. In addition to these priorities, the College recognizes the need for other campus improvements. These include enhancements to classrooms, the library, fitness and recreation, Child Development Lab, Challenger Learning Center, event space and performing arts. Also included are building maintenance and interior improvements, as well as upgrades to information technology, landscape, public safety, signage/wayfinding and sustainability infrastructure. Some of these projects are intended to be completed simultaneously as ongoing campus improvements. Within the organization of the Objectives, the College and Board of Trustees identified those Objectives that were the highest priorities for the Facilities Master Plan.





The priority Objectives encompass the most important needs and the best opportunities for growth for the campus based on feedback from the College as well as internal and external data sources. The priorities, originally labeled as “anchor elements,” organize the campus into zones: Academic, Enrollment and Student Services and Student and Community. These zones focus around landscaped areas, also labeled as quadrangles or quads.

The priority Objectives include Agriculture, Health Sciences, Career Technical Education, Science and Enrollment and Student Services and Student Life. These Objectives are directly supported by the College’s Strategic Plan and by the program needs and opportunities for growth that were identified in the Community Scan. They also provide the long-term framework for new construction, renovation, additions and infrastructure.

PRIORITY OBJECTIVES:

- Construct a new **Agriculture Complex** near the existing farmland homestead with outdoor farming test plots and gardens connecting the new building to the existing main campus with near access to the agriculture fields.
- **Health Sciences** initially recommends the renovation of existing labs and vacated space to provide expanded and updated health science labs for anticipated programs to meet short-term needs. Ultimately, the Facilities Master Plan recommends a new Health Sciences Building that could be located in the southeast side of the academic quad. This state-of-the-art building is intended to simulate the health care environment and offer new programs, as well as rightsize and update labs.
- Improve **Career Technical Education** (CTE) through a combination of renovations and a new building. Initially, new programs could be offered by renovating underutilized space in the Student Commons Building (SCB). The high bay structure at the north end could be utilized for CTE programs that require double-height spaces. Ultimately through phased building, a new CTE building will be constructed in the existing farmland north of the new Agriculture Complex. This building would be planned as an efficient, flexible technical medium/high bay space that can be modified to meet the changing needs for CTE.
- Renovate existing **Science** labs to meet the needs of 21st-century science and add additional biology and anatomy labs to meet the needs of these highly utilized programs. New organic chemistry, biology and anatomy labs would be located at underutilized spaces within the Instructional Commons Building (ICB) and adjacent to existing science labs and offices. These will need careful coordination with Health Sciences.
- Combine and relocate **Enrollment and Student Services and Student Life** to the Workforce Development Center (WDC). Once CTE programs relocate, the WDC can be renovated to support Enrollment and Student Services and Student Life functions. Building envelope and mechanical systems would be updated to allow the building to be more energy efficient. Directly adjacent to the building, a new student life quad would be created to support student activities, dining and campus events. The adjacency to the Fitness and Recreation Center (FRC), Astroth Community Education Center (ACEC) and Child Development Lab (CDL) will emphasize the Student and Community zone of the campus. This renovation would include food service, dining and the bookstore.

SITE ORGANIZATION

Site organization is a combination of the anchor elements, Objectives and addressing relationships to strengthen the Facilities Master Plan through exterior experiences for the students, employees and community. This is accomplished by studying how the site is used and leveraging the experiences shared by the campus community regarding what needs could be addressed on the campus. Locating the anchor elements provided a framework for site development around Agriculture, CTE and Enrollment. Outlined below are elements that are incorporated into the overall Facilities Master Plan and that can be accomplished through a priority project, infrastructure enhancements or other improvements.

- Develop a Student and Community zone locating the Enrollment and Student Services and Student Life at a central location near the FRC, WDC, CDL and ACEC. These four buildings form a Student and Community zone separate from the academic core of the campus.
- Emphasize the connection of the Agriculture Complex to the built campus while providing visual connection of the greenhouses and Agriculture building to Raab Road to advertise the programs to the community.
- Locate Agriculture Complex and CTE with the ability to grow and create synergies between the two buildings.
- Create a sense of arrival from Raab Road, which will lead a visitor into the campus to Enrollment and Student Services located at the WDC.
- Develop landscape and hardscape across campus to be more inviting for students and staff. Provide exterior seating, shade, protection, diversity of plants, wayfinding and artwork. Develop landscape and hardscape within the academic quad and with other projects across the campus.
- Develop a trail around Birky Pond and connection to the Constitution Trail through the campus. Extend the path east of Millennium Drive and south of the ACEC to connect the academic quad to the proposed trail around Birky Pond and an outdoor classroom.
- Upgrade site lighting, parking, bioswales and other infrastructure.
- Plan for carbon neutral or net-zero energy strategies by locating a photovoltaic array and geothermal fields to complement the existing wind turbine to produce power on-site.
- Develop wayfinding, signage, artwork and landscape to emphasize building entrances to lead visitors and community onto the campus.



BUILDING ORGANIZATION

Facilities Master Plan building organization begins with understanding the campus program relationships, deficiencies, opportunities and potential growth. Part 1 identified the areas of growth, utilization and campus needs. Part 2 developed options, based on the Objectives, that located top priorities within site organization zones. Planning considered available space across existing campus buildings.

The main drivers of the Agriculture Complex are to have access to the farm fields, adjacent test plots, location for future expansion and connection to the main campus. Minimizing the impact of the Agriculture Complex on fertile soil was considered by placing part of the building and parking on the existing homestead.

The placement of the future CTE facility builds on the synergy of being adjacent to the Agriculture Complex and the west side of the SCB. Its location will allow a large, flexible, medium/high bay warehouse space to have proper docks and overhead doors for CTE programs. Renovations of the SCB can provide space for new programs.

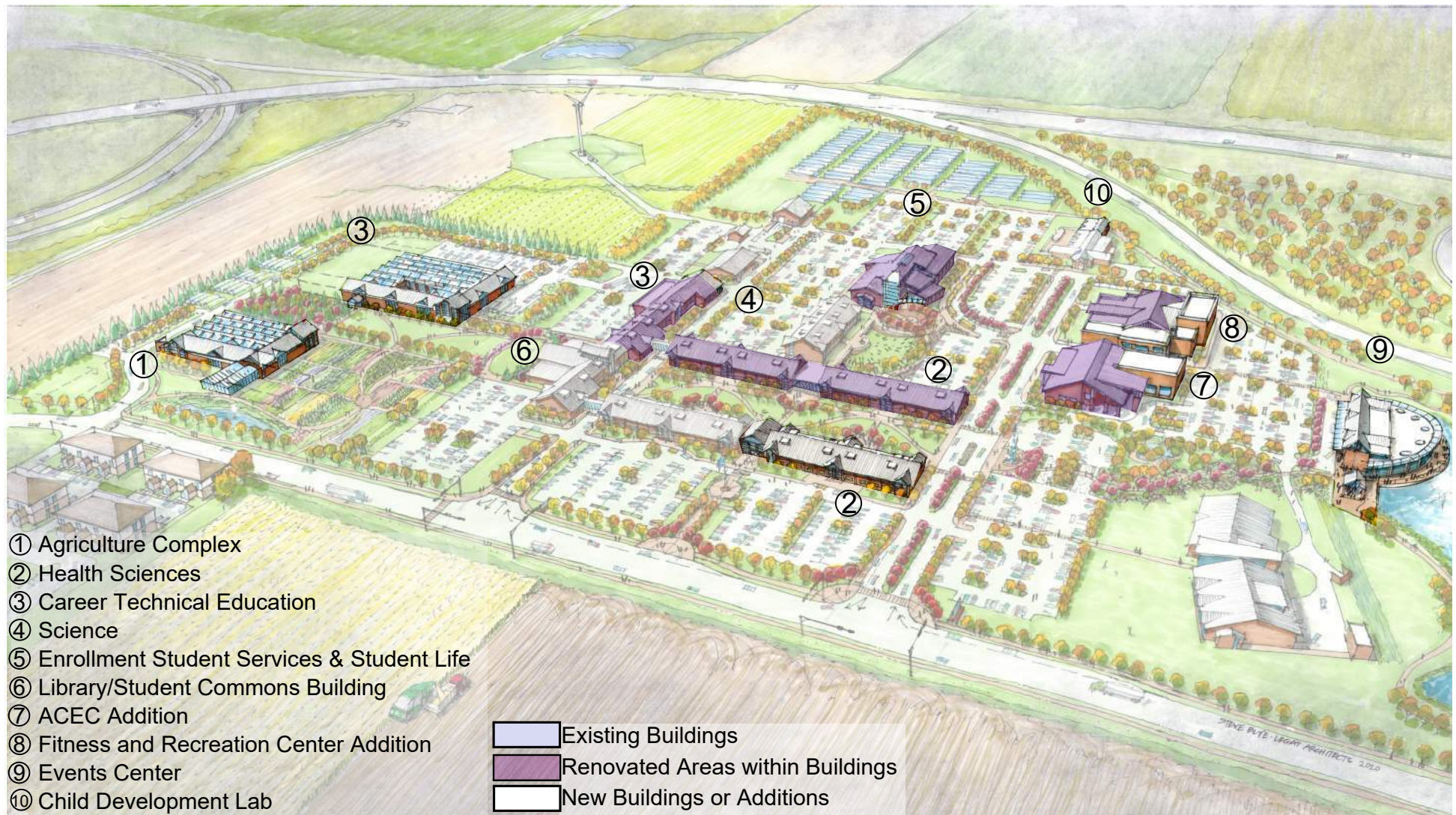
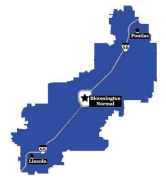
The new Health Sciences Building location completes the academic quad at the southeast corner and situates health sciences near sciences and other academic programs.

The building organization is anchored with priority projects and is further refined with renovation and future projects identified below.

REMODELING, RENOVATION AND ADDITIONS:

- Update and improve existing classroom spaces across all buildings, including finishes, colors, furniture, technology, lighting, etc. Develop flexible, innovative classrooms to try out technology, furniture, room layouts and various teaching methodologies.
- Update and improve the Lincoln and Pontiac campuses' student spaces and classrooms to align with main campus standards and innovation, as well as promote student success and inclusion.
- Plan for updating and remodeling the library, tutoring and Challenger Learning Center (CLC).
- Locate and develop a public safety office suite with support facilities for campus safety and risk management.
- Locate long-term additions when the need becomes a priority at the CDL, ACEC, FRC and Event and Conference Center.
- Update interiors across the campus to emphasize the programs within buildings through artwork, colors, materials, wayfinding and furniture while locating breakout spaces for students and staff.
- Continue to improve and update facilities during renovations including providing electronic entry locks and exceeding ADA requirements.
- For all remodeling and renovation projects, incorporate sustainable strategies (e.g., lighting replacement, building controls, reducing energy consumption and plug loads) to improve building performance and reduce energy use.
- Work toward long-term solutions for Physical Plant chilled and hot water to be produced with heat pumps and a campus geothermal field as campus central systems are replaced.
- Renovate and modernize existing and new science lab spaces.
- Relocate Enrollment and Student Services and Student Life functions into the WDC, renovating these areas to fit the programs' functions.





20 Year Facilities Master Plan - Buildings

LINCOLN AND PONTIAC CAMPUSES



Lincoln Campus



Pontiac Campus

Heartland Community College is comprised of three campuses with the main campus in Normal and two satellite campuses in Lincoln and Pontiac, Illinois. The Pontiac campus is located approximately 35 miles to the northeast of the main campus. The Lincoln campus is located approximately 40 miles to the southwest of the main campus.

COMMUNITY PARTNERSHIPS

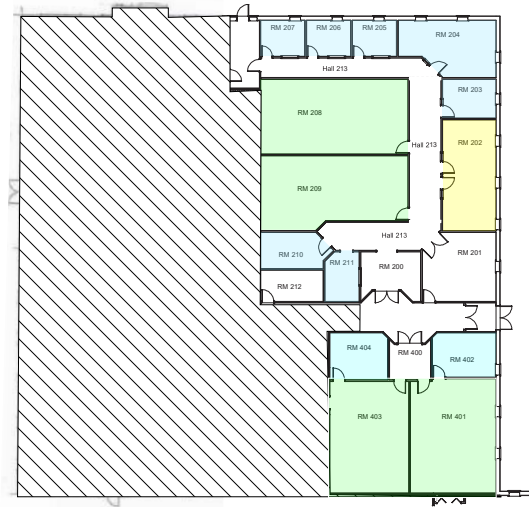
During the interview phase of the Facilities Master Plan process, conversations were held with College staff from Lincoln and Pontiac as well as with educational leaders in the communities around these campuses. Ideas gleaned from these interviews point to the need for further conversations with local education, business and community leaders to better understand the education and training needs of the Lincoln and Pontiac communities and the impact those needs will have on Heartland facilities in both communities. Given the potential for synergistic growth between Heartland campuses and the surrounding communities, these conversations will continue in the year or two immediately following the release of the Facilities Master Plan (November 2020). Such conversations could lead to site-specific facility plans for both locations and partnerships with other community stakeholders that bring additional resources and insights. These conversations also indicate a need for more and clearer signage at these locations to increase visibility.

CLASSROOMS

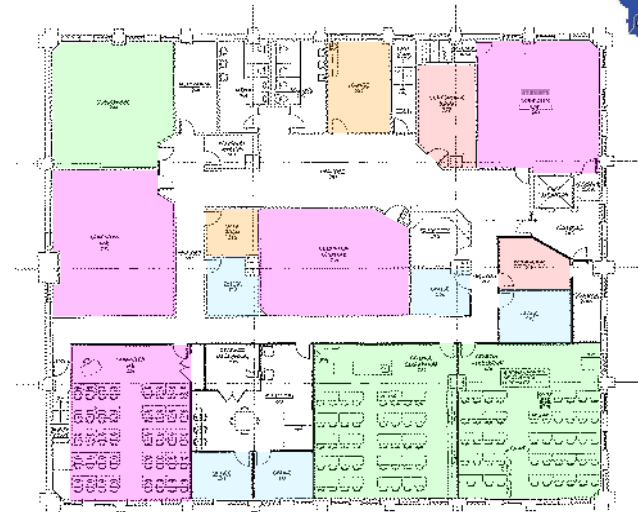
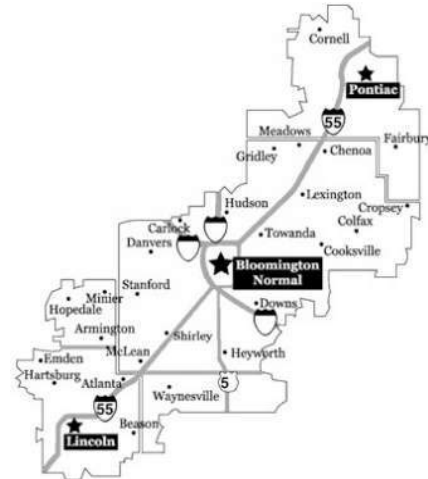
As stated in the Facilities Master Plan Objectives, Pontiac and Lincoln campus classrooms will receive equal renovation treatment to address their specific needs. This includes a study of existing classroom conditions to modernize classrooms that support an active learning environment. Additionally, classrooms at the regional campuses should be outfitted with technology that allows virtual connection of classrooms across the College's multiple sites, giving students in Lincoln and Pontiac access to a greater array of Heartland's main campus offerings.



HEARTLAND COMMUNITY COLLEGE – LINCOLN AND PONTIAC CAMPUSES



Lincoln Campus Floor Plan



Pontiac Campus Floor Plan



Lincoln Campus Aerial View

HCC Lincoln
2201 Woodlawn Road
#200 and #400
Lincoln, IL 62656
(Leased Facility)



HCC Pontiac
211 E Madison Street
Pontiac, IL 61764
(Leased Facility)

Pontiac Campus Aerial View

PRIORITY RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: AGRICULTURE COMPLEX

Located in one of America's premier agriculture and farming areas, the College identified the opportunity to build an agriculture program beyond current offerings. The Community Scan reinforced that agriculture was one of the areas for expansion on campus.

The College and the design team studied options to locate a complex on the west homestead, but far enough east toward the campus to link the building to the main campus with sidewalks to the SCB and parking. The areas between the campus and the Agriculture Complex will include test plots, gardens, a food forest and a new "prairie orchard quad."

Parking is located to the south on the homestead along with a connecting road from Raab Road to Vermillion Way. The building will be planned with overhead doors for farm equipment to enter the building for instruction and storage. The south side of the building has greenhouses planned for maximum solar exposure along with an entrance from the parking lot.

The pre-programming process has identified 29,080 net square feet (NSF) of program space and is estimated at 48,384 gross square feet (GSF). The building is located to allow for building and greenhouse expansion to the east as the program grows.

The building has potential to be highly energy efficient or net-zero by utilizing geothermal heating/cooling and rooftop photovoltaics. Options may include rainwater harvesting, daylight harvesting, recycled materials and low volatile organic compound materials.

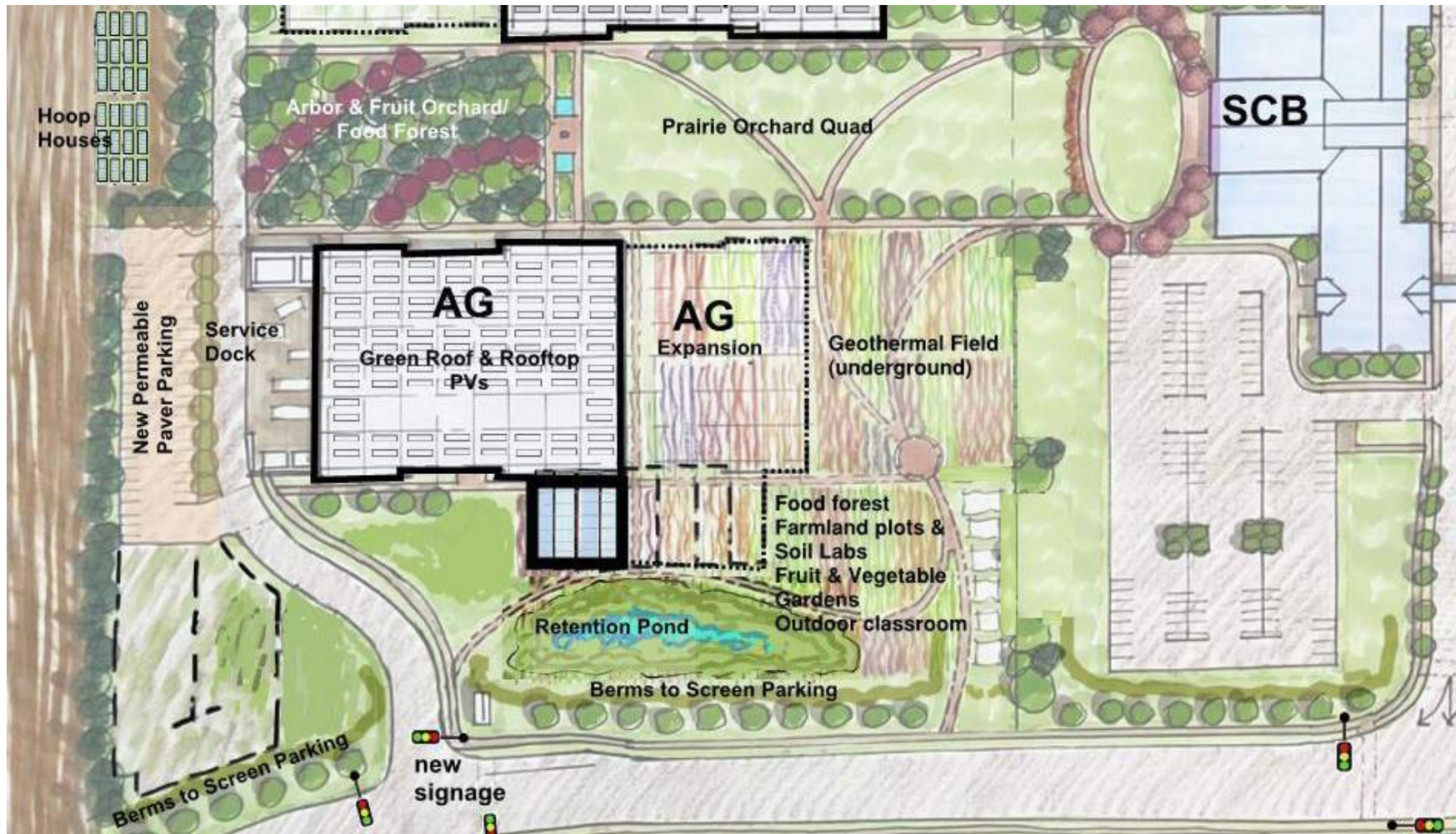
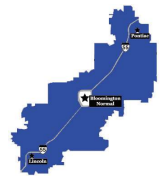


Aerial Perspective from Southeast



AGRICULTURE PROGRAM SPACES:

- Precision Agriculture Laboratory
- Plant Science Laboratory
- Soils Laboratory
- Computer Laboratory
- Mechanics Laboratory
- Lab Prep and Storage Rooms
- Flexible Classrooms
- Future Classroom and Lab Space
- Student Commons/Study Space
- Greenhouses and Storage/Headhouse
- Administrative Office Suite
- Conference Rooms
- Events Space
- Circulation/Lobby Area/Receiving Space
- Restrooms/Lockers/Shower Rooms



Agriculture Complex Plan

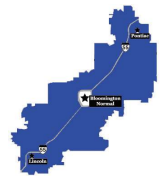
AGRICULTURE COMPLEX



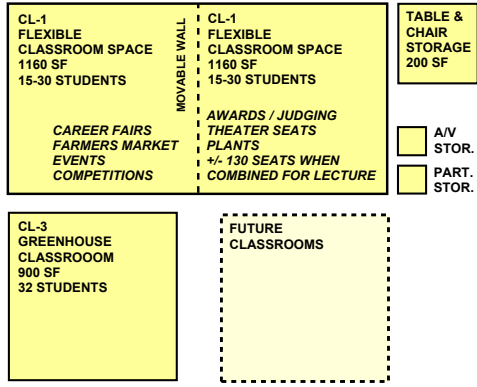
Aerial Perspective from Southwest



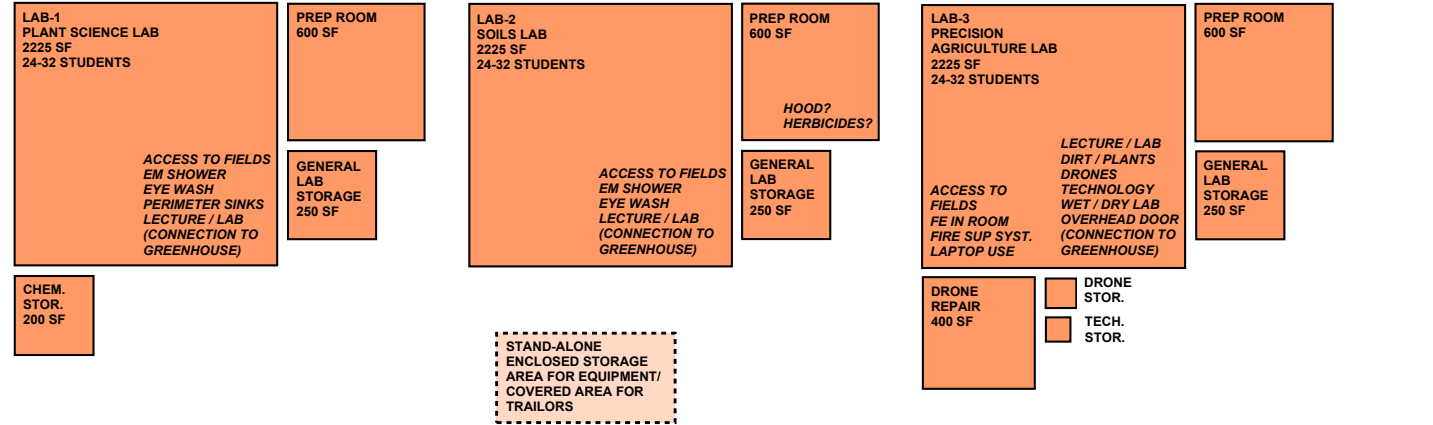
AGRICULTURE COMPLEX PROGRAMS SPACE DIAGRAMS



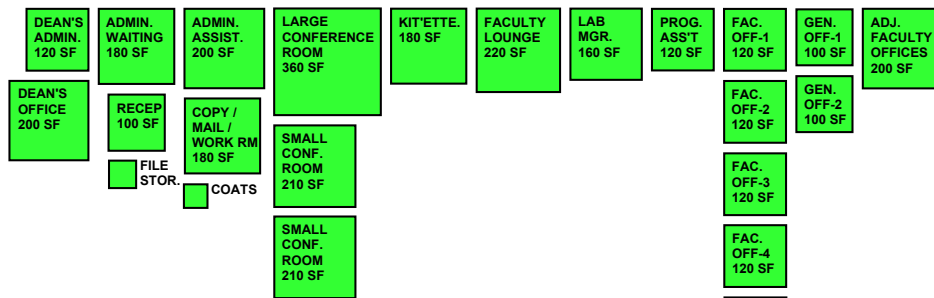
GENERAL CLASSROOMS



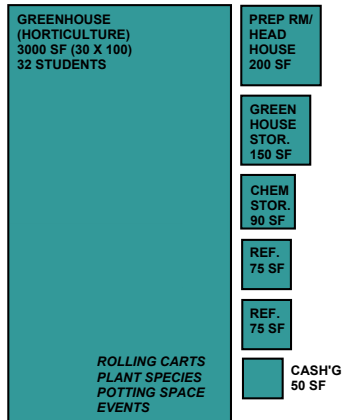
LABORATORY FACILITIES



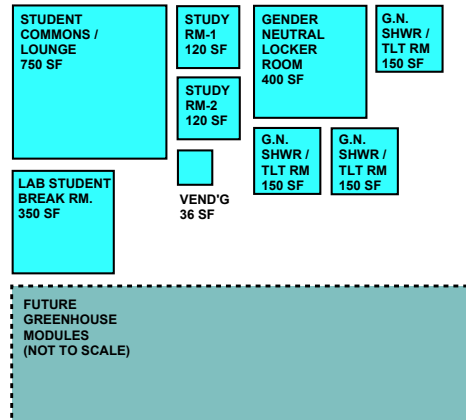
ADMINISTRATIVE OFFICE SUITE



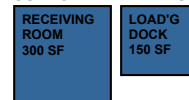
SPECIAL USE FACILITIES



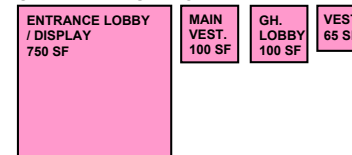
GENERAL USE FACILITIES



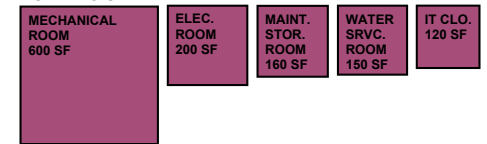
SUPPORT FACILITIES



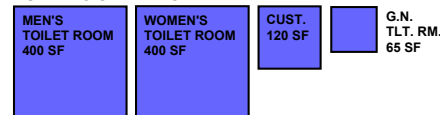
SPECIAL CIRCULATION



BUILDING UTILITY



BUILDING SERVICES



PRIORITY RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: HEALTH SCIENCES

Health Sciences is a continually growing field that shows demand for educated and skilled health care workers. This was outlined in the Community Scan findings. Pre-programming workshops revealed the need to nearly double the existing program square footage. This is driven by the need for additional space for existing programs that are undersized, proposed new programs and expected future demand or opportunities. The College plans to update or create new spaces that are similar to a clinical health care environment with simulation space to train students for their career path.

Heartland's current Health Sciences programs reside within the east end of the Instructional Commons Building (ICB-East). The Facilities Master Plan recommends building a new stand-alone building that would house all new and existing Health Sciences spaces. At 61,400 GSF, the building is proposed to be located at the southeast corner of the existing academic quad to complete this quad as planned in the original campus master plan.

Short-term, the Facilities Master Plan recommends improving existing labs and renovating adjacent classrooms and computer labs so that new programs can be offered. Space planned for Health Sciences includes simulation labs, an additional radiology lab and spaces for emergency medical technician, massage therapy, dental hygiene, pharmacy and veterinarian technician. If significant renovation occurs at the ICB, the proposed new Health Sciences Building's focus may change to house and support other programs as well as health sciences.

EXISTING HEALTH SCIENCES SPACES:

- Radiology
- Nursing
- Emergency Medical Technician
- Physical Therapy
- Vet. Tech, Pharmacy, Dental
- Certified Nursing Assistant
- Certified Medical Assistant
- Shared Classrooms (5)

REQUESTED HEALTH SCIENCES SPACES:

- | | |
|------------------------|-----------------------------|
| • Testing Computer Lab | • Massage Therapy |
| • Debriefing Room | • Future Growth |
| • Observation Room | • Support Space and Storage |
| • Mental Health Lab | • Expanded Radiology |
| • Simulation Lab | |

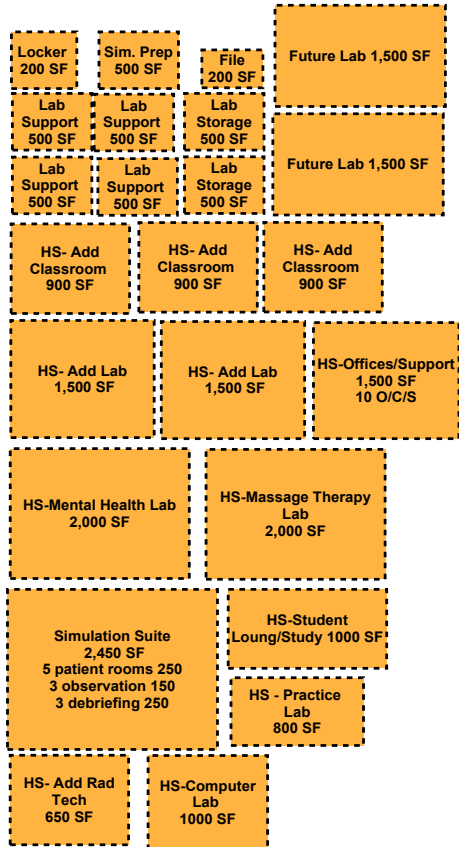


Aerial Perspective from Southeast

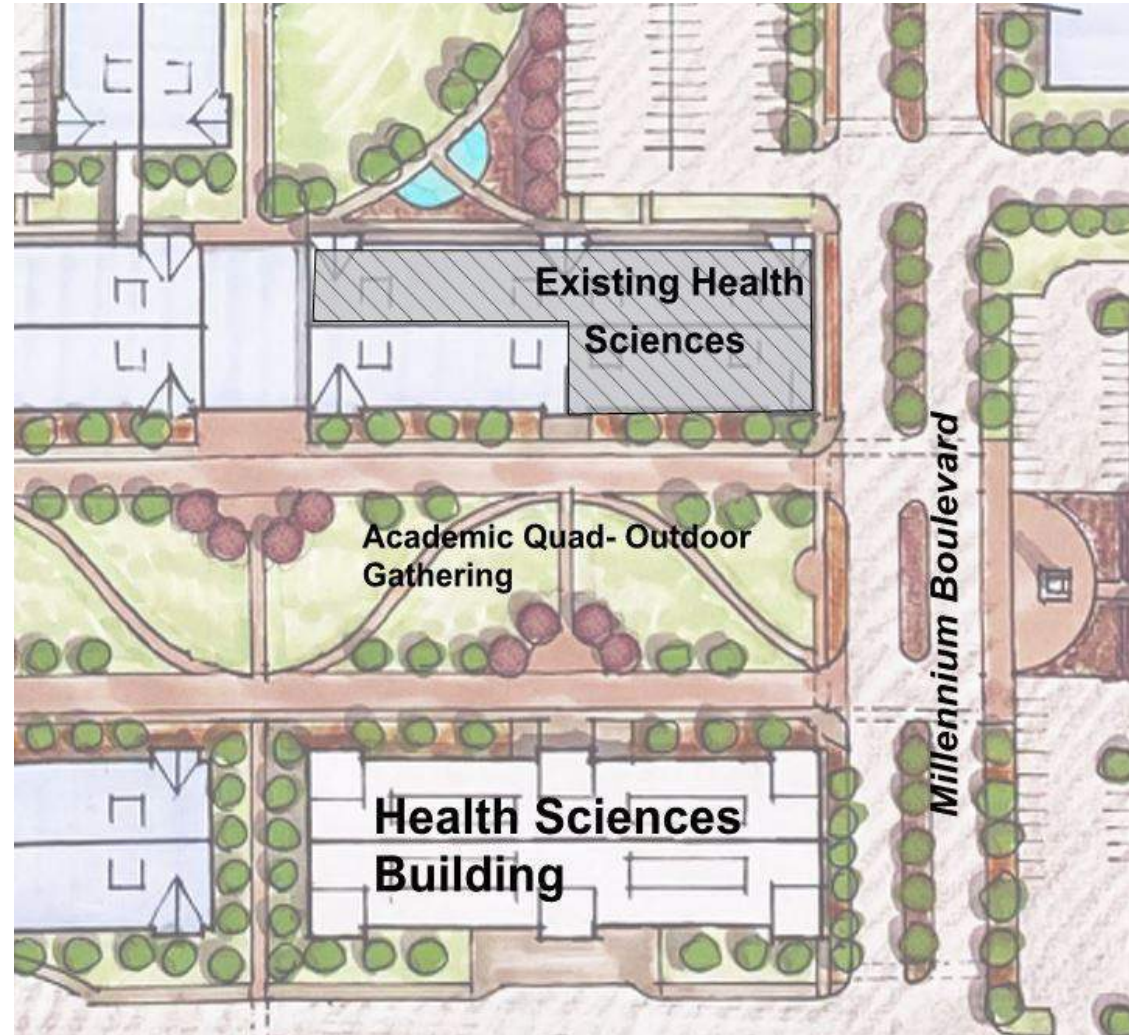
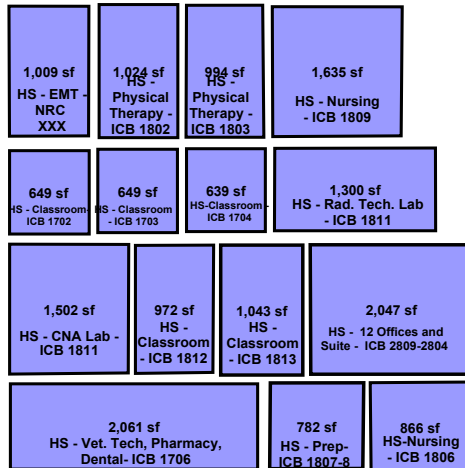




New Requested Health Sciences Spaces



Existing Health Sciences Spaces



Health Sciences Plan

PRIORITY RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: CAREER TECHNICAL EDUCATION

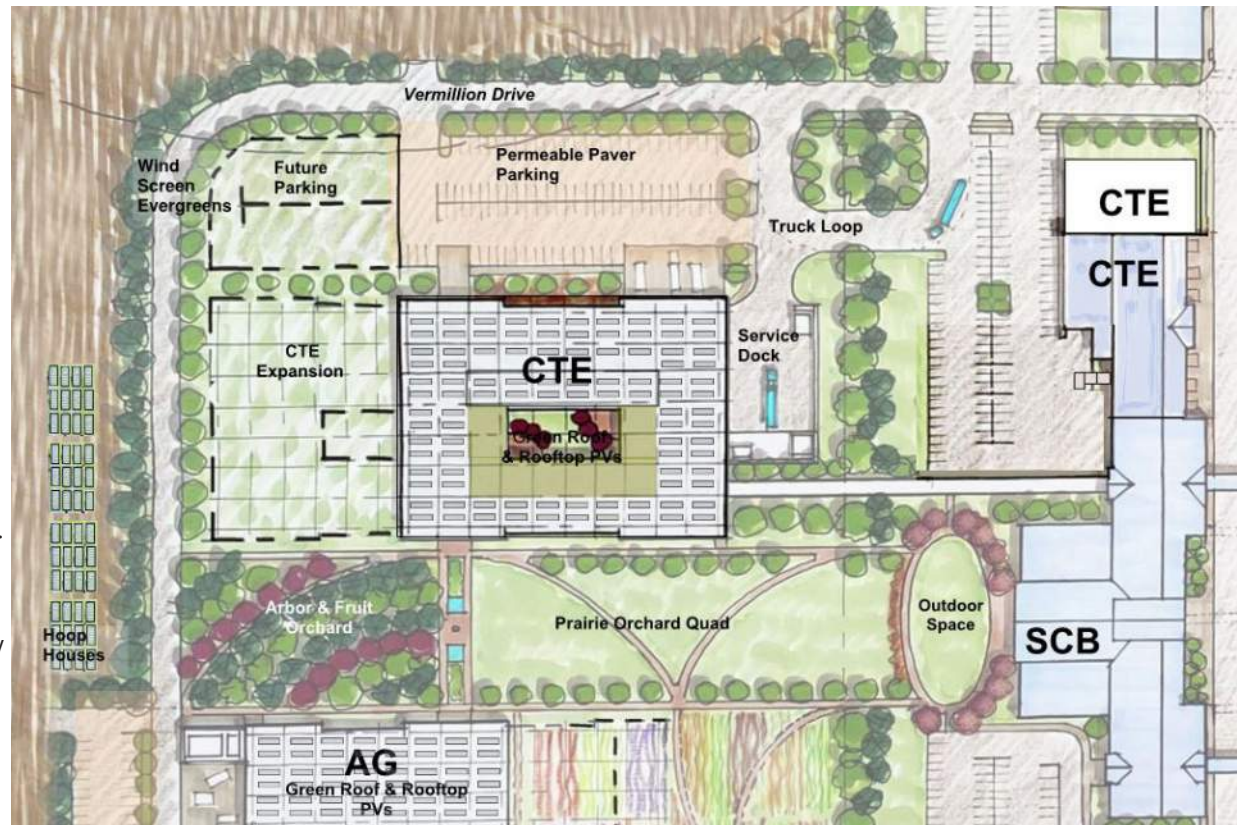
The Community Scan indicates that the College has the opportunity to expand program offerings in Career Technical Education. The Objectives indicated the need to offer new programs and rightsize existing technical lab space, which was later confirmed as a priority for the College. New programs include welding, electric vehicle repair, battery technology, industrial robotics and industrial/network wiring. Programs and certificates include communication graphics, computer network Cisco academy, computer networking - Windows, computer support specialist, construction skills, design and fabrication skills, digital imaging, digital media communication care, electronics skills, renewable energy skills, maintenance skills, industrial technology, web design skills, web media designer and welding skills.

The CTE programs currently reside in the WDC. During the pre-programming interviews, CTE staff and faculty outlined in detail existing space improvements, program additions and new program offerings totaling 54,497 net square feet of program and support space. The current space within WDC cannot support the needs identified.

The requested space can be met in a phased approach. Initially, the Facilities Master Plan recommends renovating existing unused kitchen and dining room space within the SCB. This work may include an addition at the north end of the building.

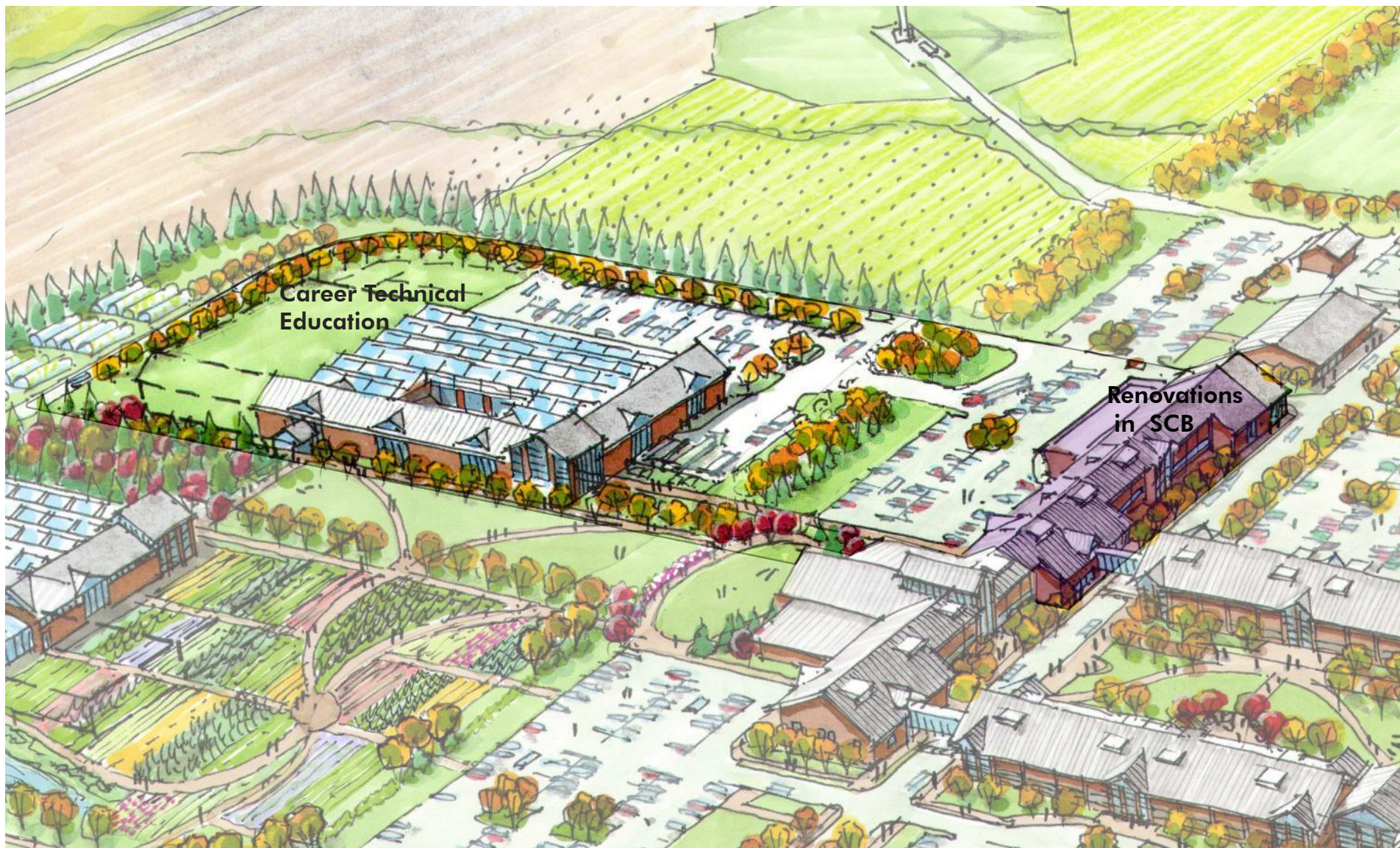
The long-term Facilities Master Plan identifies a CTE building west of the SCB and north of the Agriculture Complex. This new building could be built in phases ranging from 40,000 GSF up to 110,000 GSF to meet the immediate request of 87,195 GSF and future unidentified tech programs.

The flexibility of space is important to allow the building space to respond to changes in technology and the needs of the community. The project includes extending Vermillion Way around to the Agriculture Complex and Raab Road.



CTE Plan





CTE Aerial Perspective

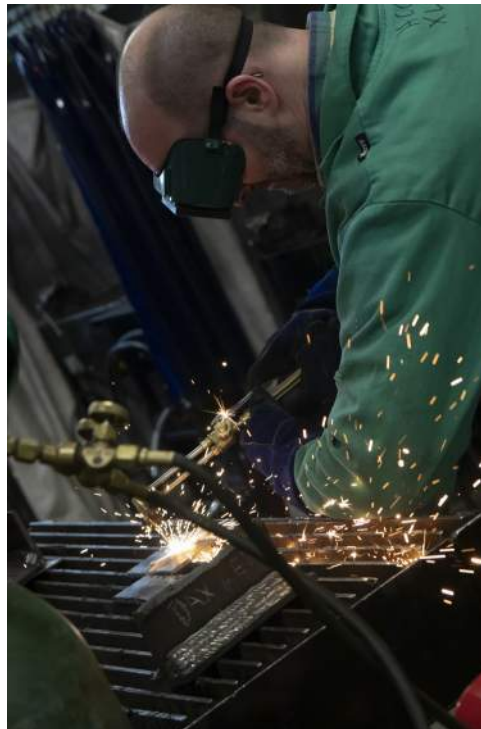
PRIORITY RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: CAREER TECHNICAL EDUCATION

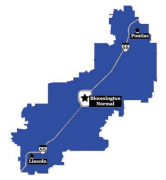
EXISTING CTE SPACES:

- Manufacturing and Integrated Classroom
- Open Advanced Manufacturing/Maintenance Lab and Integrated Classroom
- Renewable Energy Lab
- Classroom
- HVAC Lab
- Construction Lab/Welding Classroom
- Industrial Controls Lab
- Electronics Lab
- Digital Media Lab
- Digital Media Classroom
- Computer Repair Lab and Classroom
- Advanced Networking Lab and Classroom
- Networking Lab and Classroom
- CAD, Drafting, Engineering Graphics Lab and 3D Printer Room
- Construction Computer Classroom
- Business Technology Learning Center
- Computer Science Classroom (3)

NEW REQUESTED CTE SPACES:

- Welding Lab and Integrated Classrooms
- EV Repair/Manufacturing Lab
- Battery Handling Lab
- Industrial and Network Wiring Lab
- Industrial Robotics
- Open Computer Learning Room
- Collaborative Open Spaces
- CTE Conference/Advisory Room
- Faculty office in one location
- Flexible Open Lab/Tech. Space





LEGEND

Existing CTE Space

New/Requested
CTE Space

Existing Square Footage

FIRST FLOOR PLAN

0 32'

Existing First Floor = 17,701 NSF

SECOND FLOOR PLAN

0 32'

Existing Second Floor = 9,575 NSF

THIRD FLOOR PLAN

0 32'

Existing Third Floor = 1,607 NSF

Requested Square Footage

New CTE Program Offerings

WDC Floor Plans - Existing CTE Spaces

New/Requested CTE Spaces

PRIORITY RECOMMENDATIONS OF THE FACILITIES

MASTER PLAN: SCIENCES

Science lab utilization and conditions were identified during faculty interviews and quickly became a clear priority Objective. Biology and Anatomy/Physiology have very high utilization thus limiting offerings that affect other programs such as health sciences. The organic chemistry lab does not meet typical science standards. Other science labs need updating and additional storage/prep space. Science labs are located within the ICN and ICB-West buildings.

The Facilities Master Plan recommends renovating existing lab space, relocating and rightsizing organic chemistry and adding labs at underutilized spaces. Coordination with Health Sciences will be important to identify adjacencies and appropriate support space. Planning of renovations should also recognize the development of display, artwork and student study space to emphasize the use of the building as natural sciences.

EXISTING SCIENCE SPACES:

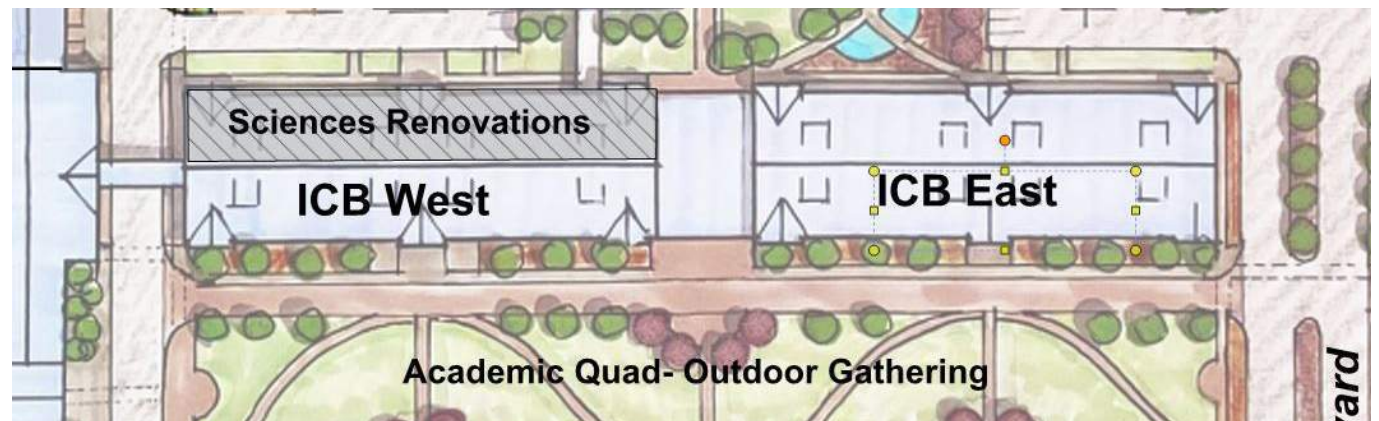
- Chemistry
- Anatomy/Physiology
- Biology and Anatomy
- Microbiology
- Geology
- Earth Science
- Organic Chemistry
- Prep Space



Science Aerial Perspective

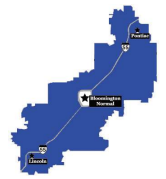
NEW REQUESTED SCIENCE SPACES:

- Biology Lab
- Biology Lab Env/Misc
- Multidiscipline Lab Bio/Earth
- Organic Chemistry
- Additional Prep space
- New Greenhouse



Science Building Plan

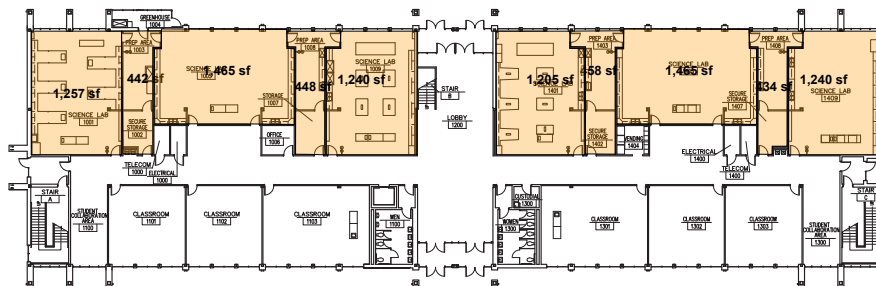
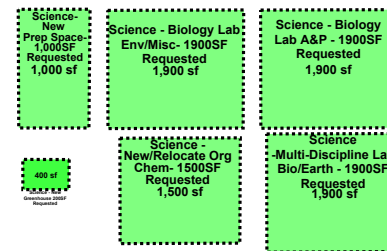




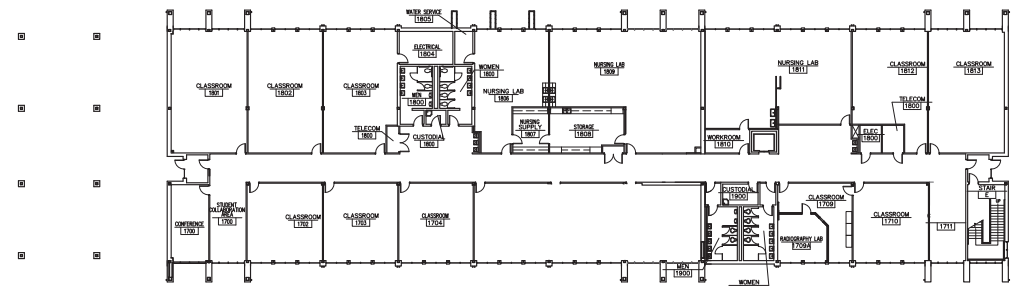
LEGEND



NEW/REQUESTED SCIENCE SPACES



ICB Floor Plans - Existing Science Spaces



FIRST FLOOR PLAN - EAST
SCALE: 3/8" = 1'-0"
0 32'

PRIORITY RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: ENROLLMENT AND STUDENT SERVICES AND STUDENT LIFE

Efficiencies are often found through location adjacencies. Heartland's Enrollment and Student Services (ESS) was originally intended to be within one building location. Over time, however, these diverse services were dispersed about the campus. As a priority Objective, ESS is recommended to have a single location for all programs of ESS and Student Life. The Facilities Master Plan recommends that all ESS and Student Life functions be relocated to the WDC as a "one-stop shop" for current and prospective Heartland students. Relocating these functions for new or enrolling students in the WDC creates a "front door" and entrance to the campus. The WDC sits deep within the campus footprint. Therefore, locating student-centered services and activities in and around the WDC will have the effect of drawing individuals into the heart of the campus so that they experience it more fully.

ESS PROGRAM SPACES:

- Testing
- Financial Aid
- Parking Lot
- Advisement
- Registrar
- Admissions
- Information Desk
- Transfer Center
- New Career Center/Career Connections
- Success Coaches
- Counseling
- Bursar
- Trio/SSS
- Students SAAS/ Student Tutoring
- New Success Connections
- Early College Opportunities





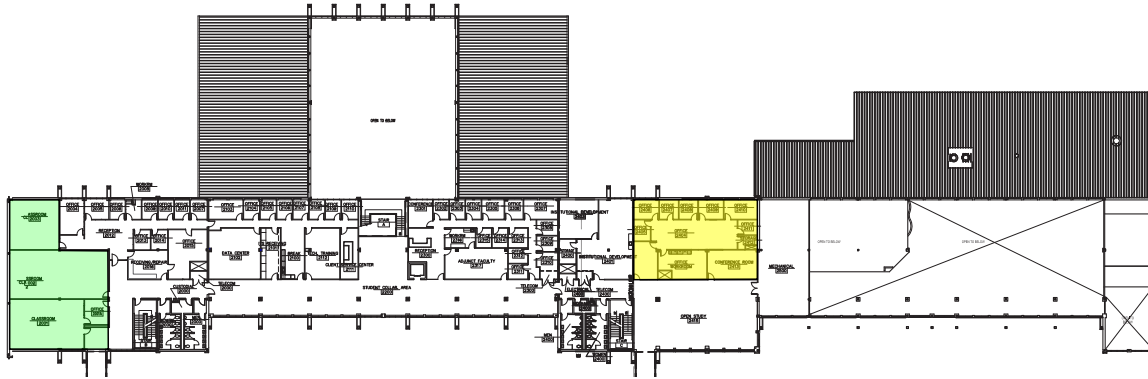
Student life is often the center of the campus experience. Providing students with areas that are comfortable, flexible, quiet for studying, social and fun has the effect of encouraging students to stay on campus, which often improves academic performance. Creating space and promoting student life was identified as a priority Objective of the Facilities Master Plan. The recommendation is to move Student Life functions into the vacated CTE space within the WDC in conjunction with the relocation of ESS functions. Synergies with student services and student life functions can be leveraged to benefit one another with these physical adjacencies. Another recommendation is to provide an outdoor “student life quad” that promotes student gatherings, events, relaxation and dining. The student life quad would be located south of the WDC and east of the ICN. Currently, Student Life functions find their home in the north end of the SCB building. Moving these spaces to the WDC provides opportunities for phasing of CTE transitions or provides growth space for other academic programs such as performing arts.



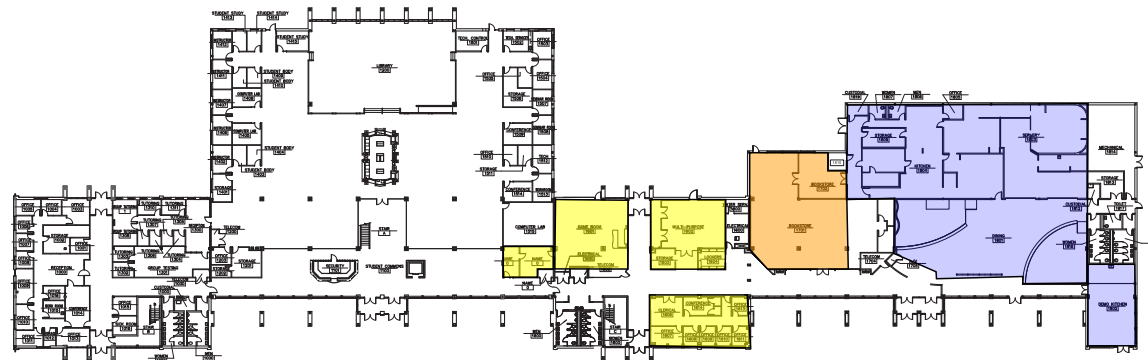
STUDENT LIFE SPACES:

- Student Multipurpose Space
- Veterans Room
- Student Meeting Space
- Large Student Conference Room
- Small Student Conference Room
- Student Organization Offices
- Food Services
- E-Sports
- Student Lounges (Building Ends)
- Outdoor Space
- Gameroom
- Gender Neutral Restroom

PRIORITY RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: ENROLLMENT AND STUDENT SERVICES AND STUDENT LIFE

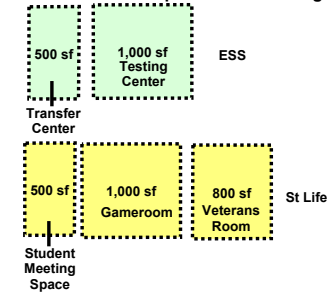


Existing Program Locations - SCB 2nd Floor

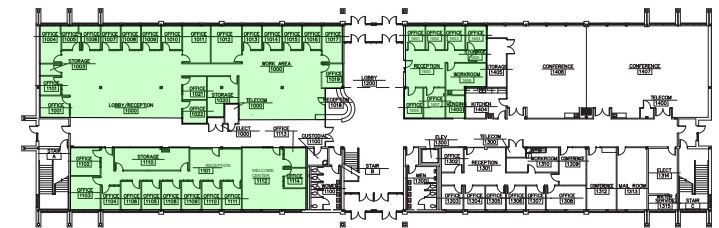
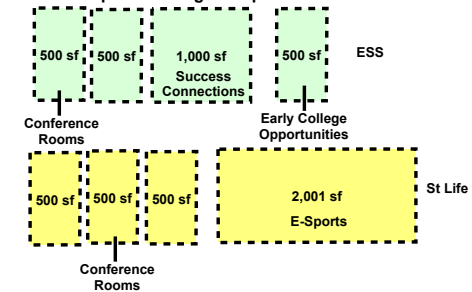


Existing Program Locations - SCB 1st Floor

Additional SF Requested for Existing Spaces



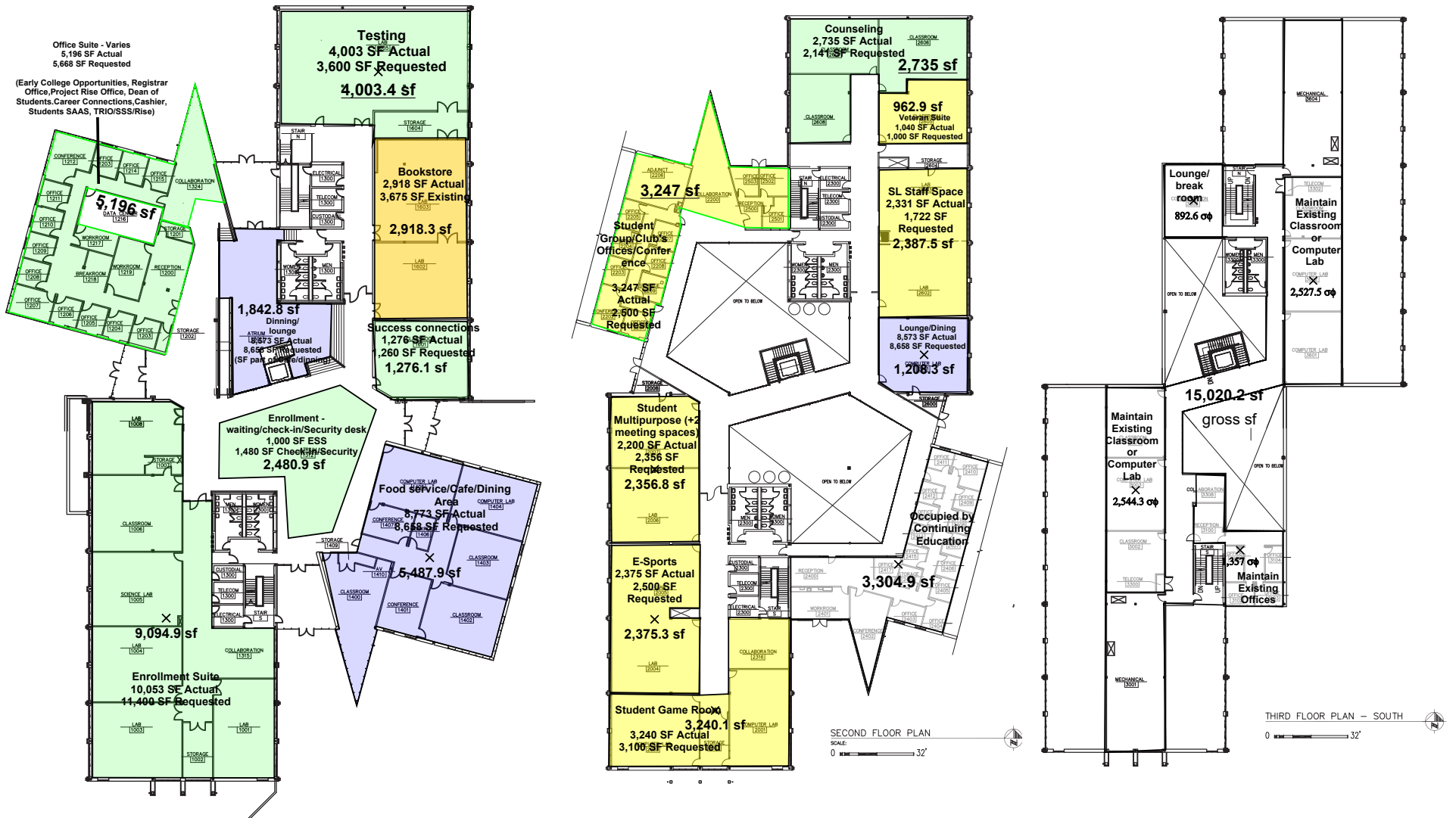
New Requested Program/Spaces SF



Existing Program Locations - CCB 1st Floor

LEGEND

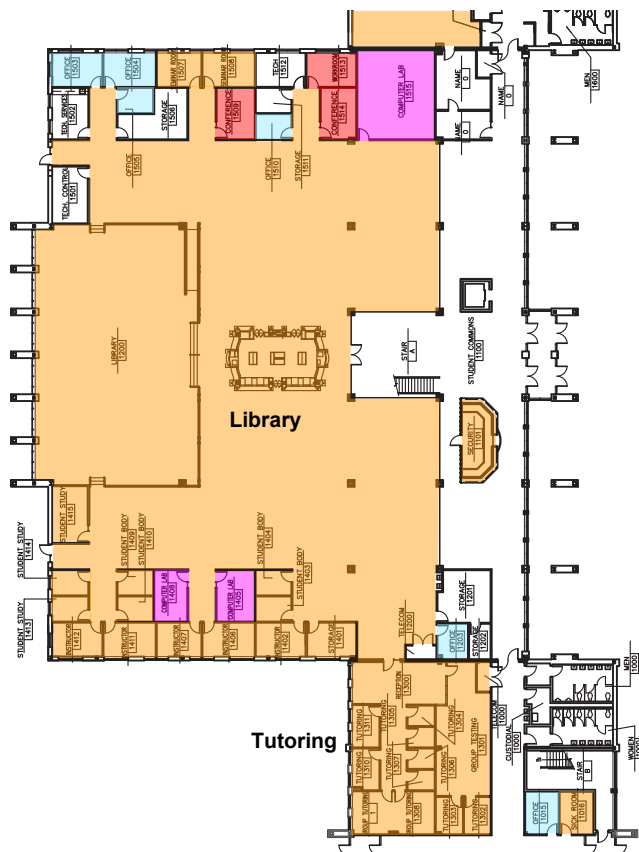
- Bookstore
- Student Life
- ESS
- Food Service



Enrollment and Student Services and Student Life "test-fit" Study in WDC

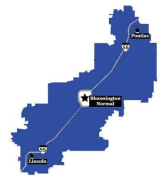
OTHER RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: LIBRARY IMPROVEMENTS

Heartland's library was identified as an Objective to update and modernize to better support students in today's digital world. The Facilities Master Plan recommends a renovation of the existing library, including improvements such as recording studios, small group meeting space, flexible furniture, video editing rooms, study areas, noise reduction enhancements, aesthetic updates and user circulation enhancements. The plan also advises developing the grass area immediately west of the library to improve views and potential access to the exterior. The tutoring lab was identified for renovation to increase access and provide an entrance outside of the library.



Student Commons Building Partial Floor Plan





CLASSROOM IMPROVEMENTS

Facilities Master Plan interviews identified the need for innovative classrooms to allow faculty to use various teaching pedagogies. The plan recommends identifying several classrooms to remodel to meet these faculty requests. Mock-up classrooms should be used to study several layouts with flexible furniture, finishes, color, acoustics, technology, lighting and other amenities. After a mock-up is used for a semester, feedback from students and faculty will allow Heartland to identify more classrooms to remodel.

Supporting classroom instruction, the Facilities Master Plan identifies the need for more student study and meeting space. Small group learning spaces equipped with technology can serve multiple functions in academic areas, tutoring and the library.



OTHER RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: EVENT SPACES AND FINE ARTS

Heartland Community College hosts a multitude of events, conferences, training and community gatherings on campus. The ACEC has an auditorium with limited breakout space. The facility lacks the flat floor space needed to support conferences of 300 or more attendees. The auditorium was not designed for theater use and has limited support space for the fine arts.

In the short-term, the recommendation is to upgrade audiovisual systems in the ACEC. It is also recommended to identify underutilized space on campus to grow fine arts programs by providing rehearsal space or an experimental theater. As demand grows, other modifications could be made to the ACEC to renovate and expand. The Facilities Master Plan identifies an addition at the northeast side of the existing ACEC. This location could provide expansion for the CLC and the potential for a dedicated performing arts space or black box theater with essential back of house support, ensemble rehearsal space, instrument storage, practice rooms and audio and music spaces. As an option, the ACEC auditorium could be renovated with a flat floor or existing breakout spaces reconfigured to provide a 300-seat conference space.

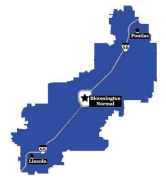
Longer term, the Facilities Master Plan identifies several options within the Student and Community zone for events, conferences and fine arts. An Event Center could be located adjacent to Birky Pond to take advantage of views during events. This building could become a conference center and/or a performing arts center.



ACEC and Event Space

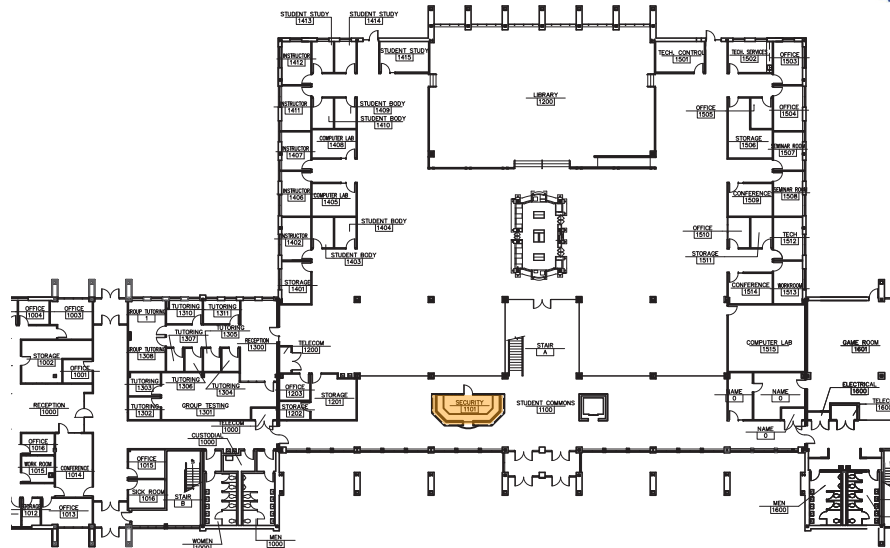


ACEC and Event Space (FRC in the background)



PUBLIC SAFETY

Interviews and pre-programming meetings identified the need for a public safety suite/area with offices, conference space, locker rooms, emergency operations/incident center and support space. The plan also calls for implementing standards for the electronic door access system for exterior doors, as well as enhancing emergency notification systems including event paging, sirens, strobes and messaging. Future developments will dictate the need and available space for possible security desk locations at SCB, CCB or WDC once Enrollment and Student Services is housed there.



Existing Security Desk at the Student Commons Building

INFORMATION TECHNOLOGY

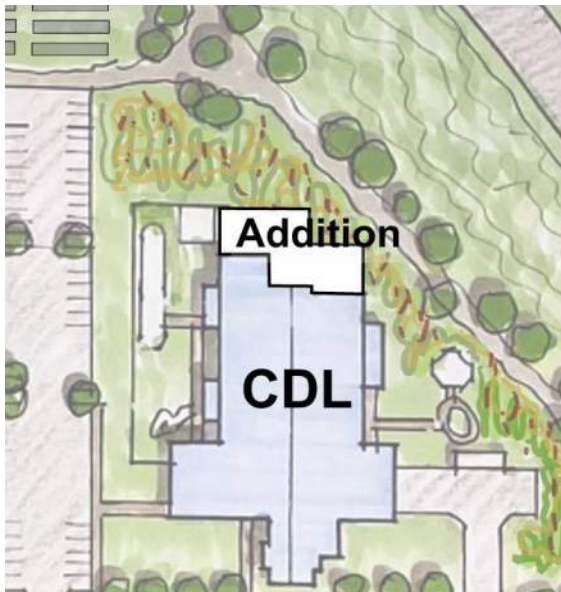
Throughout the Facilities Master Plan interviews and pre-programming meetings, many improvements were identified for the campus to continue offering the required IT services to students and staff. These include developing disaster recovery for IT systems, replacing legacy hardware with new up-to-date hardware, installing a reliable cooling system for areas needed, establishing up-to-date security cameras across campus, adding and ensuring up-to-date charging stations for personal devices throughout campus, streamlining redundant internet routing and implementing better Wi-Fi coverage across the campus, including the addition of the quad/outside spaces.

OTHER RECOMMENDATIONS OF THE FACILITIES MASTER PLAN: FITNESS AND RECREATION



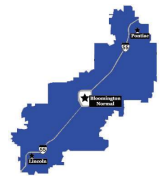
The Fitness and Recreation Center (FRC) has multiple types of users including students, faculty, staff and student-athletes that often overlap usage times in the existing space. The Facilities Master Plan recommends additions including a second gymnasium, connection from the south entrance to the fitness areas, additional fitness space, locker rooms and support space.

CHILD DEVELOPMENT LAB



The Child Development Lab (CDL) meets the campus demand for childcare space. At times, there is demand from the public for additional childcare services. If campus demand requires additional childcare spaces, the Facilities Master Plan recommends expanding to the north end of the CDL. This location provides a natural extension of the building classroom core. Modifications will be required for outdoor playgrounds.

SITE DESIGN



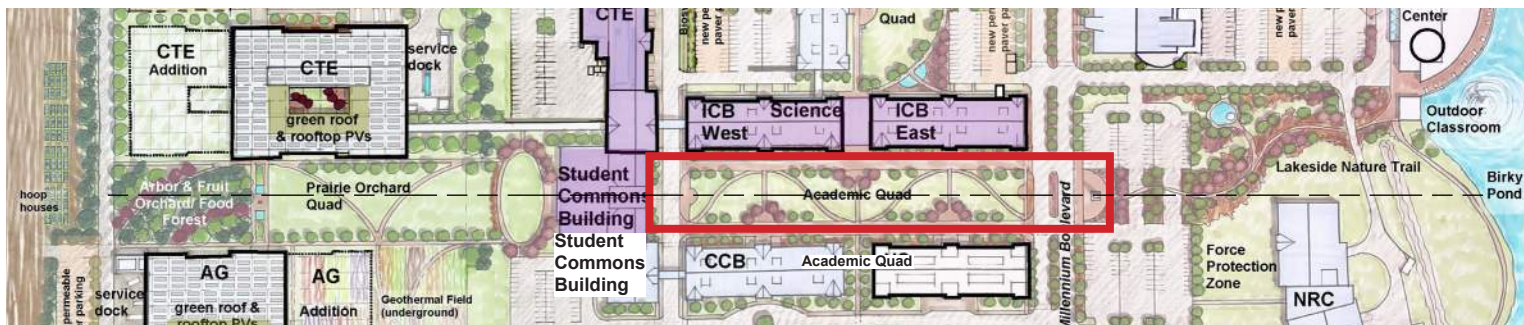
The proposed Facilities Master Plan for Heartland Community College considers the landscape to improve connectivity and create a sense of place throughout the campus. The identified landscape zones will enhance the pedestrian experience while providing additional opportunities for outdoor classrooms, socializing and recreation.



Academic Quad

THE ACADEMIC QUAD

With the strengthening of the academic quad to serve as a central green area, the campus will connect the agricultural campus to the west and Birky Pond to the east. The academic quad will be improved with additional planting, pathways and plazas to encourage active use and become a location for formal ceremonies and smaller events. With a possible fountain or campus marker serving as the east sight line, the academic quad will continue eastward past Millennium Boulevard and become a meandering path through a woodland with native planting as it leads to the pond. Located west of the SCB will be the prairie orchard quad, which creates an opportunity for outdoor classrooms and links together the new Agriculture Complex and Career Technical Education Building. The prairie orchard quad will be lined with fruit trees to serve as a transition to the food forest and orchards as part of the agricultural studies programs.



Academic Quad

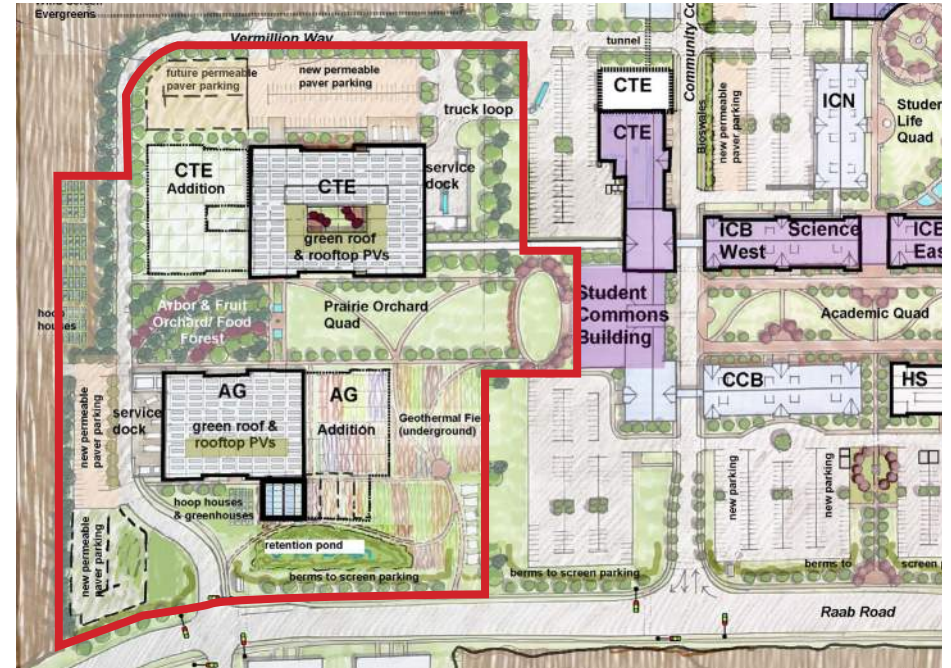
OTHER RECOMMENDATIONS OF THE FACILITIES

MASTER PLAN: SITE DESIGN

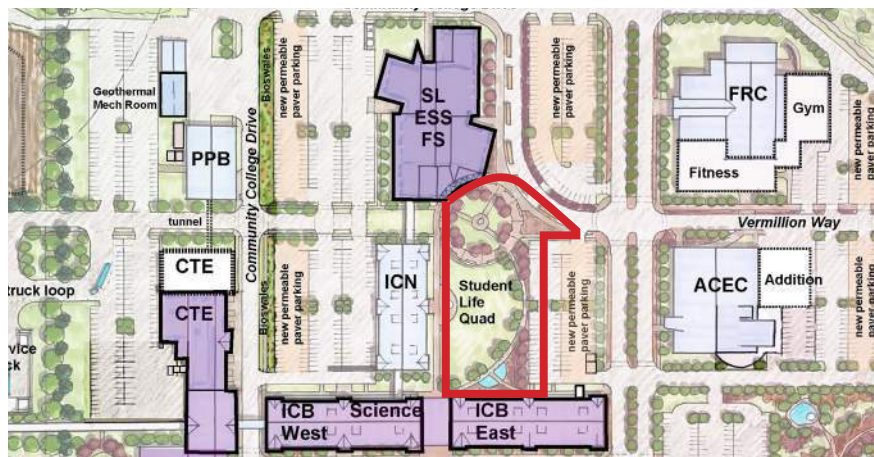
AGRICULTURE COMPLEX

The western expansion focuses on providing an innovative agricultural studies program that showcases food production. Pathways through the food forest, fruit orchards, farmland plots and demonstration gardens will make these areas accessible to the public and provide an edible botanical garden. These open areas will enable outdoor learning by providing a variety of options for outdoor classrooms.

To the south of the agricultural plots, stormwater will be managed through a detention pond, bioswales and berms to screen the parking lots. Stormwater management can also be utilized for educational opportunities as a testing zone for different filtration techniques. Similarly, the use of permeable pavers in the new parking areas can be used for stormwater analysis. Stormwater collection from roofs and greenhouses can be used for irrigation.



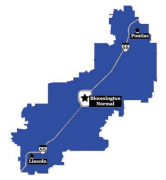
Agriculture Complex



Student Life Quad

STUDENT LIFE QUAD

Enhancing the north connection to the new Enrollment and Student Services and Student Life building (previously WDC) will be the student life quad. This green space could become an event space for concerts, gatherings and outdoor dining associated with Student Life. The plaza follows the existing northern connection and becomes a generous open space amenity. With the use of landscape berms and lower understory planting, there is the opportunity to create a campus highlight within this open space area.



CAMPUS ARRIVAL

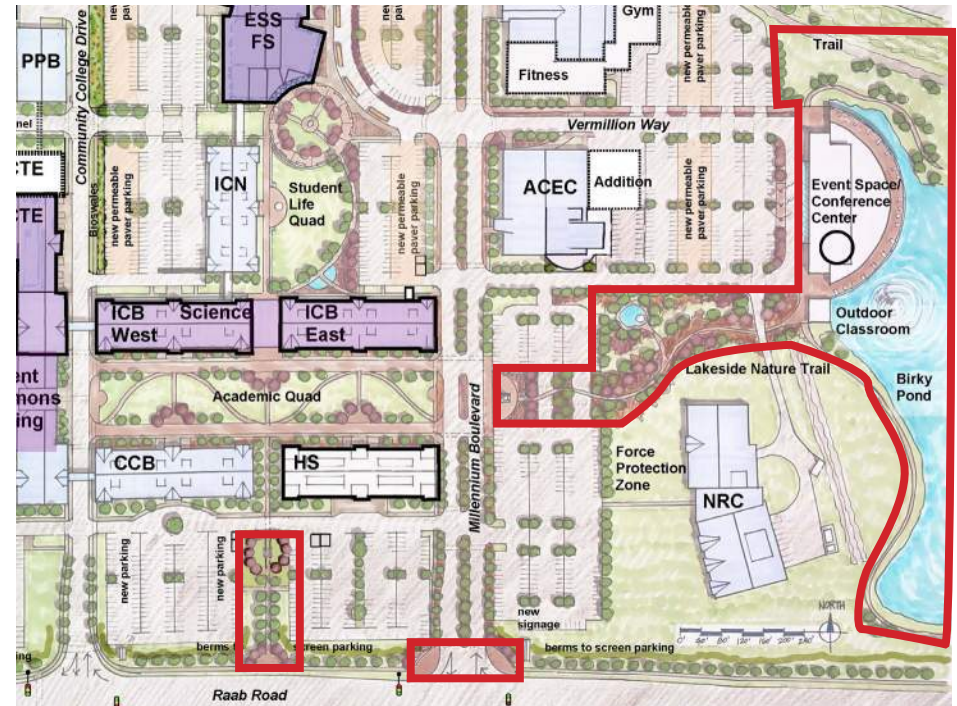
The main entry along Raab Road and Millennium Boulevard will be enhanced to create a sense of arrival to the campus. New signage at the entry will improve the existing entrance and draw students and visitors into the campus. Ornamental planting will enhance the entrance and arrival experience.

The central pedestrian entrance will also be enhanced with new paving and ornamental planting terminating at Raab Road. Drawing pedestrians to the southern edge of campus will be a new sculpture and plaza, which will create the opportunity for an iconic campus photo with views of the quad northward. The sculpture could be commissioned, allowing a local artist to be site-specific for this location.

LAKESIDE NATURE TRAIL

Because of limited access to Birky Pond, the water has not been utilized to its fullest extent on campus. However, with improved connectivity, the pond can become a natural asset to the campus and a backdrop for a future Event Space/Conference Center and outdoor classroom. Connected with a meandering path to the academic quad, the pond will become a destination. A nature trail around the perimeter of the pond will provide recreational, educational and environmental benefits.

The natural landscape areas surrounding the pond could be expanded and monitored to improve the diversity of the native species. To encourage wildlife and improve the quality of the water, the shoreline should be planted with native vegetation and avoid lawn



Campus Arrival and Birky Pond Trail



View from Birky Pond

FACILITIES MASTER PLAN COST ESTIMATING AND EXPENDITURES

PROJECT COST ESTIMATING

The Facilities Master Plan process included preliminary estimating to create budgets. These budgets contain ranges for similar College building types in Illinois. Detailed programming and subsequent design of these buildings incorporating site conditions will assist in the refinement of the estimates. The following categories were used in defining the building, site and soft costs. It is important for the user to carry adequate escalation, contingency and other soft costs, which should be updated when actual schedules are developed.

Estimates use building gross square footages based on program net square footages generated from user requests. Detailed programming meetings will refine the number of program space size requirements. Gross square footage includes corridors, washrooms, mechanical rooms, stairs, walls and other support space.

FACILITIES MASTER PLAN BUDGETING:

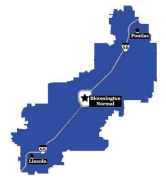
“Hard Costs”

- Building and site - material and labor costs for renovations
- New construction includes contractor overhead and profit
- Program/Design contingencies and escalation (inflation 5% per year or more) and construction contingency

“Soft Costs”

- | | |
|-------------------------------------|----------------------------------|
| • General Conditions | • Insurance |
| • Construction Management | • Furniture/Equipment/Technology |
| • Architecture/Engineering Services | • Security |
| • Utility Charges | • Environmental Expenses |
| • Surveys/Testing | |





Preliminary Costs Sept 2020					MP	
Priority Projects					Range	
	NSF	GSF Area	Total Project Cost \$ per SF \$/SF Range			
Agriculture Complex	29,080	48,384	450	616	\$ 21,772,800	\$ 29,799,200
New Facility & Site Improvements						
Career Technical Education					\$ 33,604,950	\$ 44,786,600
CTE New Construction 54,497 NSF req x 1.6	38,007	60,811	450	600	27,364,950	36,486,600
(less renovation 16,490 NSF at SCB)						
Renovation 1602-1802 spaces 16,490 NSF	16,490	20,000	312	415	6,240,000	8,300,000
Health Sciences					\$ 35,309,696	\$ 41,184,976
HS - New Construction	37,201	61,382	528	568	32,409,696	34,864,976
HS - Renovate Existing 16,601 + Corridors, Etc	16,601	20,000	145	316	2,900,000	6,320,000
Relocation of Photolab and Art	2,500	3,000	250	350	750,000	1,050,000
Science					\$ 7,502,500	\$ 11,499,700
Renovate 11,236 existing space + Corridors	11,236	14,000	250	350	3,500,000	4,900,000
Renovate new/replace Labs 9200 NSF x 1.65	9,200	15,180	250	415	3,795,000	6,299,700
Relocate Greenhouse	500	500	415	600	207,500	300,000
Enrollment & Student Services					\$ 16,505,000	\$ 31,155,000
Remodel other parts of WDC (Non-Enrollment)	15,000	15,000	32	80	480,000	1,200,000
Renovation WDC Enr/SS/bookstore	40,000	40,000	145	316	5,800,000	12,640,000
WDC Envelope and Mechanical		101,000	50	75	5,050,000	7,575,000
WDC New Quad/Entry/Landscape		-	0	0	3,000,000	5,000,000
Student Life/Dining Relocation/Renovation	10,163	15,000	145	316	2,175,000	4,740,000
Total Priority Projects					\$ 114,694,946	\$ 158,425,476

Not included in Priority Project Estimates above: classroom updates, library, tutoring, IT, sitework/landscape, other renovations and other upgrades. Escalation considers budgets based on the actual implementation schedule.

FUTURE FACILITIES MASTER PLANS



This Facilities Master Plan provides a “road map” for the College to accomplish short-term priorities and provides a framework for future opportunities. The plan is intended to be flexible and adjust to variable funding sources, community needs and timelines. The guidelines and costs should be a resource for planning, but each project should be fully programmed and estimated prior to project implementation.

The Illinois Community College Board requires colleges to revisit and update their Facilities Master Plans every five years. Future Facilities Master Plan updates may not be as extensive as the recent undertaking, but should include what has been completed and update the priorities for the next system period.

This Facilities Master Plan can be used to identify potential Illinois Community College Board Resource Allocation Management Plan (RAMP) projects for the College.







5

DESIGN GUIDELINES



CHAPTER 5: DESIGN GUIDELINES

- 5.96 Design Guidelines Summary
- 5.101 Landscape Guidelines
- 5.112 Building and Interior Design
- 5.116 Sustainability Strategies

DESIGN GUIDELINES SUMMARY

DESIGN GUIDE OUTLINE

The overall goal of this outline is to establish a set of principles to follow during the implementation of the Heartland Community College Facilities Master Plan. The following criteria are included in this outline:

- Site Design
- Landscape/Planting Design
- Architectural Design
- Interior Design
- Integrated Strategies for a Sustainable Campus

The Facilities Master Plan design guide outline has been created with visual, functional and thematic guidelines to assist the College, planners and designers involved in the campus design and site planning. It will also provide guidelines for future growth and development of the College with a design cohesiveness that will promote and improve the aesthetic and structural quality of the campus.



Proposed View of Academic Quad

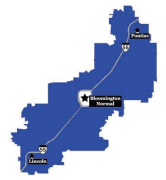
SITE DESIGN

Guidelines for site elements will inform long-term development strategies for Heartland Community College. These coordinated guidelines will ensure the College's position as a community resource of the highest caliber. The role of the site and its constructed elements is fundamental to achieving the College's developmental vision. Site elements to be addressed include the following:

- Parking and Vehicular Circulation
- Pedestrian Walkways
- Site Lighting
- Bioswales
- Sustainability
- Athletic Fields and Open Multiuse Green Space
- Site Furniture and Amenities
- Signage
- Landscape

SITE DESIGN CRITERIA

- A consistent palette of materials should be used throughout the campus and should reinforce the prevailing building materials. The walkway system should ease wayfinding and be designed as a unifying element throughout the campus.
- As part of the campus wayfinding strategy, building entrances should be emphasized with architectural forms, color, lighting, artwork and signage to make them important destinations easily recognizable from a distance.
- Special surfaces such as pavers, landscape walls, rocks and retaining walls should be used at building entrances, quads and campus life spaces.
- Commissioned artwork, sculpture and focal landscape should be placed to organize courtyards and quadrangles as well as building entrances. Properly located, these can assist with wayfinding and differentiating buildings.



View Across Birky Pond



Example of Outdoor Student Space

DESIGN GUIDELINES SUMMARY

SITE LIGHTING

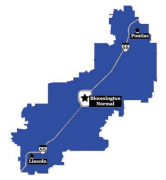
These site lighting guidelines should be considered as parking lots, hardscape and entrances are developed to balance the cost of lighting, operation, light output and aesthetic quality. A unified system will reinforce the hierarchy and delineation of the circulation system, provide sufficient ambient and destination illumination and enhance safety and visibility for the campus.

Outdoor lighting will include a categorized hierarchy of major roadway lighting, parking and secondary roadway lighting, pedestrian scale lighting and special purpose lighting:

- Site lighting should help clarify the site organization after dark and provide safety for users.
- Lighting should be low-key in background and appearance.
- The campus should avoid glaring or obtrusive light, minimizing “light pollution” by directing light toward surfaces and not into the sky.
- Luminaries and posts should reflect the architectural character of the inside and blend harmoniously with other site elements.
- The location of lighting sources should be placed sensitively to avoid high-contrast visual patterns on the site, except where intended with accent lighting for primary destinations. Accent lighting should be treated as a significant site feature for campus entry, building entries and special features such as the lake, plazas and monuments.
- Floodlighting generally will not be allowed. However, special approval may be given to lighting plans that call for highlighting special portions of a building such as main entrances, playing fields or areas that enhance security.
- Pole lights are recommended along walkways requiring visibility for pedestrian safety. These should also be used as accent or directional lighting to emphasize driveway and building entrances and exits.
- The use of high-efficiency lamps and ballasts, task lighting combined with reduced ambient lighting and smart controls such as occupancy sensors and daylight dimming is desired to reduce energy usage associated with electrical light.
- The height of light poles adjacent to buildings, along sidewalks, and within quads should be no taller than 10’ - 14’. Taller light poles should be used within parking lots toward the center and placed accordingly away from trees and buildings.
- The color of the light output should emphasize the full spectrum of color with a color rendering index between 80 and 90 or higher.
- Refer to current illumination standards for average and minimum foot candle requirements. Consider the amount of lighting required for security cameras in parking lots.



Examples of Pedestrian Site Lighting



SITE FURNITURE AND AMENITIES

Site furniture should be carefully selected to create a cohesive character and image for the campus. Campuswide and specific buildings should carry a consistent design and use materials complementary to the design and architecture. Site furniture should be chosen that will encourage the use of outdoor spaces. These elements of outdoor spaces not only provide comfort and convenience, but also some items such as bollards can provide safety for pedestrians; lighted ones help with wayfinding as well. The design and placement of all site furnishings should reflect expected use patterns and blend harmoniously with other site elements. Site furnishings that should be provided are as follows:

- Benches
- Bicycle Racks
- Electric Vehicle Charging Stations and Designated Spaces
- Tree Grates and Bollards
- Trash Receptacles and Recycling Bins
- Signage
- Planters
- Public Art and Sculptures

ATHLETIC FIELDS

As the athletic fields are developed and maintained over time, they will require a higher level of maintenance and repair. Special athletic turf with an irrigation system should be considered for any new competition softball or baseball fields. Otherwise, athletic fields should be composed of wear-resistant turf grass blends commonly used for parks and playing fields.



Corn Crib Stadium

DESIGN GUIDELINES SUMMARY

SITE SIGNAGE AND WAYFINDING

A comprehensive system of signage conveying the messages that are essential to the function, safety and security of the users is critical to the success of wayfinding for visitors. Graphic design for signage will encompass the treatment of directional and informational systems and building entrances.

Signs not only contribute vital information, but, if well designed, can also improve the character of the area. In general, signs conveying information should be consistent in color, shape, message and location. They should be easily recognized and relate to the varying modes of circulation. Signage should provide the following:

- Establish a signage hierarchy and support College branding. Sign sizes should be scaled to pedestrians and vehicles.
- Ensure signs have coordinated and consistent display, materials, sizes and mounting hardware. Sign placement and design should be integrated into buildings, landscape and hardscape.
- To improve user orientation, additional guide signs may be necessary.
- Simple functional signs shall be non-flashing and consideration should be given to long-term durability and maintenance.
- Directional signs indicating entrance, exit, loading areas or location of parking shall not exceed six square feet (6 SF).
- Signage should be especially discreet (i.e., available but not blatant) in natural areas. Dedicatory plaques honoring contribution to the campus should remain in line with the campus style.
- Instructional, temporary, or cautionary signs should be consistent with the stylistic rules governing all signage on campus.
- Consider signs that emphasize and describe campus efforts to be sustainable.



Wayfinding Examples

LANDSCAPE GUIDELINES

OUTDOOR SEATING

A goal of the Facilities Master Plan is to improve the “sense of place” that can be demonstrated through a clear design style on campus. This can be done through a concise palette of materials seen through planting, paving, wayfinding and site furnishings. In terms of site furnishings, there is currently a uniform bench style while tables, chairs and trash receptacles are powder-coated black metal. Bike are secured at a galvanized steel wave rack. Although these are consistent on campus, there is an opportunity to add new types of seating such as large platform benches, movable chairs, seatwall planters or outdoor work stations that will increase the usability of the outdoor spaces. To improve branding, the existing site furniture palette should be updated to match the colors of the College or include logos. This could begin with individual projects or be budgeted in renovation and construction projects.



New Types of Seating



Existing Tables



Movable Chairs and Tables



Integrated Outdoor Seating

LANDSCAPE GUIDELINES

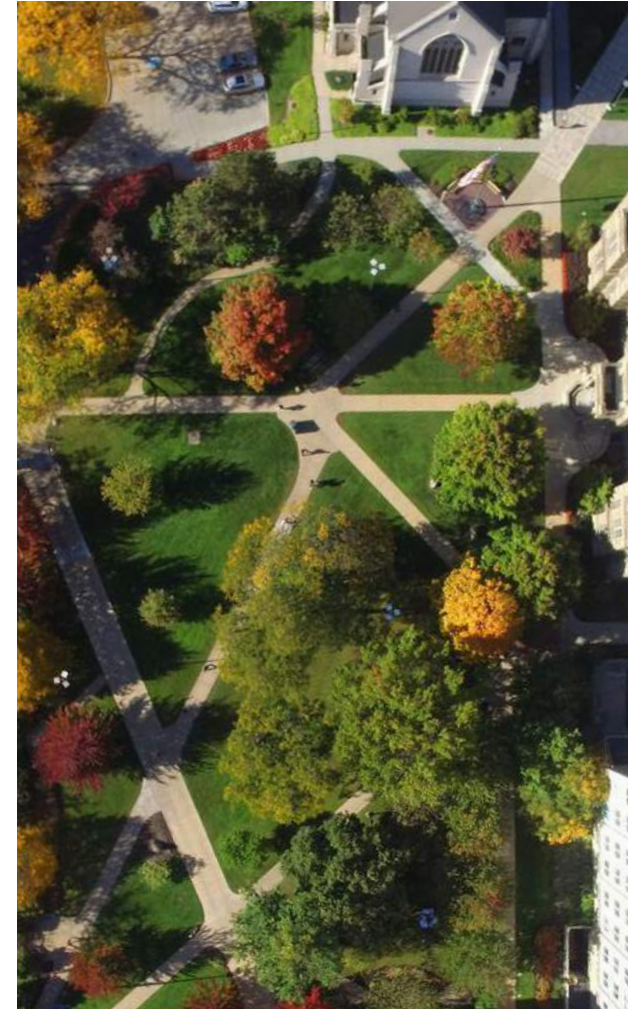
PLANT BIODIVERSITY

Largely built in 2000, the campus landscape has had a chance to mature and establish the character at Heartland Community College. Some trees have done well, but large groupings of trees have not been successful. As an integral component of the original campus landscape the trees were planted in linear rows with a single type of tree along the major thoroughfares to create a formal axis and enforce the views around the Campus. Unfortunately, the monoculture planting has presented problems when faced with new plant threats such as the emerald ash borer or the loss of a single tree in a formal linear planting. Currently, the diversity is low with seven species of trees (Honeylocust, Littleleaf Linden, Tulip Tree, Red Maple, Sugar Maple, Shingle Oak and Red Oak) accounting for the majority of shade trees. Of these, only three (Red Maple, Shingle Oak and Red Oak) are native to the area. Recently, the College has taken steps with the foundation to plant a variety of trees in the academic quad utilizing donations and gifts.

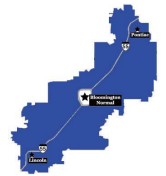
The campus was primarily planted with shade trees and there are nominal ornamental trees and lower understory plantings such as shrubs, perennials and ornamental grasses. Although this planting has lessened the ongoing maintenance requirements, it has decreased the biodiversity on-site and has contributed to the windy conditions with the lack of lower planting to mitigate the wind. Additionally, the campus does not benefit from the seasonal variety that increased diversity affords. Examples include spring-flowering trees or ornamental grasses and plumes present in winter.

Work recently completed in the quad has loosened the formality of the planting and increased biodiversity with a mixture of shade and ornamental trees such as Buckeye, Redbud and Hornbeam. This planting style effectively future-proofs the planting in the event of further tree losses or unforeseen tree diseases. Future landscape proposals should encourage greater biodiversity of tree species and types of plants that are well adapted to windy conditions and salt (due to the winter maintenance regimen). The following plant palette provides a guide for future planting:

- Each species comprises no more than 10 - 15% of the overall tree composition.
- Large linear groupings should be avoided.
- A mixture of shade, ornamental and evergreen trees.
- Emphasis on native species.
- Use of specimen trees, such as White Oak, Sweet Gum or Catalpa trees, can create a parkland setting and provide an identity.



Variety of Trees in a Diverse Planting Placement



TREES



Exclamation London Plane
h: 50'-60'
w: 40'-50'



Swamp White Oak
h: 50'-60'
w: 50'-60'



Dwarf Mugo Pine
h: 3-5'
w: 6'-10'



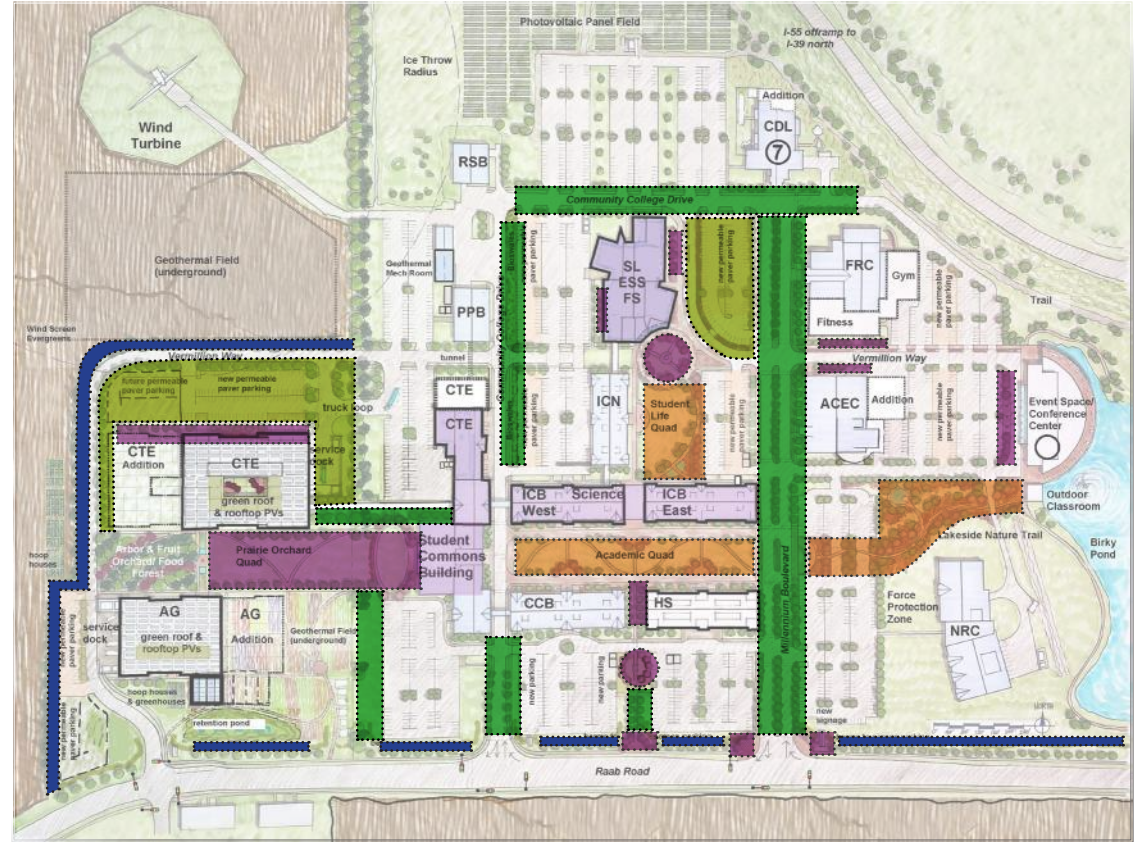
Douglas Fir
h: 80'-160'
w: 20-30'



Pagoda Dogwood
h: 20-25'
w: 20'



Saucer Magnolia
h: 25'
w: 25'



Strategic Tree Planting

LEGEND

- Increase biodiversity of shade trees
- Mix of shade and ornamental trees
- Ornamental trees
- Parking lot shade tree planting
- Mix of evergreens, shade and ornamental trees

LANDSCAPE GUIDELINES

UNDERSTORY PLANT PALETTE - BIOSWALE



Swamp Milkweed h: 24"-48"
w: 9"-18"



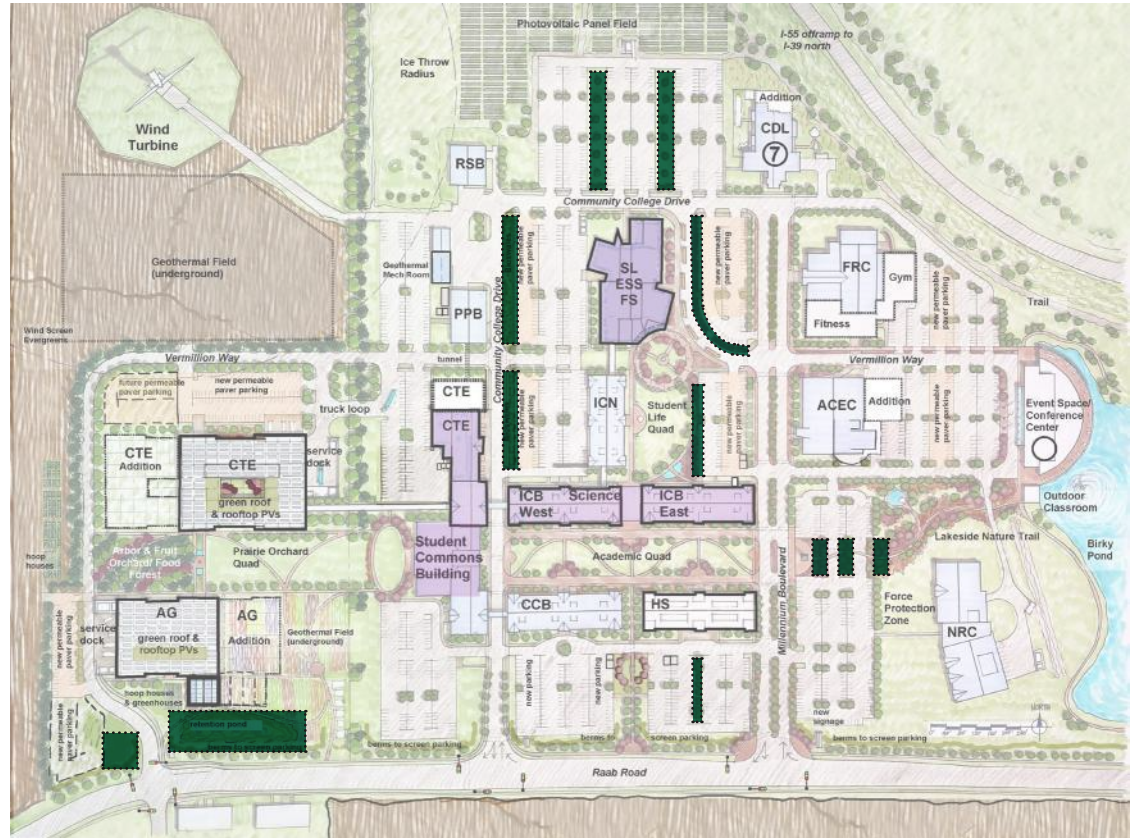
Fox Sedge h: 18"-24"
w: 18"-24"



Blue Cardinal Flower h: 18"-24"
w: 12"-18"



Meadowsweet h: 24"-36"
w: 24"-36"

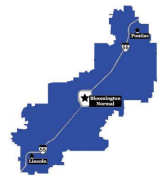


Strategic Bioswale Planting

Botanical Name	Common Name	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
<i>Asclepias incarnata</i>	Swamp Milkweed	X					
<i>Carex vulpinoidea</i>	Fox Sedge	X					
<i>Eutrochium purpureum</i>	Joe Pye Weed	X					
<i>Iris virginica shrevei</i>	Blue Flag Iris	X					
<i>Lobelia siphilitica</i>	Blue Cardinal Flower	X					
<i>Spiraea alba</i>	Meadowsweet	X					

LEGEND

 Bioswale locations



UNDERSTORY PLANT PALETTE - ORNAMENTAL GRASSES



Side-Oats Grama h: 24"-36"
w: 18"-24"



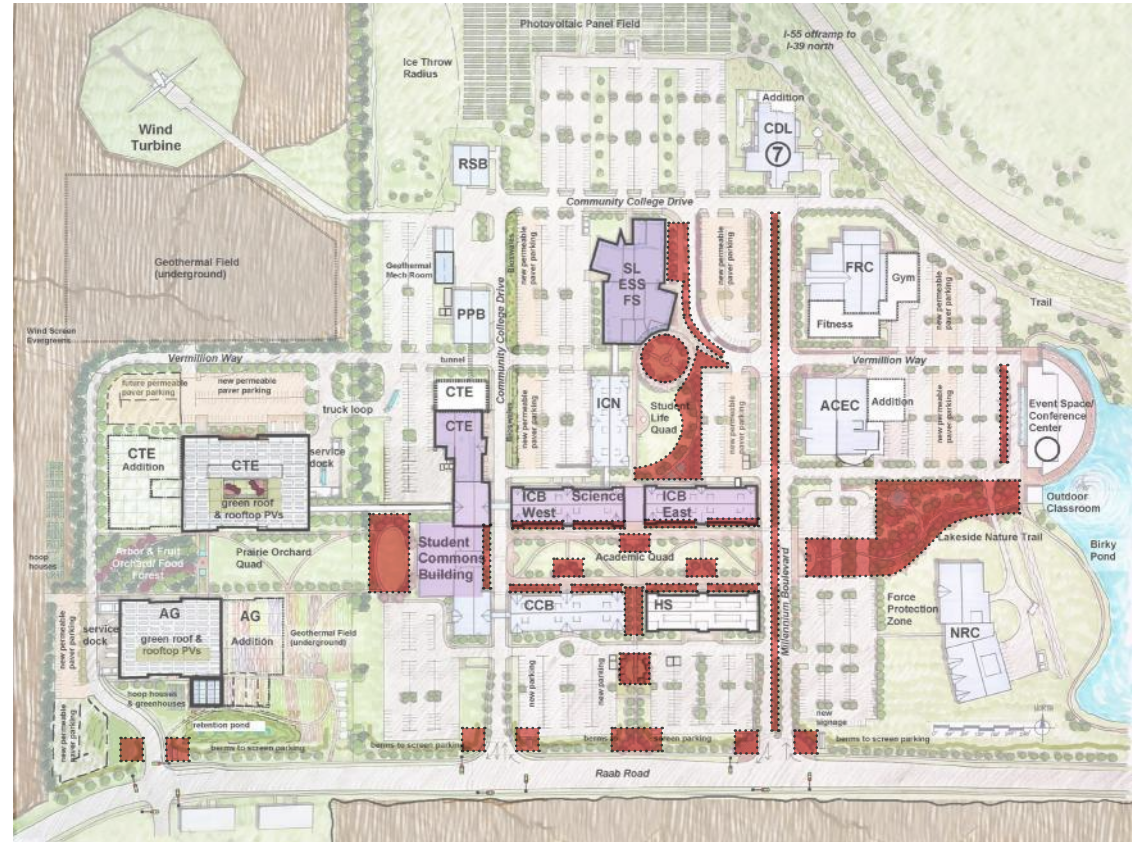
Feather Reed Grass h: 4'-6'
w: 24"-36"



Autumn Moor Grass h: 18"-24"
w: 12"-18"



Prairie Dropseed h: 24"-36"
w: 24"-36"



Strategic Understory Planting

Botanical Name	Common Name	Native	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
Bouteloua curtipendula	Side-oats Grama	X						
Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass							
Deschampsia cespitosa	Tufted Hair Grass	X						
Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	X						
Sesleria 'Greenlee Hybrid'	Greenlee's Moor Grass							
Sporobolus heterolepis	Prairie Dropseed	X						

LEGEND

Understory planting

LANDSCAPE GUIDELINES

NATIVE AREAS

Along the campus fringes, Heartland Community College has begun to naturalize areas by reducing the mowing frequency. In these locations, the planting has been able to autonomously establish, although it is not currently being managed for weeds or invasive species. The change to a naturalized planting over a manicured lawn is a step in the right direction, especially in the large areas that are not actively being used by the campus. However, the use of naturalized areas should also be managed to encourage plant biodiversity. The aim of these areas should be to become a restored prairie habitat that would require regular weeding in the spring, annual mowing and the potential for a prescribed prairie burn every few years. Once it is restored, there is the potential for volunteers to assist in the ongoing maintenance through the College or non-profit conservation groups.

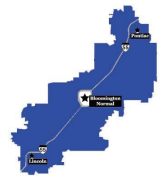
Currently, the campus stormwater drains directly into the 13-acre Birky Pond. With the construction activities of the last decade, the pond has seen an increase of sediment and has been reduced from eight feet to three feet in certain locations. The pond will need to be dredged to ensure it is functioning correctly. All upstream inlets should be protected to prevent sediments from entering them to the greatest extent possible. Swales leading directly to the pond should be naturalized with vegetation, check dams and possible forebay settlement treatment as a settling basin. Outlets of pipes into the pond should contain erosion prevention to prevent additional sediment buildup from the discharge. The pond shoreline is to be maintained with deep-rooted native plantings that will both stabilize the shoreline and hold runoff. It also serves as a deterrent to Canadian geese and will improve the habitat for native birds.



Naturalized Shoreline



Naturalized Areas



GREEN INFRASTRUCTURE

The on-site stormwater is currently being captured in belowground stormwater piping to Birky Pond. All future development should aim to maintain or reduce the existing stormwater volume and be dealt with on-site wherever possible. One method would be the use of bioswales, which are shallow landscaped depressions designed to capture, treat and infiltrate stormwater runoff as it moves downstream. They are typically sized to treat the water event known as “first flush” which is the most polluted volume of water resulting from a storm event. They are an effective type of green infrastructure strategy designed to slow runoff velocity and cleanse water while recharging the underlying groundwater table. Plants must be able to tolerate being submerged for brief periods and also be dry as they will not be continuously wet. Rocks or large cobbles should be used at the outfall of water into the bioswale to reduce erosion and dissipate the water velocity.



Typical Bioswale within a Parking Area

The use of permeable paving is another method to capture and clean stormwater runoff. Water percolates through the voids of the pavers and is stored in the stone reservoir below. This reduces the amount that would overflow to a stormwater drain. The permeability of the existing soil will need to be tested to determine if the stormwater can be infiltrated in place or stored elsewhere. Permeable pavements can significantly reduce the impervious area, improve water quality and help mitigate temperature increases. Just as with any pavement, permeable pavements do need to be maintained and the voids between pavers need to be kept clean of debris that would slow or block infiltration.

LANDSCAPE GUIDELINES

WIND MITIGATION

Since the campus sits within an agricultural setting with few natural barriers, wind is a persistent issue. The wind creates uncomfortable pedestrian environments and has caused erosion and damage to landscape beds throughout campus. By investing in wind mitigation measures, the overall failure rate of planting should decrease on campus, lessening the need for ongoing plant replacements in the long-term. The use of vertical surfaces with perforations is the best method to mitigate wind to allow for wind to filter through and slow down its forces. The following are wind mitigation guidelines:

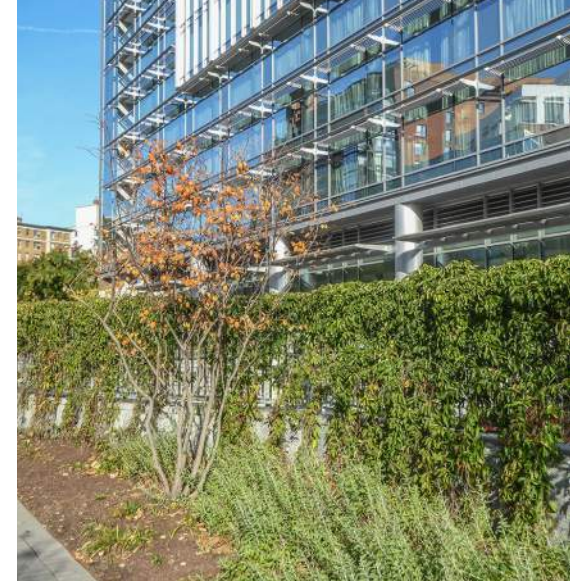
- Use of living screen encouraged in smaller courtyard spaces where windbreak is not feasible
- 60% openness rating of foliage or pickets mesh at screens
- Hedge plantings should be several rows deep with rows staggered
- Mix of evergreen and deciduous planting

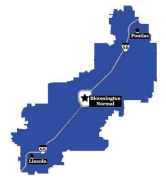


Examples of Windbreak as Wind Mitigation



Examples of Living Screen as Wind Mitigation

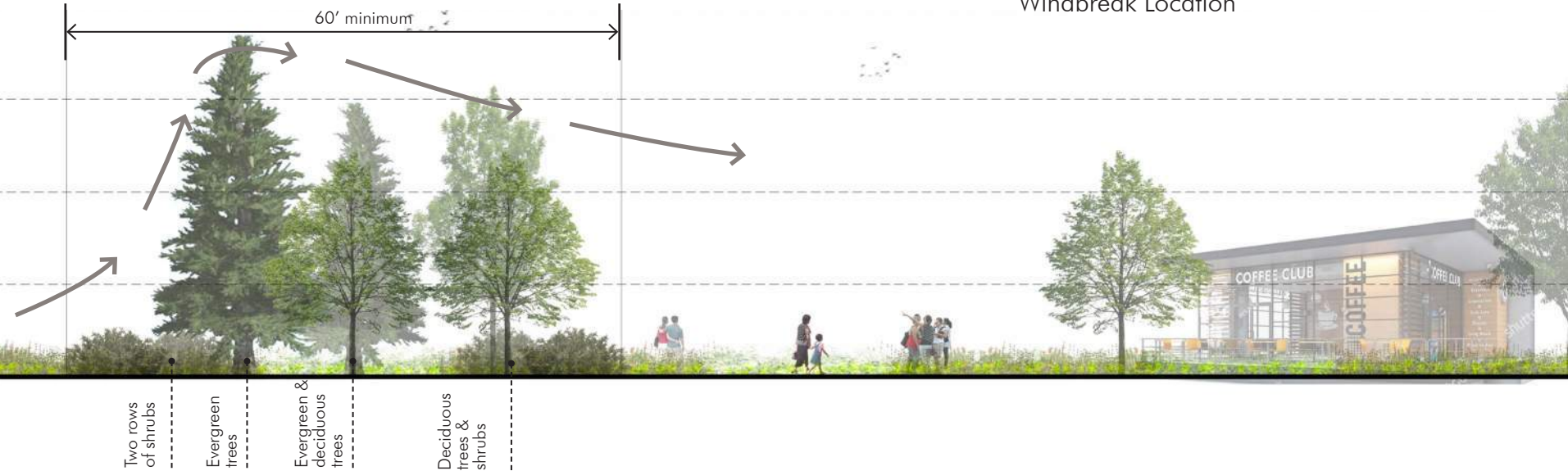




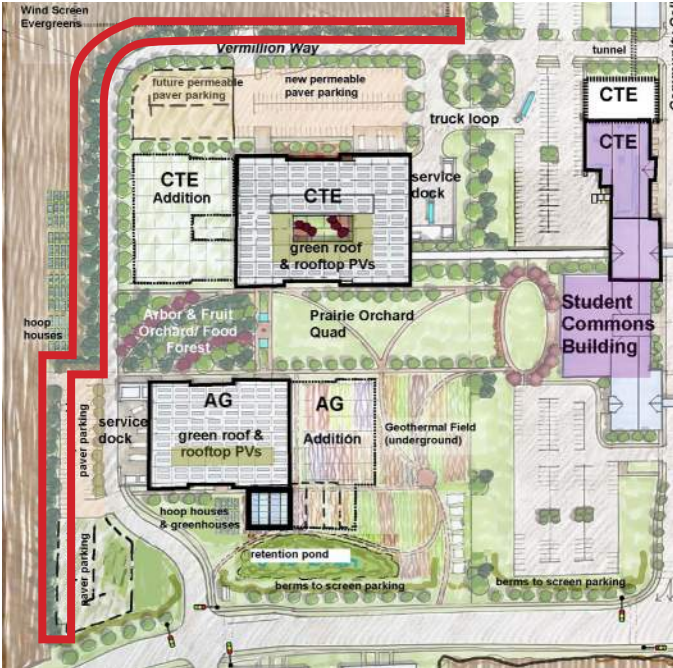
For future development, particularly at the new Agriculture Complex, windbreaks need to be considered for the following reasons: 1) protect crops, 2) improve comfort within the campus, 3) control blowing and drifting snow, and 4) create wildlife habitat. The windbreak on the western perimeter of the campus is mainly comprised of deciduous and evergreen rows and has been successful in buffering the strong winds from the agricultural fields. This existing windbreak will be broken for the new Agriculture Complex and will need to be replicated on the western boundary of the new work.

As with the tree planting, the windbreak should be multiple species of trees and shrubs so if there is a failure in the row, the windbreak is still effective. To provide a wildlife habitat, the windbreak should be planted with native species and planted with trees (evergreen and deciduous) small trees and shrubs. The following are windbreak guidelines:

- Approximately 60' wide
- Two rows of shrubs on the outside facing the wind
- One row of evergreen trees
- One row of evergreen trees and deciduous trees
- One row of deciduous trees and shrubs
- Rows to be staggered



Windbreak diagram



Windbreak Location

LANDSCAPE GUIDELINES

SOILS

The soils at Heartland Community College were formerly a silty loam composition before campus construction. Although an extensive soil survey has not recently been completed, it is the design team's understanding that the campus was largely built on a combination of fill and the minimal existing topsoil. Additionally, the topsoil has largely been deferred in yearly maintenance and compost and mulch have not been used to enhance the existing soil. A soil management plan for the entire campus would be a useful tool to provide guidelines for grading and construction projects including providing protection, compaction and contamination zones.

The following are guidelines that should be undertaken prior to new landscape projects:

- Reuse existing plant material and kitchen waste on-site for mulch and compost wherever possible.
- Planting of large native meadow areas encouraged to improve the soil over time and improve filtering of water back into Birky Pond and the groundwater system.
- Involving the College to evaluate and monitor new sustainable methods to improve soil such as the use of biochar or biosolid compost.
- At locations of new buildings and roads, existing sub-grade from the agricultural field or on-site excavation is to be used.
- Restore soils to a depth of 12 inches. Where planting trees, restore to a greater depth and volume to support (biologically, structurally, hydrologically and geotechnically) the intended mature tree canopy.

Test restored soils conditions to ensure the following soil restoration criteria are met:

- Organic matter (required).
- Achieve appropriate organic matter for plant growth, water storage and infiltration.
- Amend soils with mature, stable compost such that, at a minimum, the top 12 inches of soil contain at least 3% organic matter or organic matter levels and depths that are comparable to the site's reference soil profile and appropriate for intended vegetative cover.
- Compaction (field test): ensure bulk densities within 100% of the root zone do not exceed the horticulturally accepted levels.
- Soil chemical characteristics: restore appropriate soil chemical characteristics for plant growth. The minimum basic profile that should be tested includes pH, soluble salts, cation exchange capacity, extractable phosphorus, potassium, calcium, magnesium and sodium.
- Soil biological function: ensure that soil biological function is restored in remediated soil.



Use of Larger Stones in Sloping Areas or Underneath Canopy



Hillside Landscape Treatment

MAINTENANCE

Many of the landscape areas on campus are deteriorating. This has negatively affected the campus environment. Largely due to years of deferral and outdated practices, the landscape has suffered without specialized attention. The major areas of concern are erosion, snow removal and landscape bed management.

EROSION

The majority of buildings on campus have overhanging canopies with pea gravel at the building base. However, over time there have been issues with stormwater runoff and edging pulling apart that has become a maintenance issue for the College. Additionally, the overflowing pea gravel creates challenges while mowing and being kicked up by the machines. The following should be considered for areas of erosion:

Under Canopy Overhang:

- Use of steel edging only; all plastic edging to be removed.
- Yearly maintenance including adjusting and resetting every spring. Edge with a weed-wacker twice a year.
- Remove pea gravel moving forward and use a larger stone.

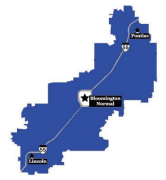
Sloping Areas:

- Pea gravel is not recommended in sloping areas: because of its small size, it is quick to erode.
- Plant a fast-growing groundcover or ornamental grasses should be planted to stabilize the soil.
- Use large stones such as 3" - 5" granite cobbles will help slow down the water and stabilize the bank.

SNOW REMOVAL

Snow removal is an integral component of winter maintenance and crucial to maintaining the safety of all users at Heartland Community College. The current strategy of using rock salt (sodium chloride) is the most commonly used practice. However, it has detrimental effects in the landscape resulting in more ongoing maintenance. The use of rock salt has damaged the adjacent lawn and planting areas next to paved surfaces causing an increase in the settling of landscape beds, particularly at the corners. Over time, the rock salt also shortens the lifespan of concrete and asphalt by accelerating the deterioration caused by winter's freeze-thaw cycles.

To alleviate landscape damage, the use of a de-icing solution such as magnesium chloride rather than rock salt is recommended for all pedestrian areas. The de-icing equipment can be dispatched from a 'Gator' vehicle and can be applied several days before a snow event. The de-icing solution will not activate until it is hit with moisture so it can be applied early. By being proactive and planning to de-ice in advance of a snowstorm, the campus will improve safety eliminating the icy conditions and reduced the need for emergency overnight crews. Natural alternatives such as beet juice de-icing solutions should also be explored for feasibility on campus.



Existing Landscape
Maintenance Issues

BUILDING AND INTERIOR DESIGN

ARCHITECTURAL DESIGN GUIDELINES

As with the site design, the buildings identified in the Heartland Community College Facilities Master Plan may take years to design and construct. Several different groups may be involved in future renovations, new construction or modifications. Architectural design guidelines will assist in ensuring that the facilities envisioned by the Facilities Master Plan will exhibit the level of design and creativity anticipated in the plan.

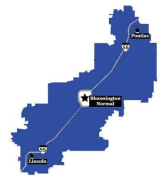
While the Facilities Master Plan identifies uses by their most appropriate location on campus or within buildings and the general character and scale of the spaces that buildings will enclose, it intentionally does not address the specifics of building appearance. The architectural design of each building must evolve with the final program and functional requirements and respond to specific opportunities and challenges presented by the site and building use.

The existing aesthetics of the buildings throughout the campus is uniquely consistent, as compared to other similarly-sized institutions. Many community college campuses were built over extended periods, with changing leadership, design teams, architectural style preferences and other influences. The challenge here at HCC when developing new facilities will be to provide buildings with an architectural character that is sympathetic to the existing campus visual vernacular, while attempting to enhance and update the overall aesthetic of the campus.

This consistency of style has both benefits and drawbacks. While the standardized look of the architectural design promotes a professional corporate and higher education campus atmosphere, it also provides some wayfinding and orientation confusion for unfamiliar visitors and the public. In addition, design detailing problems, like roofs projecting rainfall and snow onto pedestrian areas, get repeated numerous times on campus.

Existing architectural design and massing include the following features generally considered HCC standards:

- Rectilinear masonry building massing and vertical piers.
- Simple punched windows in masonry walls on the first floors with glass and aluminum curtain wall systems on the second floors.
- Textural expression with roof overhangs along extended facades and simpler gabled building ends.
- Primary gable roofs spanning between longer primary facades with secondary gables, piers and vertical curtain wall at ends and centers of longer facades.
- Shed dormers high on roofs to accommodate HVAC louvers to mechanical areas within sloped attic.
- Red/brown utility brick masonry in walls on the bottom half of buildings; curtain wall and gabled roofs on the top half. Tinted gray glass with dark blue-gray mullions.
- Light gray sloped standing seam metal roofs with snow catch system.



GENERAL DESIGN CRITERIA

- Buildings should generally maintain massing of two-story building bases with a third-floor mechanical room or other functions within a sloped roof attic. Unless the use requires such, buildings should not be taller than two stories at the parapet when the roof is flat.
- Building location and site footprint should substantially conform to the intent of the diagrams found within this document.
- Buildings should, in general, promote a collegiate environment. Designs should reflect the College's position as a center for education, socializing, recreation and the cultural life of the community at large.
- Building forms, architectural details, materials, textures, colors and related attributes should take their cue from the character of existing campus development and present a compatible, coherent expression.
- Gable roof forms and gutters should be strategically placed away from entrances and sidewalks to prevent ice and snow buildup above the pedestrians or cars.
- Avoid long, featureless and windowless corridors, high contrast bright/dark areas and single color palettes.
- Building development should incorporate sustainable design concepts including material selection, orientation, daylighting/shading and sustainable MEP design to the greatest extent practical.
- Incorporate wayfinding and artwork into buildings and entrances to distinguish from each other.

RECOMMENDED EXTERIOR FEATURES

- A harmonious range or palette of materials should be developed with possible new materials that are compatible with the design expression of the campus, along with exploration of building forms that provide visual interest and solutions present in existing materials. For example, newer remote facilities like the proposed Agriculture Complex and CTE buildings to the west may incorporate the standard brick, glass and metal panels in areas facing the east campus, but other materials such as precast concrete, composite resin panels or others may be considered for appearance and longevity purposes as long as they are generally visually compatible with the overall campus design theme.
- Timeless design, economic/life cycle cost analysis and building material longevity should be strong considerations in selecting appropriate materials for each building type.
- Future buildings should be planned to have views to the natural areas, perhaps to a greater extent than existing buildings, to provide a cohesive relationship between the building and exterior landscape.



Typical Campus Building

BUILDING AND INTERIOR DESIGN

INTERIOR DESIGN GUIDELINES

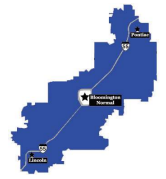
It should be noted that existing buildings currently have many common elements woven throughout the campus to tie them together and create a sense of continuity. With this common design vernacular, the results are confusing because too many first-time visitors think “all the buildings look alike.” This was identified in the Part 1 interview process. The Facilities Master Plan proposes introducing and reinforcing color schemes throughout the campus buildings and entrances to help visitors find buildings on campus and later to remember the color. The interior recommendations address the following concerns with the existing interior spaces of the buildings.

- Difficulty distinguishing one campus building interior from another.
- Lack of color, resulting in uninviting spaces.
- Poor lighting throughout buildings: dated fluorescent fixtures and diffusers create low glare, but promote the appearance of dark ceilings and high contrast light and dark zones within hallways. Window glare and insufficiently lighted classrooms create problems when reading text on whiteboards and in audiovisual presentations.
- Lack of student lounge/group study/public gathering areas near classrooms and lab space.
- Minimal display space for programs, artwork and campus information.
- Lack of artwork planned or commissioned representing the building activity.



Examples of Wayfinding

DESIGN CRITERIA



COLOR

- Select warm color schemes that promote a comfortable, welcoming environment.
- Assign selected classroom and public space walls to be painted with accent colors to aid in wayfinding and to add interest while breaking up the monotony of all walls being painted the same color.

LIGHTING

- Add functionally appropriate and interesting accent lighting to improve aesthetics of public areas.
- Consider lighting walls in long corridors without windows to accent artwork, displays and wall color.
- Improve quality of light in classrooms along with lighting controls and room darkening where required.

FURNITURE

- Standardize office furniture manufacturers and products to allow for reuse when remodeling or moving takes place.
- Furniture types and sizes should be reevaluated to allow rooms to function for individuals. Suggest furniture standards with flexibility that allow faculty or administrators to choose between a predetermined set of options for offices.
- Select durable, institutional-grade fabrics with patterns to hide wear and pillowing.
- Provide various types of standardized student lounge furniture in open public areas for studying and gathering.

ARTWORK AND DISPLAY

- Develop an art program to acquire artwork.
- Plan artwork locations to align with building use and provide proper lighting.
- Program display space into renovations and new construction.

SUSTAINABILITY STRATEGIES

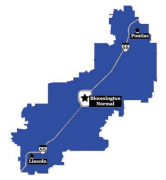
INTEGRATED SUSTAINABILITY STRATEGIES

The holistic approach to sustainability in higher education seeks to reduce negative impacts on the environment, improve building energy efficiency and promote the health and comfort of building occupants, thereby improving performance. Through integration of sustainable design strategies, Heartland Community College will seek to reduce consumption of non-renewable resources, conserve water use, minimize waste and create healthy, productive campus environments at all locations.

All renovation and new construction, building materials and finishes should be considered with sustainable design and their long-term environmental impact in mind. Proposed strategies to be considered include:

- Limit or reduce energy required to operate buildings on all campuses.
- Construct new buildings and/or renovate existing buildings using highly efficient mechanical systems and LED lighting.
- Install geothermal, solar photovoltaics and additional wind turbines as well as employ other renewable energy strategies where appropriate.
- Develop a path to become a net-zero energy campus.





Additional sustainability strategies can be aimed at increasing access to public and alternative transportation, incorporating native plantings and installing permeable parking surfaces to improve stormwater management.

In short, there are seven main imperatives to the design guidelines:

- Renovate existing buildings using highly efficient mechanical systems and LED lighting.
- Reduce energy use required to operate buildings.
- Use native plantings that acknowledge the seasonal changes.
- Install bioswales or permeable parking surfaces to improve stormwater management.
- Integrate renewable energy systems within new buildings.
- Incorporate geothermal well fields for heating/cooling systems.
- Install photovoltaics fields to offset campus electrical loads.

The following pages summarize and examine individual campus buildings from a mechanical, electrical and plumbing standpoint as strategies to continue and improve sustainability and energy consumption on campus.



Example Photovoltaic Array



Heartland Wind Turbine

SUSTAINABILITY STRATEGIES

EXISTING FACILITIES

Developing and maintaining building heating, ventilation and air conditioning (HVAC), plumbing (domestic water) and electrical systems for both new and existing buildings is an important strategy to accomplish the College's sustainability goals.

Each facility on campus presents different strategic opportunities. However, some of the existing facilities can be examined in a similar fashion. Below are recommendations for the Community Commons Building (CCB), Student Commons Building (SCB), Instructional Commons Building (ICB), Instructional Commons North (ICN), Fitness and Recreation Center (FRC) and Astroth Community Education Center (ACEC).

HVAC

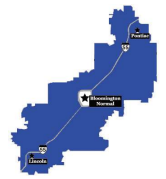
- Generally, the HVAC and mechanical systems in most buildings are very well maintained and should continue to function for a long period until buildings are heavily renovated or use changes.
- It is advised to keep these buildings on the central heating and cooling plant (PPB).
- For a large remodel that incorporates replacement of the air handling unit(s) and major revisions to variable frequency drives (VFD), HCC should review if pumps can be replaced or modified to meet changes in building system flows (heating and cooling) while keeping the pumps on VFDs.
- For any remodel work that requires replacement of both or either of the existing air handlers, HCC should keep fans on VFDs and review options to include energy recovery. Either fixed plate or energy recovery wheels may be considered.

DOMESTIC WATER

- Pre-heating of domestic water with solar panels could supplement the hot water heaters. This is not a direct replacement, but a way to utilize solar power for heating when optimal.

ELECTRICAL

- For remodel work that requires replacement of lighting, it is recommended to provide new LED-type lighting, controls and automatic daylight harvesting to comply with current IECC code requirements.
- Offices or any permanently plugged in equipment should be managed with plug load controls.
- Recent energy code changes require occupancy sensors and controls being tied to lighting and plug loads to reduce energy usage through lighting occupancy sensors. These would reduce the energy consumption of leaving computers and office equipment on all the time.



PHYSICAL PLANT BUILDING (PPB)

HVAC

- Update air handling unit to office spaces by replacing it with a VFD system allowing for localized conditioning providing greater control for the overall system.

CHILLER PLANT

- Maintaining the existing plant of four chillers, four outdoor water towers and chiller pumps is the most sustainable option until equipment replacement is required.
- When replacing equipment, the Facilities Master Plan recommends conversion of the chillers and boilers to a geothermal heat pump system that would circulate hot and chilled water through the existing campus loops to most buildings.

HEATING PLANT

- The College should study and consider replacing the existing three gas-fired boilers (low efficiency) with high-efficiency condensing boilers.
- Longer term in tandem with the chiller plant replacement, the College should consider replacement with a geothermal heat pump system. HCC should consider supplementing the heating load on the coldest days (i.e., well below 30°F) with several small condensing, ultra-high-efficiency boilers. Hot water would be distributed through the existing heating water loop to most buildings.
- The geothermal field for heat pumps would be located in the farm field below the wind turbine.

ELECTRICAL

- It is recommended to install a photovoltaics field, approximately 10 acres in size, located north of the WDC and south of the highway off-ramp. This sustainable power should be tied into the campus electrical grid. The addition would significantly increase the opportunity for a net-zero energy campus. Prior to adding a second wind turbine, the College should consider reducing energy demand through lighting retrofits, replace lighting controls, reduce equipment loads and develop strategies to reduce plug loads across campus.

SUSTAINABILITY STRATEGIES

EXISTING FACILITIES

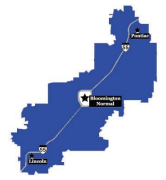


WORKFORCE DEVELOPMENT CENTER (WDC) AND CHILD DEVELOPMENT LAB (CDL) HVAC

- Until Enrollment and Student Services and Student Life relocates into the WDC, HCC should continue to utilize the geothermal field to the north of the building, maintain the two air handling units and perform repairs needed at the heat pumps (approximately 100) that provide conditioned air to the spaces.
- When the WDC is renovated, HCC should consider performing a complete study of the performance of the existing geothermal field. Install a new central heating and cooling plant that utilizes the existing geothermal wells. Reengineer the HVAC system to replace all localized heat pumps with a central heat pump system while keeping the existing AHUs for supplying outdoor air.
- The CDL building utilizes a geothermal field and 27 central heat pump units to heat and cool the building along with terminal air handling units within the building. The College should consider adding a small ultra-high-efficiency boiler to the system to supplement the heating system on extremely cold days or when temperatures are well below 30°F if maintaining heat becomes an issue.

SUSTAINABILITY STRATEGIES

NEW FACILITIES



Considering the State of Illinois goals of 100% clean energy by 2050 and ending carbon-emitting power by 2030, Heartland has the opportunity to pursue grants from the Illinois Clean Energy Community Foundation (ICECF) for new buildings and work with groups like SEDAC or IGEN to develop net-zero buildings.

Projects should be planned from the beginning with planned certification from Passive House Institute US, Full Living Building Challenge, Petal Living Building Challenge or Net Zero Living Building Certification.

HVAC systems should be designed utilizing systems such as geothermal wells with heat pumps. Building envelopes should be designed to high standards and include whole building and envelope commissioning. Buildings such as the Agriculture Complex should be budgeted and planned from the start as net-zero buildings. Net-zero certification will likely be required to obtain grant funding.

Electrical systems should be planned to integrate photovoltaics, high-efficiency lighting and monitoring systems. Studies should be considered whether new buildings are standalone or utilize the campus electrical grid connected to the wind turbine or photovoltaic systems.

The Agriculture Complex project should consider a rainwater collection system to assist with the watering of greenhouse plants and test plots. Solar heating can also pre-heat water used within the building.



Example Rainwater Collection System

SUSTAINABILITY STRATEGIES

The new and existing campus buildings should consider sustainable strategies in design and construction, operations and maintenance and purchasing and services. With the investment of the wind turbine eight years ago, Heartland is positioned to be a highly sustainable campus. Sustainable solutions should be considered for all future campus projects. These should include green or heat-reflective roofs, bioswales, indigenous landscaping, permeable paving, reuse/salvaging of existing materials, daylighting and recycling programs. Sustainable materials such as recycled materials and local materials should be considered for all new projects to improve indoor air quality and campus life.



DESIGN AND CONSTRUCTION

Proper design and construction saves energy and money over the entire life of the building while improving occupant productivity and well-being. Some of the possible essential sustainable solutions include the following:

- Daylighting and daylight harvesting
- Building energy modeling
- White/reflective/cool roofs
- Vegetative/green roofs
- Bioswales and permeable pavement
- Water-efficient landscape
- Recycled/salvaged materials
- Water conservation
- Advanced building envelope
- Existing building reuse
- Building commissioning
- Photovoltaic array
- Geothermal heat pump systems
- Energy-efficient lighting and controls



OPERATIONS AND MAINTENANCE

Sustainable operations and maintenance focus on improving efficiency and longevity of the buildings on campus, minimize waste and improve overall performance.

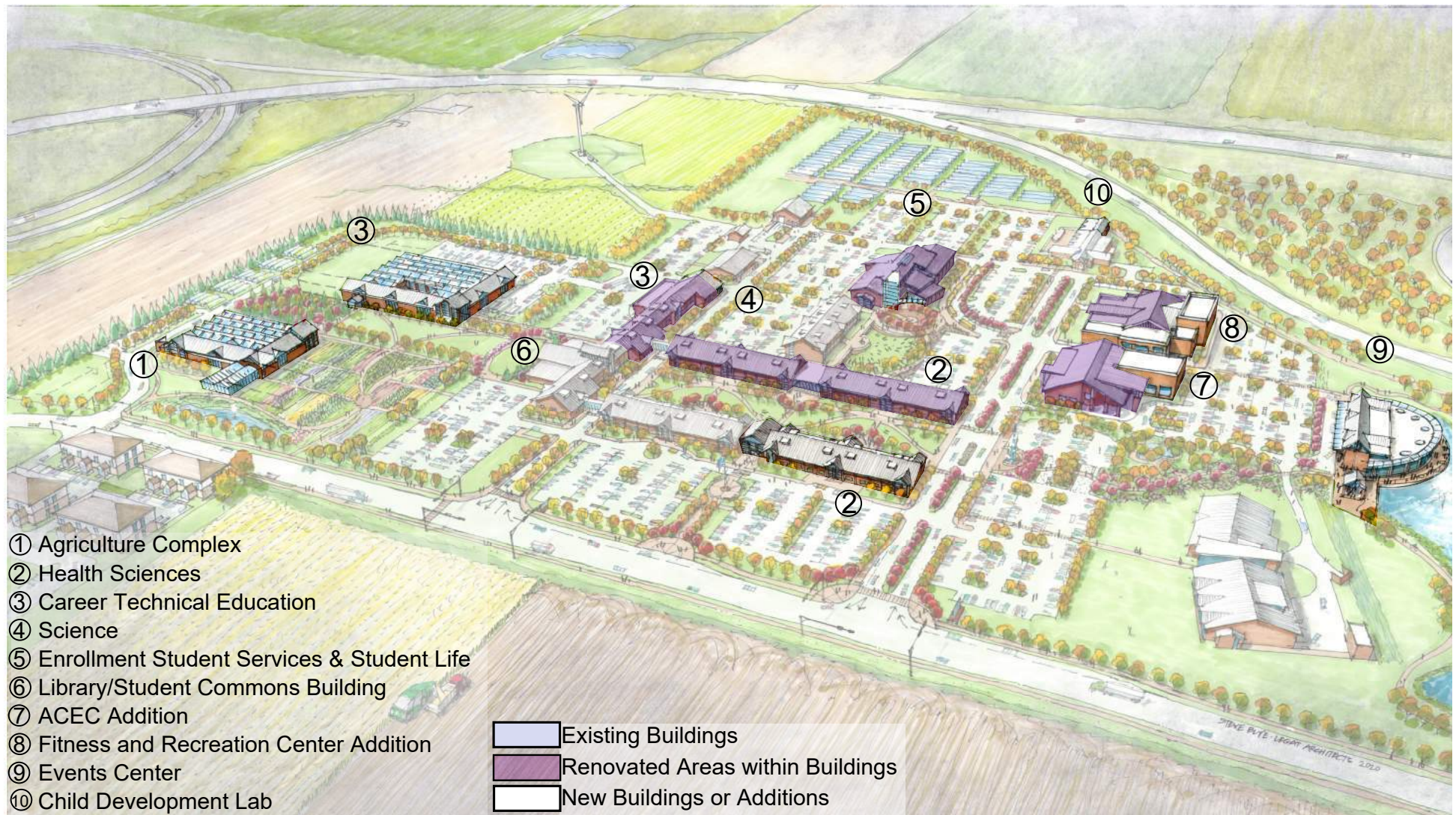
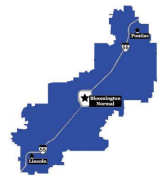
- Retro commissioning (every five to seven years)
- Enable full recycling programs
- Encourage staff/students to use alternative fuel vehicles
- Support public transportation
- Practice preventative maintenance
- Maximize building system utilization
- Green cleaning products
- Renewable energy
- Measurement and verification
- Building automation and energy management



PURCHASING AND SERVICES

Setting up sustainable purchasing and service contracting procedures adds the final element to a fully sustainable campus by introducing healthy and energy-efficient products and services.

- “Green up” the business
- Specify ENERGY STAR rated equipment
- Alternate fuel fleet vehicles
- Recycled products: paper, plastic etc.
- Support organic/locally grown produce for food service
- Low VOC products: carpets, paints etc.
- Purchase green energy
- Purchase non-toxic/green cleaning products
- Purchase carbon emission offset credits



20-Year Facilities Master Plan



LEGAT ARCHITECTS
DESIGN | PERFORMANCE | SUSTAINABILITY



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