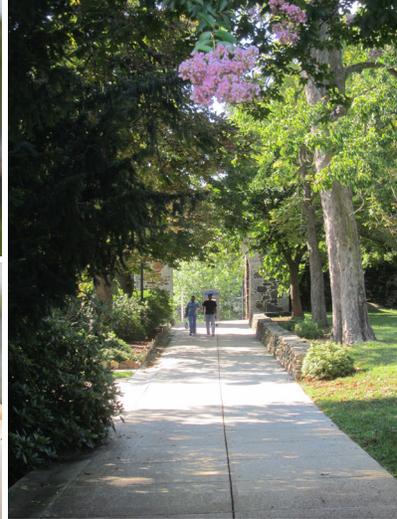


CCBC Facilities Master Plan 2016

CCBC Essex

February, 2016



Community College of Baltimore County

Board of Trustees

The Honorable Barbara Kerr Howe, *Chairperson*

Stephen J. Nolan, Esq., *Vice Chairperson*

Sheldon K. Caplis

Walter S. Clary

Michael P. Ertel, Sr.

Dorothy E. Foos

H. Scott Gehring, Ed.D.

Linda C. Goldberg, SPHR, CCP

James G. Gresham, Ed.D.

Warren C. Hayman, Ed.D.

Wayne McDowell

Brian V. McFarland, Esq.

Gloria K. McJilton

Gloria E. Nelson

CCBC Administration

Sandra L. Kurtinitis, Ph.D., *President*

Melissa Hopp, *Vice-President of Administrative Services*

Richard Lilley, Ph.D., *Vice-President of Enrollment & Student Services*

Mark McColloch, Ph.D., *Vice-President of Instruction*

Kenneth Westary, *Vice-President of Institutional Advancement*

Community College of Baltimore County

Facilities Master Plan

Table of Contents

- Introduction
 - Acknowledgements
1. Executive Summary
 2. Overview of the College
 - Mission, Vision, Values
 - Strategic Directions
 - Governance and Organization
 - Students, Faculty and Staff
 - Instruction
 - Main Campus
 - Extension Centers
 3. Space Needs
 - Space Needs
 - Glossary of Terms
 - Existing Space, Demand
 - Quantitative Indicators of Need
 - Qualitative Indicators of Need
 - Summary
 4. Facilities Assessment
 - A. Buildings
 - B. Campus-Wide Systems
 - C. Site Infrastructure
 - D. Site Analysis
 5. Looking to the Future
 - Opportunities, Recommendations
 - Capital Projects
 - Proposed Campus Development
 6. Appendix
 - Proposed Major Capital Projects 2016-2025 – CCBC Essex
 - Project Narratives – All Campuses



INTRODUCTION

Purpose, Scope

This Master Plan was undertaken to establish a framework for the physical growth and change that can be anticipated for the Community College of Baltimore County. It provides projected enrollment growth and establishes space needs by discipline.

Capital projects are identified as Short Term (0-5 years), Intermediate Term (6-10 years) or "To be Implemented as Funds Become Available". For each major project that proceeds, the master plan will need to be followed by programming, design, and construction, unless programming or design have been undertaken already. The master plan does not attempt to design projects, but it does provide a campus development plan for the Catonsville, Dundalk, and Essex campuses, identifying locations and establishing relationships of major components.

The Facilities Master Plan should be regarded as a working document, which will need to be periodically reviewed and updated; it is recommended that the update should occur not later than 2020. As a 10-year master plan, the space needs are projected 10 years from the most recent Fall semester for which data is available, which is 2014. The nominal planning horizon used in this report is 2025.

This report is both a master plan and facilities assessment. The facilities assessment component provides an inventory and evaluation for the site infrastructure, buildings, and building systems for each CCBC campus. This provides the foundation for the evaluation, both quantitatively and qualitatively, of the facilities and for recommendations for improvements to the site and buildings.

Because of inevitable unforeseen changes in programs, priorities, policies, and funding, this Facilities Master Plan should be viewed as a fluid document that is a conceptual tool and guide for making decisions regarding the College's physical resources. This document integrates academic and physical planning on a campus-wide basis; as facility and site development needs change or are newly identified, they must be incorporated into subsequent plan updates.

The planning process for development of this Facilities Master Plan results in a long-range planning document that addresses a broad range of subjects:

- Review of the College's vision, mission, functional and instructional program emphases, and organizational structure.
- Description of the students in terms of credit participation and choice of academic programs.
- Academic programs and projections of institutional growth.
- Inventory of existing facilities and patterns of physical development.
- Identification of projects that are needed to support the programs, personnel, and students of the College for the next ten years.

The information contained in this Facilities Master Plan serves various purposes. It affords the College a written reference that can be used to facilitate communication within the CCBC community and with representatives of local and state review agencies. This document provides the rationale for physical improvements and serves as the basis for long-range capital development.

Inventory data concerning the existing facilities are collected and presented. Alternative actions to deliver improved educational facilities are presented. Recommendations are provided for renovation, replacement, and/or new construction as necessary, and priorities are suggested for the recommended facilities actions.

In brief, this document aggregates the inventory of existing facilities and physical resources, identifies current and future facility needs of CCBC, and then provides a framework for achieving the required additional facilities.

Methodology

The Master Plan was developed during 2015. Information gathering began with the College providing information on the facilities, institutional history, enrollment, programs and operations. Serving as the basis for current and future space needs, the enrollment and projected enrollment were established by CCBC, incorporating MHEC projections and planned program expansion. Using MHEC formulae, space needs were determined and allocated according to HEGIS code. Interviews, focus groups, and workshops were conducted with staff, faculty, and the steering committee for the master plan to solicit input from the College community.

Parallel to these efforts, the buildings were documented photographically and in floor plan. Previous reports were examined, considered, and incorporated with the consultant team's more current evaluations. Site conditions were evaluated in the same way. The consultants visited the campus and assessed the condition of all buildings and the site, combined with the evaluations by CCBC. Combining considerations of formula-driven space needs calculations, as well as qualitative factors, the consultant team and College developed a list of recommended capital projects and other initiatives recommended by the consultant team for consideration by the College. Alternative site development plans were developed for Catonsville, Dundalk, and Essex to accommodate capital projects, including both renovations and proposed new construction. A preferred plan for each campus was selected and refined, ultimately becoming the selected development plan for this report.

Organization of the Report

Chapter 1	Executive Summary
Chapter 2	Overview of the College
Chapter 3	Space Needs
Chapter 4	Facilities Assessment
Chapter 5	Looking Towards the Future
	Appendix

ACKNOWLEDGEMENTS

The consultant team acknowledges the input and constructive support from the following CCBC personnel:

- Jerry Kramer, CCBC Senior Director, Capital Projects
- Melissa Hopp, Vice President of Administrative Services
- Fred Schanken, Executive Director, Facilities Management
- Katrina Crook, Director, Capital Finance
- Tim Burton, Director, Business Services and Facility Management
- Joan Swiston, Catonsville Campus Director
- Bill Wingerd, Catonsville Assistant Director Facility Operations
- Tanya Jones, Dundalk Campus Director
- Barbara McDonald, Dundalk Assistant Director Facility Operations
- Jaime Alvarez, Essex Campus Director
- Bill DeLauder, Essex Assistant Director Facility Operations
- Maria Oberle, Administrative Assistant to Mr. Kramer

Mr. Kramer served as manager for the master plan on behalf of the College.

The consultant team was led by the following firms and individuals:

- Hord Coplan Macht, Inc.
Bruce Manger
Matthew Fitzsimmons
- Facilities Planning Associates
Rich Watkins
Al Robinson
- Morris Ritchie and Associates
Sean Davis
- Gipe Associates, Inc.
Neal Cluck
Dina Dixon

Chapter 1

Executive Summary

EXECUTIVE SUMMARY

CCBC NOW

Since the 2010 Master Plan, the higher education landscape for CCBC has changed measurably. In the past five years, Community College of Baltimore County enrollment has changed course from significant growth to moderate decreases in enrollment, about 1.4% per year. While federal, state and local support has been reduced for community colleges in general and for CCBC, tuition has remained affordable. The aging facilities keep aging, and deferred improvements have been deferred further.

The College has continued to enhance the technology in its instructional spaces and supporting infrastructure. Learning support continues to be made available to students of varying needs. Planning, construction, renovation and occupancy of facilities continue, including the completion of two new extension centers, a new Mathematics and Science Hall at Catonsville and a major renovation to the Dundalk library and student center. And, the College has continued to attract and retain competent faculty and staff while maintaining a can-do spirit charged with making the students' learning experiences as fulfilling as possible. Despite thin budgets, the College has done a remarkable job in keeping its facilities going.

Still, the College's needs are greater than ever. While enrollment is expected to continue a modest decline in the near term, it is projected to continue to grow by 22% over the next 10 years. Space needs are significant now and will increase as enrollment grows. As the facilities continue to grow older and to be used, the need for renovations increases correspondingly. Given the very limited existing available area on all campuses with little-to-no "swing" space, renovations will generally need to be phased, which adds to the time and cost of each renovation project. To the extent possible, renovations should be comprehensive, not piecemeal. As demands and expectations of CCBC's graduates become more complex, the College's curricula, operations, and facilities will need to be correspondingly more sophisticated. This applies to the College's resources as they exist today as well as to future changes and development. As markets and demographics shift, so will the need for the College to be nimble in response to those changes, with corresponding flexibility in its learning facilities.

PLANNING OBJECTIVES

The objectives of this plan are consistent with the College's mission, vision, and strategic directions described in the 2014-2016 Strategic Plan. The following objectives should be considered together. Some are dependent on the execution of others in order for their own execution to be effective or, in certain cases, possible. These objectives establish a framework for the development and follow-through of recommended projects.

CCBC COLLEGE-WIDE PLANNING OBJECTIVES

- Provide settings to best fulfill the mission and vision of the College.
- Support the College's strategic academic plan.
- Maintain existing programs and plan to accommodate expanded and new programs.
- Make learning, visiting and working on each campus a positive experience.
- Enhance settings to facilitate learning; enhance the strengths of each campus and help remedy weaknesses.

- Acknowledge and support CCBC as a unified college and each campus and extension center as a unique learning center and environment within the College.
- Understand and identify enrollment patterns and project and anticipate enrollment growth.
- Accommodate orderly growth:
 - New facilities
 - Site infrastructure
 - Additions and renovations to existing facilities
- Provide for flexibility in future expansion.
- Identify ways to reduce or save operating costs.
- Evaluate mechanical, electrical and telecommunications systems.
- Accommodate training and educational needs of business and industry.
- Examine transportation alternatives to automobile commuting patterns.
- Satisfy parking demand.
- Mitigate and, where possible, eliminate pedestrian-vehicle conflicts.
- Develop safe, usable routes and storage facilities for bicycles on each campus.
- Establish clear definition of spaces.
- Establish clear identity of entrances to facilities.
- Create memorable spaces.
- Improve accessibility.
- Inform state and local agencies and political leadership of the positive aspects and needs of the CCBC.
- Respect realities of state and local budgets.
- Respect realities of state and local requirements.
- Respect environmental and community issues and constraints. Incorporate sustainable strategies in the plan for each campus.
- Establish priorities and sequence of development for capital projects during planning periods.

CCBC Catonsville Planning Objectives

- Upgrade aging and deteriorating electrical infrastructure.
- Accommodate space needs within a site with limited development opportunities. Long term growth demands with most significant impact are new building construction and parking.
- Restore historic structures and spaces; incorporate them into the fabric of the plan.
- Create new campus spaces by defining and creating quadrangles.
- Protect existing mature landscaping.
- Provide for coordinated architectural aesthetic in future buildings.
- Improve athletic fields and introduce amenities to serve participants and spectators.

CCBC Dundalk Planning Objectives

- Accommodate space needs within a site with limited development opportunities.
- Maintain accessible and pedestrian scale of this relatively small campus.
- Maintain unified architectural character of the buildings.
- Accommodate growth while respecting impact on the adjacent residential community.
- Accommodate anticipated consolidation of CCBC fleet maintenance and storage on campus.
- Protect landscaping created in part by on-campus horticulture program.
- Maintain intimate scale of outdoor spaces.
- Create new campus spaces by defining and creating quadrangles.
- Eliminate temporary storage facilities.

CCBC Essex Planning Objectives

- Upgrade aging and deteriorating electrical infrastructure.
- Accommodate space needs on the campus with the largest growth projections.
- Maintain wooded character of campus.
- Maintain unified architectural character of the buildings.
- Maintain and enhance programmatic and physical relationships with Franklin Square Hospital.
- Create new campus spaces by defining and creating quadrangles.
- Improve main quadrangle to be softer, reducing hardscape and increasing green, shaded areas.
- Improve vehicular circulation entering and exiting the campus.

THE PLANNING TEAM

Led in a collaborative effort by Hord Coplan Macht and CCBC, the planning team included the following consultants:

- Hord Coplan Macht, Inc: prime consultant, facilities evaluation, master planning
- Facilities Planning Associates: facility planning, space needs
- Morris Ritchie Associates, Inc: civil engineering consultation
- Gipe Associates, Inc: mechanical, electrical, special systems consultation

OVERVIEW OF THE COLLEGE

The Community College of Baltimore County (CCBC) is an open-door two-year public community college providing courses, programs, and services to the citizens of Baltimore County and the central Maryland region. The College originated as three separate colleges. Catonsville Junior College and Essex Junior College each were founded in 1957. Dundalk Community College opened in 1971. These colleges were restructured in October 1998 as the Community College of Baltimore County with main campuses at Catonsville, Dundalk, and Essex.

The Board of Community College Trustees exercises general control over the Community College of Baltimore County (Code Education Article, §16-101 through §16-103). The Board members are appointed to five-year terms by the governor with Senate advice and consent.

The Community College of Baltimore County (CCBC) is ranked among the number one providers of undergraduate education, workforce development, technology training, and lifelong learning/life enrichment in the State of Maryland. Nationally recognized as a leader in innovative learning strategies, CCBC educates nearly 65,000 students each year, including more than half of all Baltimore County residents attending undergraduate college. CCBC's School of Continuing Education is a preferred training partner for Maryland businesses, serving more than 100 employers annually with customized employee development training. Over the last four years, the College has enrolled an average unduplicated headcount of about 34,000 credit and 34,000 continuing education and workforce development students at its three main campuses, major extension centers in Hunt Valley, Owings Mills, and Randallstown, and teaching sites in numerous community centers and local schools.

This *CCBC Facilities Master Plan Update* is published as three volumes, one for each of CCBC's three main campuses. Detailed analyses and plans not included with the Executive Summary are contained in those three volumes.



MISSION

The Community College of Baltimore County provides an accessible, affordable, and high-quality education that prepares students for transfer and career success, strengthens the regional workforce and enriches our community.

VISION

We will be the institution of choice for students, where together we make teaching purposeful, learning powerful, completion primary, and community paramount.

VALUES

- **Commitment:** We want our students to succeed and make progress toward the completion of their educational goals through degree or certificate attainment, transfer, workplace certification, career enhancement or personal enrichment.
- **Learning:** We are committed to ensuring our students grow as active learners, develop a passion for life-long learning, and use what they have learned to their benefit.
- **Innovation:** We value innovation and support a climate of discovery. We encourage students, faculty and staff to explore new ideas, methods and processes.
- **Responsibility:** We have high expectations for the work of our employees, the academic rigor of our offerings, the scholarship of our students, and the involvement of the community and the workplace in the College's future.
- **Integrity:** We inspire public trust by maintaining ethical and collaborative relationships with our faculty, students, staff, alumni and communities. We share our achievements and challenges honestly and openly.
- **Inclusiveness:** We celebrate the differences and similarities of our students, employees and the communities we proudly serve. We value the diversity of people, cultures, ideas and viewpoints and we honor the dignity of all persons. We insist on open and honest communications, fairness, mutual respect, collegiality and civility at all times. We are committed to preparing students to be active citizens, ready to meet the challenges of an increasingly diverse world and a changing global marketplace.
- **Excellence:** We emphasize quality as a standard for all we do and consistently look for ways to improve organizational efficiency and effectiveness.

- **Stewardship:** We support sustainable practices and prudently manage resources dedicated to advancing the College's mission and strategic directions.
- **Collaboration:** We encourage continuous dialogue among students, faculty and staff, and support ongoing cooperative relationships with our partners in the community regarding their educational, cultural, recreation and workforce needs.

STRATEGIC DIRECTIONS

- **Student Success:** CCBC provides the highest quality instruction and student services, positioning all students to maximize their performance. The College assists students in achieving their completion goals, leading to a degree or certificate, obtaining transfer credits, developing specific skills, expanding employment opportunities, or enriching their personal lives.
- **Teaching and Learning Excellence:** CCBC promotes the academic and professional success of students by offering relevant, adaptive, responsive and inclusive curricula, supporting the teaching and professional achievement of faculty and making high-quality learning support services available.
- **Organizational Excellence:** CCBC encourages an organizational culture that emphasizes innovation, quality, continuous improvement, excellence, entrepreneurship, service and success. The College supports individuals and teams involved with and responsible for providing and managing the College's human, capital, financial, technical, academic and technological resources.
- **Community Engagement:** CCBC values community support, respect, commitment and engagement.

GOVERNANCE AND ORGANIZATION

The Board of Trustees of the Community College of Baltimore County comprises 15 members – one at-large and two from each of the county's seven councilmanic districts. Members are appointed by the Governor of Maryland with advice and consent of the Maryland Senate.

The Board maintains general oversight over CCBC. Its responsibilities include adopting rules and regulations for College operations, approving the college budget, considering and approving CCBC's academic programs and long-range plans, approving major purchases and the construction and renovation of college facilities, and more.

The president shares day-to-day operation of the College with four vice-presidents, each with a broad range of responsibilities for Instruction, Enrollment and Student Services, Administrative Services, and Institutional Advancement, which comprise the President's Staff.

FACULTY AND STAFF

During the academic year 2014-2015 CCBC employed 1,336 full-time faculty, administrative, and support staff. In addition, the College employed 1,487 part-time faculty and staff. The following table illustrates the distribution of personnel who are critical to the mission, strategic priorities and learning experience at The Community College of Baltimore County.

Table 2-3: Current Faculty and Staff

CCBC	Category	Full-Time	Part-Time	Total
	Faculty (Credit)	436	929	1,365
	Faculty (Non-Credit)	0	558	558
	Staff	900	0	900
	Totals	1,336	1,487	2,823

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation



STUDENT ENROLLMENT

In the fall semester of 2014 The Community College of Baltimore County enrolled 23,136 students who generated 196,715 credit hours of enrollment. The following table shows the enrollment distribution of on-campus, off-campus and distance learning credit enrollments.

Table 2-2: Current Credit Enrollment Distribution (Fall 2014)

Location	Credit Hours	FTES	Percent
On Campus			
CCBC Catonsville	60,917	4,061	31%
CCBC Dundalk	17,476	1,165	9%
CCBC Essex	75,920	5,061	39%
Off Campus Sites			
CCBC Hunt Valley	1,706	114	1%
CCBC Owings Mills	9,951	663	5%
CCBC Randallstown	108	7	<1%
Other Distributed Sites	8,929	595	5%
Online/Distance Learning	21,708	1,447	11%
Total CCBC	196,715	13,114	100%

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

In the 2014 fiscal year, 34,255 students also enrolled in non-credit continuing education courses at the three main campuses and the Hunt Valley, Owings Mills and Randallstown extension centers.

INSTRUCTIONAL PROGRAMS OVERVIEW

As a public comprehensive, open admissions two-year suburban community college, CCBC serves the Baltimore County community by offering a wide range of programs leading to associate degrees and certificates in specialized areas. The College offers associate degree programs designed to provide the first two years of baccalaureate education (transfer programs) in preparation of transfer in addition to programs of study designed to prepare the students for direct entry into the workforce (career programs). In addition to its credit program offerings, CCBC provides its community numerous continuing education and personal development education programs and courses to upgrade skills, develop new skills, or just for special interest.

Not only are credit and non-credit programs offered at the three main campuses and extension centers, but also at various public libraries and community centers throughout Baltimore County and online. Through non-traditional course formats, students can access a broadened learning environment, develop a new kind of relationship with academic faculty, and pursue a personalized approach to study which is tailored to fit their individual situations and learning styles. Examples of non-traditional learning formats available at CCBC include: online courses, individual study, independent study, service learning, interactive video, and tele-courses. As of fall semester 2014, CCBC is fully accredited by the Middle States Commission on Higher Education. The following specialized programs are also fully approved or accredited by organizations recognized by the Council for Higher Education Accreditation and/or the United States Department of Education:

Automotive	Mental Health	Physician Assistant
Business Administration/Business Management	Mortuary Science	Practical Nursing (Licensed)
Dental Hygiene	Music Production and Audio Recording Technology	Radiation Therapy
Education (All)	Music Transfer Programs	Radiography
Emergency Medical Technology	Nursing / RN	Respiratory Care Therapist
Health Informatics and Information Technology	Occupational Therapy Assistant	Theatre
Massage Therapy	Paralegal Studies	Veterinary Technology

FACILITIES OVERVIEW: ALL CAMPUSES

In order to support quality learning, the facilities of the campuses and extension centers must provide learning spaces that allow students to engage in independent, collaborative and creative learning experiences. Although information is increasingly available to students through various other vehicles, the *campus* remains essential to higher education learning systems. The facilities of CCBC must provide sufficient space and appropriate, current technology to enable the faculty and staff to deliver their product in the most productive and efficient way and to enable the students to have ready access to that information.



Although the CCBC staff have done a remarkable job in keeping the multi-faceted CCBC institution working and moving in a forward direction, there is still much need for improvement. With limited exceptions in partial renovations, older, original buildings have not been renovated to keep pace with requirements of today's higher education instruction. And, new buildings, while providing excellent learning environments, have not been erected fast enough to keep up with enrollment demand. Construction and renovations like the recently completed Catonsville Mathematics and Science Hall and renovations to the Dundalk College Community Center are needed to overcome the deficits that exist.



Over a long period of time, several capital projects previously recommended and important to the mission of the College have not been funded or have been deferred. These projects were justified pursuant to State guidelines and formulae for determining eligibility for capital funding. Over the last five years, the College has undertaken several smaller projects to improve CCBC's facilities and infrastructure; several, like the solar canopies in the parking lots, will help to reduce operations costs.

In addition to the objective, fact-based, and formula-driven data that this report presents in support of the qualitative and quantitative deficits, there are other considerations that should be weighed in evaluating the capital needs of the CCBC campuses. The CCBC environment must be attractive so each campus or extension center is able to attract students and so the students will stay after they arrive. From a planning perspective, it is necessary for the College to provide the quality and amount of instructional and support spaces to attract those potential students and keep them coming back to the CCBC campus of their choice. This includes not only well equipped science labs and classrooms, but clean and comfortable student lounges and dining facilities.

This report substantiates space needs in various categories: classroom, labs, office, food service, maintenance shops, and others. The empirical experience of each campus supports the conclusions drawn from the tabular data. In addition to new and renovated buildings, support facilities such as new or expanded roadways, infrastructure, and parking are also recommended. By all measures, CCBC needs improved facilities of every type across the spectrum of its campuses.

The capital needs for all campuses are significant. The short and intermediate term projects correspond to the College's Capital Improvement Plan. The remaining projects are also important to fulfilling the mission of each campus but are beyond current funding projections. To the extent that additional capital funds become available or if/as priorities change, projects may be selected from the latter category for implementation when feasible.

ISSUES AFFECTING SPACE NEEDS AND CAPITAL PROJECTS

- The existing building area is significant: about 1.7 million gross square feet in campus buildings and extension centers.
- Aging facilities and infrastructure on all three campuses require on-going attention in addition to the need for new buildings. Electrical infrastructure on the Catonsville and Essex campuses is especially at risk and must be upgraded as soon as possible to avoid a shutdown.
- While the College has undertaken certain initiatives to reduce operating costs, such as the solar canopies project, there is more that can be done. The aging buildings and building systems, built at a time when energy costs were low and building technology was not sophisticated, are candidates for upgrades to building envelopes, electric/lighting, HVAC and energy management systems. Energy audits and other studies are needed to determine where operating savings can be achieved by upgrades to those systems.
- Recently completed construction and renovation projects, particularly Catonsville and Dundalk, have established strong standards for accommodating programs, function, energy efficiency, formal and informal spaces, and technology.
- While the campuses are pleasant, the “Collegiate” feeling on each campus – appearance of site and buildings – can be improved. Recent construction projects have improved this condition.
- Interior spaces should be functional, equipped with appropriate technology, and aesthetically pleasing.
- Instructional technology, including AV and telecommunications, has been regularly improved and updated in virtually all buildings on all campuses and extension centers.
- Transportation between campuses is still time-consuming. Mass transit rail serves Owings Mills and Hunt Valley but not the main campuses or Randallstown. Transit bus connections between campuses are circuitous and lengthy, requiring at least one transfer. Automobile access between campuses usually requires the use of I-95 and I-695; when either is congested, the drive time is lengthened, affecting timely arrival for classes, meetings, and events. The College operates a shuttle service that travels among the main campuses to alleviate some of the public bus transit shortcomings.

PROGRAMS AND OPERATIONS

- Like most community colleges, enrollment has dropped moderately in the past five years, averaging about 1.4% per year, but is expected to regain 2010 levels by about 2020.
- The need for reading, writing, and math remediation is likely to continue to be significant.
- The ratio of full-time to part time faculty for credit course is approximately 1:2; a goal of the College is to get to 1:1 parity.
- The College needs a home for its truck-driver training program, tentatively planned for Sparrow Point redevelopment property, which will finally at least be in Baltimore County.
- The College has kept tuition affordable.
- CCBC offers unique state-wide programs such as, but not limited to, aviation management, geospatial mapping, and mortuary science.
- Continuing Education:
 - Demand for CEED courses is strong and expected to continue.
 - There are very limited numbers of dedicated CEED instructional facilities (mostly rooms, not buildings) on each of the three campuses.

- Regular need to facilitate custom classes for corporate training quickly.
- Market continues to exist for large clients needing large venues.
- “Flex” space desirable to be able to change from year-to-year.
- There are no CEED facilities close to Towson, where the population is the most dense and a corporate market needs to be fulfilled.
- Major challenges in next 5-10 years:
 - Improve quality of instruction while maintaining affordable tuition
 - Increasing private support for the College
 - Improve quality of student life and corresponding facilities
 - Spaces to encourage and support development of new academic programs.

SUMMARY: CCBC CATONSVILLE

HISTORY AND CHARACTER

The Catonsville Campus (CCBC Catonsville) is located on a 142 acre site at 800 South Rolling Road, near the intersection of Rolling Road and Valley Road in southwestern Baltimore County. The campus is accessible by two public bus transportation lines.

Created by the Baltimore County Board of Education on April 12, 1956, Catonsville Community College (CCC) began operations in September 1957. CCC offered its initial courses to 53 students in the basement of the Catonsville Senior High School building during the late afternoon and evening hours. The Baltimore County Council and the state provided funds for a separate campus in 1961. State legislation transformed the Board of Education into a Board of Trustees for the new college and provided details for its financing and operations.

In March 1962, the Board of Trustees bought part of the Knapp Estate (an old dairy farm) on Rolling Road near Bloomsbury Avenue, as a campus for Catonsville Community College. In 1972, an additional parcel was added to the campus. The campus core, consisting of approximately 16 acres inside the perimeter road, contains 17 of the 20 permanent buildings, 2 temporary buildings, 1 trailer and the majority of parking surface at Catonsville. Five of the 20 buildings were part of the original Knapp Estate, and four of the five were built during the 1800's. The former manor/farm house (Hilton) was added to the National Register of Historical Places in 1980.

In 1998, Catonsville Community College was unified with Dundalk Community College and Essex Community College to become, what is now, The Community College of Baltimore County (CCBC).

A dynamic campus blending education, technology, history and charm, Catonsville offers education and accessibility. In addition to the historic buildings still in active use, campus walkways framed by stone walls and beautiful gardens, connect old and new buildings to the inner workings of advanced technology classrooms. Other unique features of this campus include historic stone buildings, a clock tower that chimes on the hour, a view of Baltimore's Inner Harbor and the Key Bridge, a planetarium, and high-tech training labs for learning the latest in computer-aided design, computer-automated manufacturing, microcomputer software, computer graphics and computer-driven automotive technology.

SPACE NEEDS

The growth of existing programs and the establishment of new programs suggest significant growth in enrollment and a need for specific, specialized facilities. The demand for transfer and workforce skills will drive program offerings in the coming years. Many of these programs, health sciences in particular, require specialized classrooms, labs and other facilities that can be flexibly adjusted for a variety of teaching / learning settings. This demand is considered in subsequent sections to identify space needs and suggests future physical development

The purpose of space needs analysis is to assess the extent to which the current total amount of academic and other space is adequate for use in support of future enrollments. The ultimate outcome of this assessment is to provide estimates of the supply of types and amounts of space likely to be needed to accommodate Catonsville's projected fall 2024 demand in terms of academic programs and their ensuing enrollments and staffing levels.

The base year for this analysis is fall 2014. Student headcount of 9,973 reflects the total number of students taking credit courses at CCBC Catonsville. FTES / FTDES are calculated from credit hours earned at CCBC Catonsville. Faculty and staff are the result of allocations based on primary assignment.

Planning Assumptions (Catonsville)

CCBC Catonsville	Student Headcount ^a	FTES	FTDES	Full-Time Faculty	Part-Time Faculty	Full-Time Staff
Fall 2014	9,973	4,061	3,061	188	525	401
Fall 2024	11,374	4,954	3,734	229	641	481
Percent Change 2014-2024	14%	22%	22%	22%	22%	20%
Average Annual Growth Rate	1.3%	2.0%	2.0%	2.0%	2.0%	1.8%

2014 Enrollment, Faculty and Staff Data Source: CCBC Office of Planning, Research and Evaluation

2024 Enrollment Data Source: CCBC Office of Planning, Research and Evaluation

2024 Staff Data: Community College of Baltimore County Office of Facilities

^astudents taking courses at this location

ENROLLMENT TRENDS

Fall semester credit FTDE enrollment trends for students attending CCBC Catonsville during the past five years has declined at an annual rate of 1.5%.

SUMMARY OF KEY FINDINGS

Although occupancy of a new Mathematics and Science Hall in fall 2015 as well as planned renovations to the existing Hilton Mansion will address some of the 2014 deficits in instructional space, significant deficits are projected in this classification for 2024 as well as for office, study, food facilities, open laboratory and shop/storage space.

The 2014 Catonsville space inventory, excluding extension centers, was 427,411 net assignable square feet (NASF). The College anticipates a 2024 space inventory of 441,027 NASF as the base or supply against which the need, generated by the demand of future enrollments at Catonsville, would be quantified.

When space deficits and surpluses were computed as a result of comparing enrollment and staffing projections against the projected space inventory, the outcome was a projected 2024 overall space deficit of 55,898 NASF. Quantitative indicators suggest immediate and long-term need for facilities to support space classifications showing significant deficits.

Projected (Fall 2024) Space Deficits and Surpluses (Catonsville)

CCBC Catonsville (Fall 2024)					
Use	Space Classification	Deficit NASF	Use	Space Classification	Surplus NASF
310	Office / Conference	42,748	210	Class Laboratory	43,252
410	Study	14,649	420-30	Stack / Study	14,138
110	Classroom	12,348	520	Athletic	2,157
630	Food Facility	8,766	660	Merchandising	1,552
220	Open Laboratory	8,496	440-55	Processing / Service (Library)	1,400
720-40	Shop / Storage	8,178	680	Meeting Room	1,227
650	Lounge	6,311	710	Data Processing	786
530	Media Production	6,068		Total	64,512
610	Assembly	5,353			
320	Testing /Tutoring	2,617			
750	Central Service	1,751			
800	Health Care	947			
620	Exhibition	928			
580	Greenhouse	875			
760	Hazmat Storage	375			
	Total	120,410			

THE CAMPUS

Endowed with a sense of history and an estate-like setting, the CCBC Catonsville campus conveys a character that reflects its agrarian, domestic roots. At 142 acres and 693,400 square feet in 20 buildings, and containing the largest amount of building area in the CCBC system, the campus has nonetheless managed to hold on to its historic character. This should not be lost.

The credit student population of 9,973 (fall 2014 headcount) is drawn to the campus by a large variety of programs, anchored by certain major fields of study, including building technology and engineering, automotive technology, aviation technology, computer/information systems, and visual arts. The extent of course offerings reinforces the critical mass of programs, which tends to both stabilize and expand the academic program and corresponding enrollment. Enrollment is expected to grow to 11,374 by 2024.

The large enrollment has created a need for more space in new buildings, primarily office, study, classroom, food service, open labs, and shop/storage facilities. Through 2024, the enrollment justifies a need for 120,400 net square feet of new space in HEGIS categories that contain deficits. This roughly corresponds to 198,700 gross square feet of new space that does not yet exist. Most of that need for new space exists now.

The College’s Capital Improvement Plan (CIP) moves toward laying the groundwork for future program spaces in new construction and renovation. In addition to smaller projects and systemic upgrades, several major projects are recommended through 2024. They include the following: Hilton Mansion Renovation, Electrical service and switchgear upgrade/replacement, Facilities Operations Building renovation and addition, Student Services partial renovation and addition, Wellness Center renovation, Classroom & Lab Building renovation and addition, Automotive Building Addition, turf field and comfort station, historic buildings & site restoration and improvements, parking garage on Lot 3 (north), and a new classroom building west of the library.

Projects to be implemented as funds become available include systemic upgrades to sprinkler, HVAC, fire alarm, and other building systems; Middle College building; Arts Building renovation; bridge over the loop road connecting the Classroom * Lab Building with the Arts Building, HTEC renovation, and a second parking garage on Lot 7 (south).

Site and infrastructure improvements are required to support the proposed building program and to improve the function, safety, and efficiency of the campus plant operations. Parking is primarily inconvenient for students and visitors. As new projects are undertaken, the parking supply should be increased to meet expanded future needs. Some of the existing parking will be eliminated with new facilities, including two new parking structures.

Taken together, these projects will require storm water management measures. This need will be addressed on a project-by-project basis, incorporating State standards for storm water management and sediment and erosion control. Unified designs for paving, site amenities, and site lighting are recommended, to set standards for future projects affecting these components.

The campus is currently served by 2 roadways from Rolling Road: Campus Drive and Collegiate Drive. The main entrance, Campus Drive, is most heavily used as the primary entrance road. Use of the Rolling Road intersection has not materially changed in the last five years, and is not anticipated in the short term. As the campus expands in the future, however, the safety and utilization of this intersection will need to be evaluated.

This plan edition also explores the need to accommodate bicycles, including bikeways and bike parking facilities, connecting the public roads with internal pedestrian networks. Refer to the appendix for recommendations and the proposed plan.

The suburban scale and density of the campus should not be exceeded. The development plan illustrated in this report accommodates growth reasonably. Buildings are shown to be limited to 3 floors, and parking structures to 4-5 levels and integrated into the topography. The physical growth of the campus is accommodated by expanding the campus core to the north to unify the ARTS building with the campus core and along the east-west axis to define a second major quadrangle, embrace the library, and reinforce the sense of campus community. Alternatives to additional physical growth, such as on-line offerings, should continue to be explored. As suggested in previous master plans, a coordinated, comprehensive strategy with local government should be undertaken to address campus growth, access, impact on the surrounding community, and transportation alternatives.

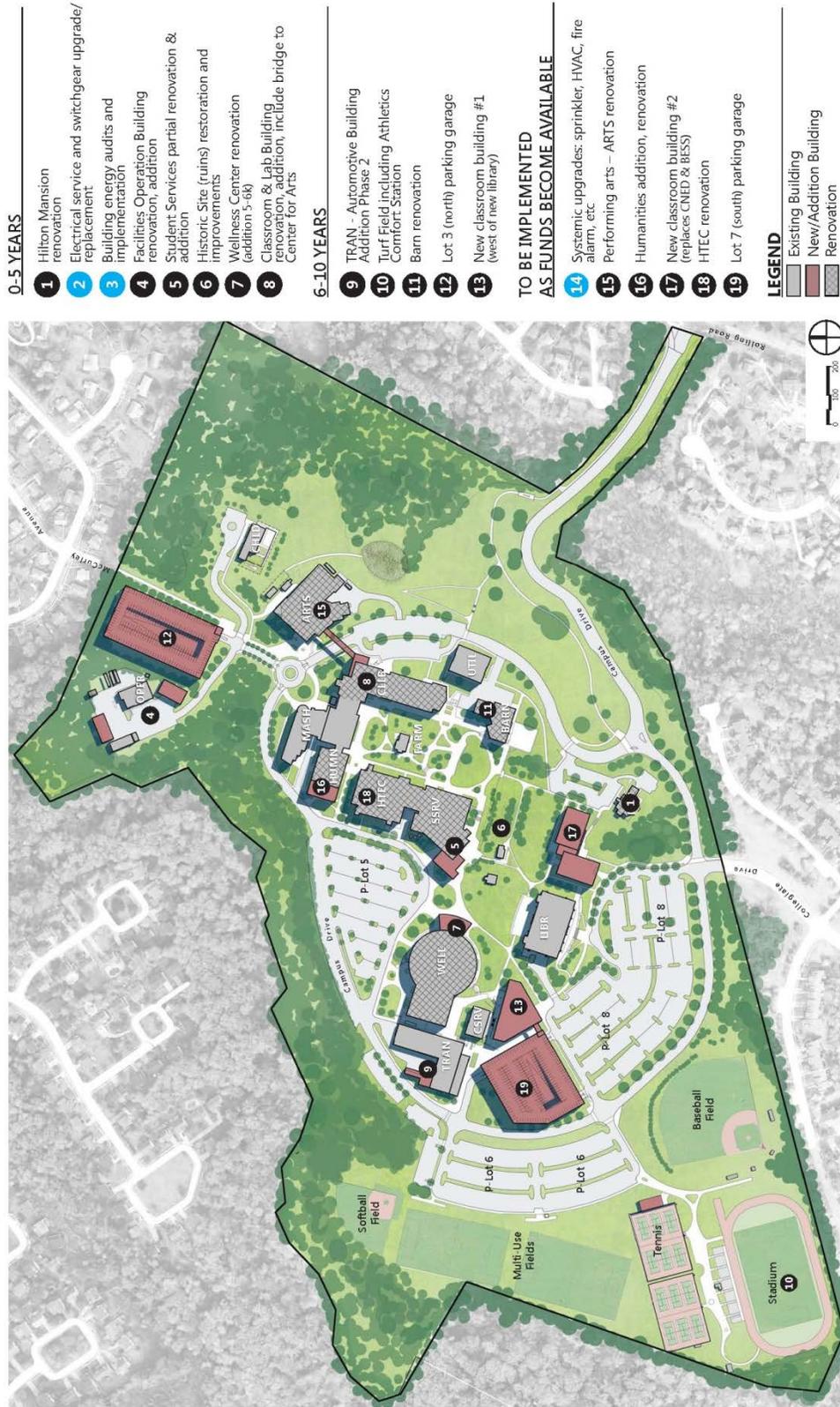
Site utilities are generally satisfactory. New water service and an upgraded internal campus loop are complete, as is a second electric service feeder providing better quality and more dependable electric service. Most immediate and "mission critical" is the need to replace aging electrical switchgear and related electrical infrastructure.

New building design should acknowledge the historical references of the older buildings while incorporating contemporary functions and aesthetics.

RECOMMENDED MAJOR PROJECTS – CCBC CATONSVILLE

Proposed Major Capital Projects 2016-2025 - Catonsville						
Building Designation		No. of Spaces -	Parking Garage or Lot	GSF Renovation	GSF New	
Proposed Projects: 0-5 Years 2016-2020						
HILT	Renovation (Administration - Mansion)			16,898		
	Switchgear, campus feeder, bldg meter upgrade/replacement					
	Roof Membrane Replacements (CHLD)					
OPER	Renovation/Add'n (Facil. Maint. & Operations; incl temp bldgs relocation)			6,265	9,000	
SSRV	Partial Renovation and Addition (Student Services-Lower Level)			25,000	10,000	
	Historic Area Safety/Wall Restoration (Ruins)					
WELL	Renovation/Addition (Athletic, Wellness Center)			92,385	6,000	
CLLB	Renovation/Addition (addition includes bridge over loop road to ARTS)			70,845	6,000	
	Total: 2016-2020			211,393	31,000	
Proposed Projects: 6-10 Years 2021-2025						
TRAN	Renovation/Addition (Automotive, Occupational Training)			8,000	3,000	
	Roof Membrane Replacements (HUMN, SSRV, HTEC, OPER)					
	Turf Field and Athletics Comfort Station				3,000	
BARN	Renovation (Barn)			14,890		
	Lot 3 (north) Parking Garage		924			
	Classroom Building 1 - west of Library				60,000	
	Total: 2021-2025			22,890	66,000	
Projects to be Implemented as Funds Become Available						
	Systemic upgrades: sprinkler, HVAC, fire alarm, etc.					
	Replace CCBC Natural Gas Piping					
	Middle College (renovation option - location to be determined)			41,250		
ARTS	Performing Arts Renovation			54,560		
HUMN	Humanities Hall Renovation/Addition			25,904	10,000	
HTEC	HTEC Renovation			92,385		
	Classroom Building 2 - replace BESS, CNED				62,000	
	Lot 7 (west) Parking Garage		1310			
	Total			214,099	72,000	
	TOTAL - ALL PROJECTS			448,382	169,000	

PROPOSED CAMPUS DEVELOPMENT – CCBC CATONSVILLE



0-5 YEARS

- 1 Hilton Mansion renovation
- 2 Electrical service and switchgear upgrade/ replacement
- 3 Building energy audits and implementation
- 4 Facilities Operation Building renovation, addition
- 5 Student Services partial renovation & addition
- 6 Historic Site (ruins) restoration and improvements
- 7 Wellness Center renovation (addition 5-6k)
- 8 Classroom & Lab Building, renovation, addition, include bridge to Center for Arts

6-10 YEARS

- 9 TRAN - Automotive Building Addition Phase 2
- 10 Turf Field including Athletics Comfort Station
- 11 Barn renovation
- 12 Lot 3 (north) parking garage
- 13 New classroom building #1 (west of new library)

TO BE IMPLEMENTED AS FUNDS BECOME AVAILABLE

- 14 Systemic upgrades: sprinkler, HVAC, fire alarm, etc.
- 15 Performing arts – ARTS renovation
- 16 Humanities addition, renovation
- 17 New classroom building #2 (replaces CNED & BESS)
- 18 HTEC renovation
- 19 Lot 7 (south) parking garage

LEGEND

- Existing Building
- New/Addition Building
- Renovation

SUMMARY: CCBC DUNDALK

HISTORY AND CHARACTER

CCBC Dundalk is located at 7200 Sollers Point Road, near the intersection of Sollers Point Road and Merritt Boulevard in southeastern Baltimore County. The campus is accessible by public bus transportation.

The smallest and most recently built of the Community College of Baltimore County's three main campuses, Dundalk began offering classes in 1971 at Dundalk Senior High School until the first building was completed on the Dundalk Community College campus. In 1972 the College took occupancy of the Administration/ Classroom Building. Since then, the campus has added facilities, which have become the 11-acre academic core, to include a total of 10 permanent buildings, 2 temporary buildings, 2 trailers and 6 storage containers. Outside of this core are parking surfaces, athletic fields, vehicular circulation and vacant land.

In 1998, Dundalk Community College was unified with Catonsville Community College and Essex Community College to become, what is now, the Community College of Baltimore County (CCBC).

With a strong tradition of service, CCBC Dundalk is a vital part of its southeast Baltimore County community. Educating generations of residents, CCBC Dundalk mirrors the hometown neighborhood it serves. CCBC Dundalk is known for its championship baseball teams, internationally recognized community theater and impressive art gallery exhibits. Landscaped by horticulture students, the campus is characterized by tranquil courtyards. Water gardens, fish ponds complete with lily pads, bubbling fountains and rustic gazebos dot the landscape.

CCBC Dundalk is home for the Baltimore County Police Academy and also supports instruction for the Baltimore County Fire Department.

SPACE NEEDS

The growth of existing programs and the establishment of new programs suggest significant growth in enrollment and a need for specific, specialized facilities. The demand for transfer and workforce skills will drive program offerings in the coming years. Many of these programs, health sciences in particular, require specialized classrooms, labs and other facilities that can be flexibly adjusted for a variety of teaching/learning settings. This demand is considered to identify space needs and suggests future physical development.

The purpose of space needs analysis is to assess the extent to which the current total amount of academic and other space is adequate for use in support of future enrollments. The ultimate outcome of this assessment is to provide estimates of the supply of types and amounts of space likely to be needed to accommodate Dundalk's projected fall 2024 demand in terms of academic programs and their ensuing enrollments and staffing levels.

The base year for this analysis is fall 2014. Student headcount reflects the total number of students taking credit courses at CCBC Dundalk. FTES / FTDES are calculated from credit hours earned at CCBC Dundalk. Faculty and staff are the result of allocations based on primary assignment.

Planning Assumptions (Dundalk)

CCBC Dundalk	Student Headcount ^a	FTEs	FTDES	Full-Time Faculty	Part-Time Faculty	Full-Time Staff
Fall 2014	4,200	1,165	903	47	115	178
Fall 2024	4,738	1,421	1,102	57	140	214
Percent Change 2014-2024	13%	22%	22%	22%	22%	20%
Average Annual Growth Rate	1.2%	2.0%	2.0%	2.0%	2.0%	1.8%

2014 Enrollment, Faculty and Staff Data Source: CCBC Office of Planning, Research and Evaluation

2024 Enrollment Data Source: CCBC Office of Planning, Research and Evaluation

2024 Staff Data: Community College of Baltimore County Office of Facilities

^astudents taking courses at this location

The 2014 campus space inventory was 176,857 net assignable square feet (NASF). Since there are no building projects currently programmed at Dundalk, the projected 2024 space inventory is also shown at 176,857 NASF. This is the base or supply against which the need, generated by the demand of future enrollments at Dundalk, would be quantified.

When space deficits and surpluses were computed as a result of comparing enrollment and staffing projections against the projected space inventory, the outcome was a projected 2024 overall space deficit of 51,348 NASF. Quantitative indicators suggest immediate and long-term need for facilities to support space classifications showing significant deficits.

Projected (Fall 2024) Space Deficits and Surpluses (Dundalk)

CCBC Dundalk (Fall 2024)		Deficit			Surplus
Use	Space Classification	NASF	Use	Space Classification	NASF
310	Office / Conference	13,015	210	Class Laboratory	3,305
110	Classroom	11,675	660	Merchandising	1,004
680	Meeting Room	6,000	580	Greenhouse	490
720-40	Shop / Storage	5,067		Total	4,799
400	Study	2,949			
520	Athletic	2,786			
610	Assembly	2,722			
750	Central Service	2,487			
710	Data Processing	1,840			
220	Open Laboratory	1,589			
530	Media Production	1,600			
320	Testing /Tutoring	1,500			
650	Lounge	1,129			
620	Exhibition	793			
800	Health Care	500			
630	Food Facility	336			
760	Hazmat Storage	159			
	Total	56,147			

With respect to parking needs, there is an available supply of 975 spaces. Seventy six (76) spaces are reserved for public safety, service and fleet vehicles and one space is for motorcycles. The motorcycle space is sized for motorcycles only and do not meet guideline allowance for cars. Therefore, the available supply of regular parking spaces at Dundalk is 974. All existing parking is on surface lots as there are no parking structures at CCBC Dundalk.

ISSUES AFFECTING SPACE NEEDS AND CAPITAL PROJECTS

- The CCBC Dundalk campus is noted for its pleasant, attractive landscaping
- Some students expressed discomfort walking through campus and to their cars at night.
- Larger classrooms are needed.
- Requests for computer labs are increasing.
- The observatory is regularly used by the community.
- Criminal justice role-play rooms are now in the Wellness Center; it is preferable for them to be together with other criminal justice programs in the Staten Building, space permitting. The School of Justice would like to have a moot court.
- A 2013 renovation of the College Community Center now provides more appropriate space for the library and student center functions
- Science offerings have expanded with labs in both Mathematics & Science Hall and the Career Building. Some labs need to be upgraded to take advantage of uniform curricula developed by faculty, especially in chemistry.

SPACE UTILIZATION RECOMMENDATIONS

- Accommodate the Police Academy's requests for additional space.

PROGRAMS AND OPERATIONS

- Intensive evening use is in both credit and non-credit
- The historic focus on arts and heavy industry diminishing.
- Administrative areas on the second level of the Student Services Building need to be renovated to make better use of space and to facilitate modernization of building-wide HVAC AHUs and to complete installation of the automatic fire suppression system. This project should also include renovations to the link.
- The campus has the opportunity to be the social and cultural heart of the Dundalk community.

THE CAMPUS

Occupying 273,000 gross square feet in 11 permanent buildings on 70 acres, the campus is the smallest of CCBC's three main campuses. Like CCBC Essex, its buildings generally conform to a unified, contemporary architectural character, so that they are relatively small in scale (not exceeding 2 stories), appropriate to the size of the site.

The student population of 4,200 (fall 2014 headcount) has declined since 2010, but is expected to grow to 4,738 by 2024 (a lower projection than in the 2010 Facilities Master Plan). The Dundalk campus has been serving the diverse educational needs of recent high school graduates, working adults who want to upgrade skills or retrain, unemployed adults seeking marketable job skills, and special populations such as seniors.

Besides offering Associate's Degree programs in Liberal Arts, Business, Technology and Mathematics, and Science, Health and Human Services, and Criminal Justice and Paralegal studies, CCBC Dundalk offers extensive continuing education courses and carefully tailored training programs for business and industry. The campus hosts facilities for the Baltimore County Police Academy and supports the Academy's training programs for police recruits and for the entire County Police Department. In addition, the campus provides instruction for other public safety personnel from Baltimore County and other jurisdictions. CCBC Dundalk houses the School of Justice. The School oversees all criminal justice and paralegal course offerings across the three campuses and extension centers.

Through 2024, the enrollment justifies a need for approximately 56,600 net square feet of new space in HEGIS categories that contain deficits. This corresponds to roughly 93,300 additional gross square feet. The major needs for additional space include office, classrooms, meeting rooms, and shop/storage.

The College's Capital Improvement plan moves toward laying the groundwork for future program spaces in new construction and renovation. In addition to miscellaneous smaller projects and systemic upgrades, five major building projects are projected through 2024. They include: new operations building and compound, renovation of the second floor and link of the Student Services building, Wellness Center renovation and addition, and a new classroom building, parking lot and reconfiguration of the entrance road around a proposed south quadrangle. As funds become available, systemic upgrades to sprinkler, HVAC, fire alarm and other building systems, Career Building renovation, and a second classroom building at the new south quad should be implemented.

The site infrastructure requires miscellaneous repairs and improvements. Generally, except for low water service pressure from the public main on Sollers Point Road, the utilities are adequate and in relatively good condition. The low water pressure condition will need to be further investigated and reconciled, possibly requiring upgrade to the service, before further new construction may occur. The existing storm water management pond is at capacity; new storm water management facilities will be needed at such time as new impervious site coverage (buildings, parking) is constructed.

Parking is in adequate supply for now, but should be increased to serve the proposed new buildings as they are constructed. The existing parking bays are laid out to facilitate future expansion by maintaining the existing driveway-parking-building sequence which steers clear of pedestrian-vehicular conflicts. There are 975 parking spaces distributed among various primary and secondary lots, including 48 for disabled persons and one for motorcycles. All existing parking is on surface lots as there are no parking structures, and none are anticipated in future development.

Reconfiguration of the secondary entrance road closest to Sollers Point Road is suggested to allow for safer entry into the campus parking areas. Access is illustrated to serve a future development at the south part of the campus, with limited service vehicle access to the Operations Building compound. The new south quadrangle will be reinforced by new academic buildings and will complement existing open spaces by providing a large flexible open space which is currently lacking on the campus.

The pedestrian, even intimate, scale of the CCBC Dundalk campus is a major attribute and should be maintained in any future expansion work. The small scale open spaces that exist between buildings should be maintained, while establishing a large quad area in the proposed south development. The proposed site development plan suggests such spaces.

RECOMMENDED MAJOR PROJECTS – CCBC DUNDALK

Proposed Major Capital Projects 2016-2025 - Dundalk					
Building Designation			No. of Spaces - Parking Lot	GSF Renovation	GSF New
Proposed Projects: 0-5 Years 2016-2020					
OPER	Renovation OPER + Replacement for Maintenance			3,576	5,000
SSRV	Renovation (Student Services 2nd floor incl link)			10,300	
	Roof Membrane Replacements (STAT, WELL (flat))				
	Additional Parking Extend Lot 4		112		
WELL	Renovation/Addition (Wellness & / Athletic Center)			55,913	10,000
	Total: 2016-2020			69,789	15,000
Proposed Projects: 6-10 Years 2021-2025					
	New Parking Lot; Reconfigure Secondary Entrance Road around New South Quad: allowance (lot includes 96 spaces)				
	Classroom Building (at New South Quad)				35,000
	Total: 2021-2025			-	35,000
Projects to be Implemented as Funds Become Available					
	Systemic Upgrades: sprinkler, HVAC, fire alarm, etc.				
MASH	Math & Science Hall Renovation w/ HVAC Upgrades			24,127	
CRBL	Career Building Renovation			31,279	
	Classroom Building 2 (at New South Quad)				35,000
	Total			55,406	35,000
TOTAL - ALL PROJECTS				125,195	85,000

EXISTING CAMPUS – CCBC DUNDALK



SUMMARY: CCBC ESSEX

HISTORY AND CHARACTER

The Essex Campus (CCBC Essex) is located on 143 acres of land at 7201 Rossville Boulevard, about one-half mile northwest of Franklin Square Drive in eastern Baltimore County. The campus is accessible by public bus transportation.

Essex Community College opened in temporary quarters at Kenwood High School in 1957. In February 1961, the College moved its day program to Dorsey Avenue in Essex. The library and faculty offices moved to the Dorsey site in 1962. The present campus was opened to 2,000 students in the spring of 1968. The campus opened with three permanent buildings: Administration Building, Power Plant, and the Planetarium (AV Building). The campus now contains a total of 14 permanent buildings, 7 trailers/sea containers, and one temporary building.

In 1998, Essex Community College was unified with Catonsville Community College and Dundalk Community College to become, what is now, The Community College of Baltimore County (CCBC).

The contemporary look and feel of the Essex campus invites learning. Bordered by beautiful wooded areas and open space, the campus buildings are connected by spacious plazas and lawns bordered by seasonal gardens. Noted for its strong allied health programs, Essex offers students the ability to complete clinical training next door at Franklin Square Hospital, with which it has created a "healthy" partnership, or at one of the many highly regarded health care institutions in Baltimore.

SPACE NEEDS

The growth of existing programs and the establishment of new programs suggest significant growth in enrollment and a need for specific, specialized facilities. The demand for transfer and workforce skills will drive program offerings in the coming years. Many of these programs, health sciences in particular, require specialized classrooms, labs and other facilities that can be flexibly adjusted for a variety of teaching / learning settings. This demand is considered to identify space needs and suggest future physical development.

The purpose of space needs analysis is to assess the extent to which the current total amount of academic and other space is adequate for use in support of future enrollments. The ultimate outcome of this assessment is to provide estimates of the supply of types and amounts of space likely to be needed to accommodate Essex's projected fall 2024 demand in terms of academic programs and their ensuing enrollments and staffing levels.

The base year for this analysis is fall 2014. Student headcount of 11,100 reflects the total number of students taking credit courses at CCBC Essex. FTES / FTDEs are calculated from credit hours earned at CCBC Essex. Faculty and staff are the result of allocations based on primary assignment.

Planning Assumptions (CCBC Essex)

CCBC Essex	Student Headcount ^a	FTES	FTDES	Full-Time Faculty	Part-Time Faculty	Full-Time Staff
Fall 2014	11,100	5,061	4,040	201	289	321
Fall 2024	12,756	6,174	4,929	245	353	385
Percent Change 2014-2024	15%	22%	22%	22%	22%	20%
Average Annual Growth Rate	1.4%	2.0%	2.0%	2.0%	2.0%	1.8%

2014 Enrollment, Faculty and Staff Data Source: CCBC Office of Planning, Research and Evaluation

2024 Enrollment Data Source: CCBC Office of Planning, Research and Evaluation

2024 Staff Data: Community College of Baltimore County Office of Facilities

^astudents taking courses at this location

The 2014 campus space inventory was 368,975 net assignable square feet (NASF). This excludes Ridge Road Annex which is classified as a temporary building. The College anticipates a 2024 space inventory of 412,136 NASF as the base or supply against which the need, generated by the demand of future enrollments at CCBC Essex, would be quantified. Through 2024, the enrollment justifies a need for approximately 147,100 net square feet of new space in HEGIS categories that contain deficits. This corresponds to roughly 242,700 additional gross square feet, the largest need of any of the three campuses. The major needs for additional space include study, office, classrooms, food service, shop/storage, and open laboratory facilities. Quantitative indicators suggest immediate and long-term need for facilities to support space classifications showing significant deficits:

Projected Space Deficits and Surpluses

CCBC Essex (Fall 2024)					
Use	Space Classification	Deficit NASF	Use	Space Classification	Surplus NASF
400	Study	27,226	210	Class Laboratory	41,546
110	Classroom	25,280	610	Assembly	3,507
310	Office / Conference	23,230	660	Merchandising	1,158
630	Food Facility	15,532		Total	46,211
720-40	Shop / Storage	11,488			
220	Open Laboratory	10,082			
520	Athletic	6,222			
680	Meeting Room	6,041			
650	Lounge	5,384			
530	Media Production	4,314			
320	Testing /Tutoring	3,215			
620	Exhibition	3,215			
750	Central Service	1,658			
710	Data Processing	1,628			
800	Health Care	1,186			
580	Greenhouse	1,000			
760	Hazmat Storage	393			
	Total	147,094			

With respect to parking needs, there is an available supply of 2,592 spaces for parking on campus. Given this supply, there is a computed current deficit of 973 spaces. Computations suggest a projected deficit of 1,598 parking spaces by fall 2024.

These building and parking space needs are reinforced by consideration of qualitative evaluations of configuration and condition of existing spaces.

ISSUES AFFECTING SPACE NEEDS AND CAPITAL PROJECTS

- Both Larger and smaller classrooms are needed.
- Allied health programs and facilities are spread out over three buildings; this will be improved to two buildings via construction of the HTEC addition and renovation.
- Suitable meeting rooms for large groups, Board meetings, etc, are lacking.

PROGRAMS AND OPERATIONS

- Dance studio space suitable in quantity and quality are needed for national accreditation
- Back of the house food service space is inadequate for the needs of the campus
- A tentative home for the truck driver training program seems to have been found at the Sparrow Point Redevelopment area.
- The College should explore the possibility of a purchase of a nearby farm property for program expansion purposes.

THE CAMPUS

Now nearly 50 years old, the CCBC Essex Campus was originally conceived to be a unified architectural composition of buildings. The original modern aesthetic has been maintained in subsequent development resulting in a cohesive architectural character. While there are both advantages and disadvantages to this unity, it establishes a contemporary, recognizable character for most of the campus buildings.

The 143-acre campus contains 573,000 gross square feet in 14 buildings, and is similar in size to the CCBC Catonsville campus. The most memorable impression of the campus is generally its wooded setting, although along its southern boundary, the reality of the proximity of its large institutional neighbor, Franklin Square Hospital, is apparent, and there is a more open feeling.

The student population of 11,100 (fall, 2014 headcount) pursues a variety of programs, including accounting; business management; early childhood development; and nursing and allied health, the largest of all. Enrollment is projected to increase to 12,756 through 2024. Through the Allied Health program, CCBC Essex has formed relationships with Franklin Square and other health-care providers throughout the community.

The College's Capital Improvement Plan moves toward laying the groundwork for future program spaces through new construction and renovation. Major projects proposed through 2024 include the following: Health Careers & Technology Building renovation and addition; reconfiguration of the entrance and loop road (west portion of loop road); electrical service and switchgear upgrade and replacement; veterinary technology facility; Wellness Center addition; Business, Education & Social Sciences Hall renovation; College Community Center addition for bookstore and food service; Library addition & renovation; Wellness

Center renovation; parking garage near the Arts & Humanities building; classroom building adjacent to Arts & Humanities; and Operations building renovation and addition.

Projects which should be considered as funds become available include the following: systemic upgrades to sprinkler, HVAC, fire alarm and other building systems; land acquisition; College Community Center renovation + addition; classroom building between the College Community Center and Wellness Center; parking garage near the Health Careers & Technology Building, and a third classroom building, between Business, Education & Social Sciences Hall and Mathematics & Science Hall.

Several of the existing buildings exhibit a relatively dark, dim, closed-in feeling in the public spaces. Some of these spaces are what remains from larger, more open spaces of the original design. Renovations should open and re-open these areas to create a more pleasant, welcoming sense of space. Indeed, new construction and additions should create similar areas as well.

Site and infrastructure improvements are required to support the proposed building program and to improve the aesthetics, functionality, and efficiency of the campus plant operations. Site utilities are generally satisfactory and will continue to meet campus demand for the foreseeable future, except for the "mission critical" upgrade and replacement of electrical switchgear and related equipment.

Generally, new campus growth will be accommodated by expanding the campus core in two directions. An expansion to the west will create a new quad defined by existing and proposed academic buildings, supported by a major parking structure. Expansions to the east and south will create other quad spaces defined by new and existing buildings and will also be supported by a second major parking structure.

Parking is currently insufficient at peak periods and should be increased soon to meet demand created by enrollment increases and new building construction. Some reconfiguration and expansion of existing parking areas will partially satisfy the projected increase of demand, but structured parking will be needed to support the planned building projects.

Taken together, all of the proposed projects will require storm water management measures. This can be addressed on a project-by-project basis as drainage areas and topography dictate.

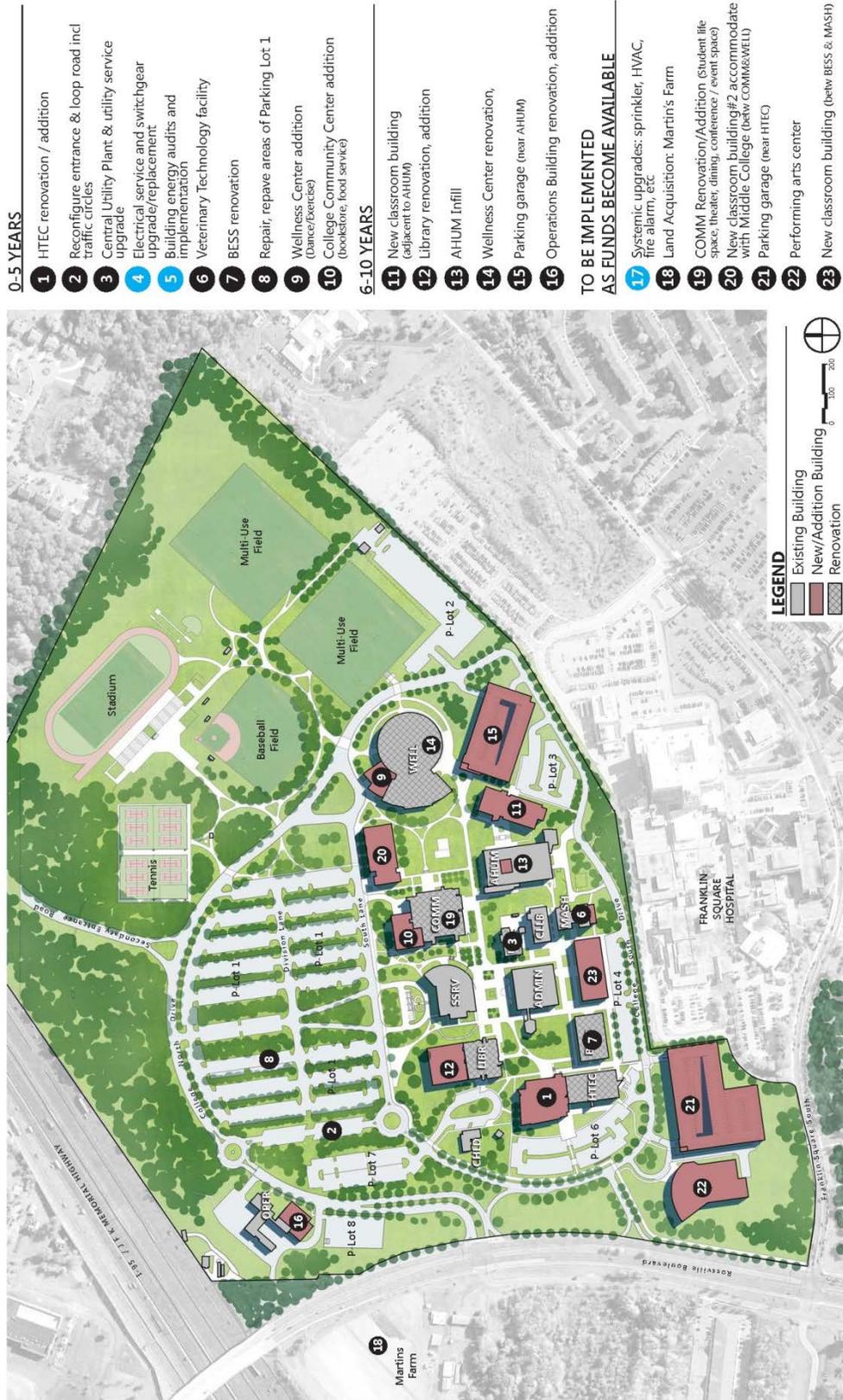
RECOMMENDED MAJOR PROJECTS – CCBC ESSEX

Proposed Major Capital Projects 2016-2025 - Essex					
Building Designation		No. of Spaces - Parking Garage or Lot	GSF Renovation	GSF New	
Proposed Projects: 0-5 Years 2016-2020					
HTEC	HTEC Renovation/Addition/Site (SoHP, Continuing Education, SAIT) - also includes reconfigured loop road and new parking lot		51,500	70,525	
	Switchgear, campus feeder, bldg meter upgrade/replacement				
CLLB	Exterior Skin Replacement & Build Clay Mixing Room			300	
MASH	Veterinary Technology Facility(Renov Exist + Addition)		2,500	1,500	
	Rehabilitate Lot 1 Parking Facility				
WELL	Addition to Athletic & Wellness Center/Dance Studio Alterations		3,000	8,000	
BESS	Renovation (BESS)		50,048		
COMM	College Community Center Renovation/Addn (bookstore, food service)		6,000	22,000	
	Total: 2016-2020		113,048	102,325	
Proposed Projects: 6-10 Years 2021-2025					
	Roof Membrane Replacements (MASH,ADMN)				
LIBR	Renovation/Addition (Library)		40,280	46,000	
AHUM	In-Fill (AHUM Courtyard)			6,000	
WELL	Renovation/Addition (Athletic & Wellness Center)		84,500		
	East Parking Garage (near AHUM)	1068			
	Classroom Building 1 - near AHUM Building			60,000	
OPER	Renovation/Addition (Facilities Operations / Maintenance)		11,706	19,000	
	Total: 2021-2025		136,486	131,000	
Projects to be Implemented as Funds Become Available					
	Systemic Upgrades: sprinkler, HVAC, fire alarm, etc.				
	Replace CCBC Natural Gas Piping				
	Land Acquisition: Martin's Farm (cost to be determined)				
COMM	College Community Center Renovation (student life, dining, conf/event)		44,000		
	Classroom Building 2 (betw COMM & WELL; incl Middle College)			40,000	
	West Parking Garage Phase 1	1000			
	West Parking Garage Phase 2	434			
	Performing Arts Center			75,000	
	Classroom Building 3 (Lot 4)			60,000	
	Total		44,000	175,000	
	TOTAL - ALL PROJECTS		293,534	408,325	

EXISTING CAMPUS – CCBC ESSEX



PROPOSED CAMPUS DEVELOPMENT – CCBC ESSEX



COLLEGE-WIDE PROJECTS

The following projects are planned by the College and affect all campuses unless noted otherwise

- Central Hot/Chilled Water Facility Upgrades
- Multi-Building Re-Roofing
- ADA Alterations
- Capital Maintenance & Renovations
- Asbestos Abatement
- Building Energy Audits (study) and implementation of capital investment or performance contracting resulting in energy and cost savings.

EXTENSION CENTERS

Currently, CCBC administers programs at three leased extension centers – Owings Mills, Hunt Valley, and Randallstown. The Owings Mills Center, approximately 70,000 square feet of a 120,000 square foot building shared with the Baltimore County Public Library and offering credit and non-credit courses, has surpassed expectations for growth; additional space will likely be needed to meet demand within the next ten years. The Hunt Valley Center, at 19,900 square feet, also offers credit and non-credit classes in a facility on Beaver Dam Road in the Hunt Valley business park. The Randallstown Workforce Development Center occupies about 26,400 square feet in a County-owned facility on Offutt Road.

PLANNING FOR TOMORROW

As described by the CCBC Mission, “The Community College of Baltimore County provides an accessible, affordable and high-quality education that prepares students for transfer and career success, strengthens the regional work force and enriches our community”. By extension, this master plan, too, provides the framework for accessible, affordable, and high-quality facilities to serve the students, faculty, staff and all others embraced in the CCBC community. Still strong, the College is positioned to continue to be a source of pride for the County and for the communities which the campuses and extension centers serve. The challenges are great, and so are the opportunities. This master plan makes the case for need, lays out a framework for development, and envisions a future of excellence for the College, making the celebration of learning more achievable.



Chapter 2

Overview of the College

Mission, Vision, Values
Strategic Directions
Governance and Organization
Students, Faculty and Staff
Instruction
Main Campus
Extension Centers

CHAPTER 2 OVERVIEW OF THE COLLEGE

The Community College of Baltimore County (CCBC) is an open-door two-year public community college providing courses, programs, and services to the citizens of Baltimore County and the central Maryland region. The College originated as three separate colleges. Catonsville Junior College and Essex Junior College each were founded in 1957. Dundalk Community College opened in 1971. These colleges were restructured in October 1998 as the Community College of Baltimore County with main campuses at Catonsville, Dundalk, and Essex.

The Board of Community College Trustees exercises general control over the Community College of Baltimore County (Code Education Article, §16-101 through §16-103). The Board members are appointed to five-year terms by the governor with Senate advice and consent.

The Community College of Baltimore County (CCBC) is ranked among the number one providers of undergraduate education, workforce development, technology training, and lifelong learning/life enrichment in the State of Maryland. Nationally recognized as a leader in innovative learning strategies, CCBC educates nearly 65,000 students each year, including more than half of all Baltimore County residents attending undergraduate college. CCBC's School of Continuing Education is a preferred training partner for Maryland businesses, serving more than 100 employers annually with customized employee development training. Over the last four years, the College has enrolled an average unduplicated headcount of about 34,000 credit and 34,000 continuing education and workforce development students at its three main campuses, major extension centers in Hunt Valley, Owings Mills, and Randallstown, and teaching sites in numerous community centers and local schools.

This *CCBC Facilities Master Plan Update* is published as three volumes, one for each of CCBC's three main campuses. Detailed analysis and plans contained in this volume pertain to the CCBC Essex Campus.

Community College of Baltimore County Campus and Extension Center Locations



MISSION

The Community College of Baltimore County provides an accessible, affordable, and high-quality education that prepares students for transfer and career success, strengthens the regional workforce and enriches our community.

VISION

We will be the institution of choice for students, where together we make teaching purposeful, learning powerful, completion primary, and community paramount.

VALUES

- **Commitment:** We want our students to succeed and make progress toward the completion of their educational goals through degree or certificate attainment, transfer, workplace certification, career enhancement or personal enrichment.
- **Learning:** We are committed to ensuring our students grow as active learners, develop a passion for life-long learning, and use what they have learned to their benefit.
- **Innovation:** We value innovation and support a climate of discovery. We encourage students, faculty and staff to explore new ideas, methods and processes.
- **Responsibility:** We have high expectations for the work of our employees, the academic rigor of our offerings, the scholarship of our students, and the involvement of the community and the workplace in the College's future.
- **Integrity:** We inspire public trust by maintaining ethical and collaborative relationships with our faculty, students, staff, alumni and communities. We share our achievements and challenges honestly and openly.
- **Inclusiveness:** We celebrate the differences and similarities of our students, employees and the communities we proudly serve. We value the diversity of people, cultures, ideas and viewpoints and we honor the dignity of all persons. We insist on open and honest communications, fairness, mutual respect, collegiality and civility at all times. We are committed to preparing students to be active citizens, ready to meet the challenges of an increasingly diverse world and a changing global marketplace.
- **Excellence:** We emphasize quality as a standard for all we do and consistently look for ways to improve organizational efficiency and effectiveness.
- **Stewardship:** We support sustainable practices and prudently manage resources dedicated to advancing the College's mission and strategic directions.
- **Collaboration:** We encourage continuous dialogue among students, faculty and staff, and support ongoing cooperative relationships with our partners in the community regarding their educational, cultural, recreation and workforce needs.

STRATEGIC DIRECTIONS

- **Student Success:** CCBC provides the highest quality instruction and student services, positioning all students to maximize their performance. The College assists students in achieving their completion goals, leading to a degree or certificate, obtaining transfer credits, developing specific skills, expanding employment opportunities, or enriching their personal lives.
- **Teaching and Learning Excellence:** CCBC promotes the academic and professional success of students by offering relevant, adaptive, responsive and inclusive curricula, supporting the teaching and professional achievement of faculty and making high-quality learning support services available.
- **Organizational Excellence:** CCBC encourages an organizational culture that emphasizes innovation, quality, continuous improvement, excellence, entrepreneurship, service and success. The College supports individuals and teams involved with and responsible for providing and managing college's human, capital, financial, technical, academic and technological resources.
- **Community Engagement:** CCBC values community support, respect, commitment and engagement.

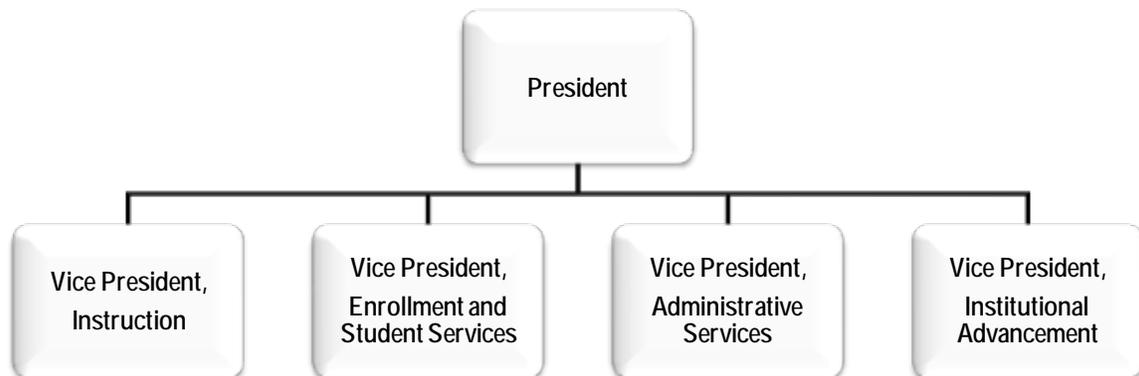
GOVERNANCE AND ORGANIZATION

The Board of Trustees of the Community College of Baltimore County comprises 15 members – one at-large and two from each of the county's seven councilmanic districts. Members are appointed by the Governor of Maryland with advice and consent of the Maryland Senate.

The Board maintains general oversight over CCBC. Its responsibilities include adopting rules and regulations for College operations, approving the College budget, considering and approving CCBC's academic programs and long-range plans, approving major purchases and the construction and renovation of College facilities, and more.

The president shares day-to-day operation of the College with four vice-presidents, each with a broad range of responsibilities for Instruction, Enrollment and Student Services, Administrative Services, and Institutional Advancement, which comprise the President's Staff.

President's Staff



STUDENT GOVERNMENT

The Community College of Baltimore County Student Government Association (SGA) and when appropriate followed by a campus delineation (e.g., CCBC SGA Catonsville) established a constitution for the Student Government Association. The upholders of the constitution provide a voice for all students by maintaining open lines of communication between all of its constituents. The upholders work with and give recommendations to the administration for the enhancement of Student Life.

The affairs of the SGA are managed by an Executive Board which acts as the principal student governing board of the Community College of Baltimore County, with all other student organizations subsidiary to it. The SGA Executive Board consists of eight (Catonsville and Essex) or six (Dundalk) elected members. Their roles as student leaders begin officially on October 1 of the year following student elections. If there are any vacant positions in the fall after the student elections are held, any interested student may apply for an SGA representative position. The SGA Executive Board at the Catonsville and Essex campuses will be composed of the following: President, Vice-President, Chief of Staff, Secretary, two returning student delegates, and two first-year delegates. The SGA Executive Board at the Dundalk campus will be composed of: President, Vice-President, Chief of Staff, Secretary, one returning student delegate, and one first-year delegate.

The objectives of the Student Government Association Executive Board are the following:

- Serve as the governing body for all CCBC students
- Serve as advocates for students regarding policies and regulations that affect students' collegiate experience
- Promote and encourage student involvement in co-curricular activities
- Oversee and support the development of student organizations funded by the Student Government Association
- Ensure that student organizations adhere to College policies and guidelines
- Provide programming and workshops that support student organization members' personal, social, and leadership development
- Develop and support programming that supports the academic, personal, and social development of CCBC students, faculty, and staff members
- Collaborate with the Office of Student Life as well as other departments to develop programming that supports the needs of CCBC students
- Provide a learning environment that values diversity, multiculturalism and inclusiveness

STUDENT BODY CHARACTERISTICS

The CCBC student body is comprised of individuals with a wide variety of experiences, goals and educational backgrounds. The following table illustrates the diversity of the student body in the fall semester of 2014. The College is a community of 23,000 credit and 34,000 non-credit continuing education learners.

Headcount Credit and Non-Credit Enrollment Characteristics (Fall 2014)

	Credit Students (23,136)		Non-Credit Students (34,255) ^a	
Full-Time	7,301	32%	na	0%
Part-Time	15,835	68%	na	0%
Female	14,042	61%	18,141	53%
Male	9,094	39%	13,717	40%
Unknown	0	0%	2,397	7%
<20	6,932	30%	1,619	5%
20-29	10,118	44%	6,408	19%
30-39	3,319	14%	5,913	17%
40-59	2,355	10%	11,288	33%
60 and Over	407	2%	9,027	26%
Other/Unknown	5	0%	0	0%
African-American	9,118	39%	7,572	22%
Asian	1,513	7%	792	2%
Hispanic	1,116	5%	1,398	4%
Native American	97	0%	87	0%
White	10,318	45%	13,588	40%
Other/Unknown	974	4%	10,818	32%
In-County	17,199	74%	20,096	59%
Out-of-County	5,459	24%	9,872	29%
Out-of-State	216	1%	4,287	13%
International	262	1%	0	0%
Other/Unknown	0	0%	0	0%

Source: CCBC Office of Planning, Research and Evaluation

^aFiscal Year 2014 Data

STUDENT ENROLLMENT

In the fall semester of 2014 the Community College of Baltimore County enrolled 23,136 students who generated 196,715 credit hours of enrollment. The following table shows the enrollment distribution of on-campus, off campus and distance learning credit enrollments.

Current Credit Enrollment Distribution (Fall 2014)

Location	Credit Hours	FTEs	Percent
On Campus			
CCBC Catonsville	60,917	4,061	31%
CCBC Dundalk	17,476	1,165	9%
CCBC Essex	75,920	5,061	39%
Off Campus Sites			
CCBC Hunt Valley	1,706	114	1%
CCBC Owings Mills	9,951	663	5%
CCBC Randallstown	108	7	<1%
Other Distributed Sites	8,929	595	5%
Online/Distance Learning	21,708	1,447	11%
Total CCBC	196,715	13,114	100%

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

In the 2014 fiscal year, 34,255 students also enrolled in non-credit continuing education courses at the three main campuses and the Hunt Valley, Owings Mills and Randallstown extension centers.

FACULTY AND STAFF

During the academic year 2014-2015 CCBC employed 1,336 full-time faculty, administrative, and support staff. In addition, the College employed 1,487 part-time faculty and staff. The following table illustrates the distribution of personnel who are critical to the mission, strategic priorities and learning experience at the Community College of Baltimore County.

Current Faculty and Staff

CCBC			
Category	Full-Time	Part-Time	Total
Faculty (Credit)	436	929	1,365
Faculty (Non-Credit)	0	558	558
Staff	900	0	900
Totals	1,336	1,487	2,823

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

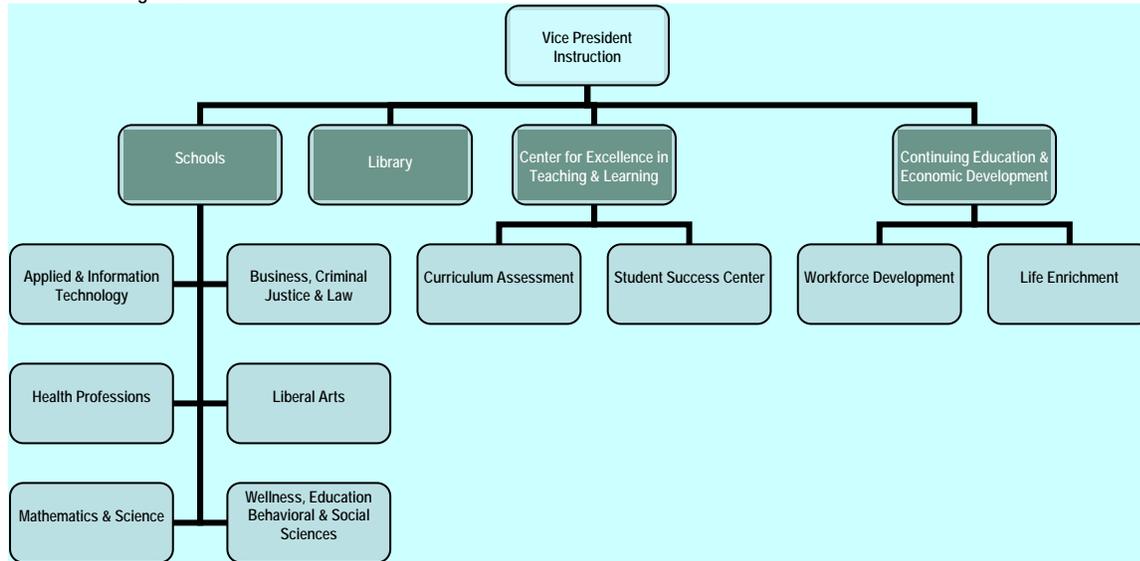
INSTRUCTIONAL ORGANIZATION

The Community College of Baltimore County's (CCBC) instructional organization is tailored to specifically meet the demands and challenges of the county's increasingly vibrant and diverse population, and is responsive to the needs of the Baltimore County community, businesses and workforce. The organization, administered by the Vice President of Instruction, is comprised of two primary instruction functions: Schools, and within the School of Continuing Education: Continuing Education and Economic Development (CEED), and two instruction support functions: Library and Center for Excellence in Teaching and Learning.

Credit instruction leading to degrees and certificates is provided by six schools:

- School of Applied and Information Technology
- School of Business, Criminal Justice, and Law
- School of Health Professions
- School of Liberal Arts
- School of Mathematics and Science
- School of Wellness, Education, Behavioral and Social Sciences

Instructional Organization



Through its two divisions of Workforce Development and Life Enrichment (formerly Community Education), Continuing Education and Economic Development (CEED) serves the residents and business community of the Baltimore metropolitan area. CEED offers opportunities for personal growth and business development by providing non-credit courses, contract credit courses and professional services to individuals and employers. These courses and services are tailored specifically for the adult learner.

INSTRUCTIONAL PROGRAMS OVERVIEW

As a public comprehensive, open admissions two-year suburban community college, CCBC serves the Baltimore County community by offering a wide range of programs leading to associate degrees, certificates and letters of recognition in specialized areas. The College offers associate degree programs designed to provide the first two

years of baccalaureate education (transfer programs) in preparation of transfer in addition to programs of study designed to prepare the students for direct entry into the workforce (career programs).

In addition to its credit program offerings, CCBC provides its community numerous continuing education and personal development education programs and courses to upgrade skills, develop new skills, or just for special interest.

Not only are credit and non-credit programs offered at the three main campuses and extension centers, but also at various public libraries and community centers throughout Baltimore County and online.

Associate Degree Designations

Associate degree programs require completion of a minimum of 60 credits including an established set of requirements for graduation. The Associate degree often parallels the first two years of study at a four-year college or university. Students need only two additional years of study to complete a Bachelor degree. The Associate degree is also suitable for career exploration, advancement and skills upgrading.

The Associate of Arts (A.A.) degree focuses in the liberal arts and humanities. The Associate of Fine Arts (A.F.A.) degree emphasizes skill building in areas of Dance, Theater, Music or Art. Scientific and technical studies are the focus of students pursuing the Associate of Science (A.S.) degree. The Associate of Applied Science (A.A.S.) degree focuses on specific occupational areas, and is intended to provide students with entry-level employment skills, instruction for employed students seeking to upgrade skills, and training for students preparing for a career change. The Associate of Arts in Teaching (A.A.T.) degree certifies and prepares students interested in teaching to transfer to Maryland state four-year colleges and universities.

Continuing Education and Economic Development

Continuing Education and Economic Development (CEED) provides programs and non-credit course offerings designed to create opportunities for personal growth, professional development, and life enrichment. In addition to preparing adult learners to meet licensure/certification requirements of various professions, CEED provides customized, flexible programs designed to meet the specific training needs of employers throughout the Baltimore region. CEED works closely with businesses, government agencies, and professional associations to identify training needs for the people of Baltimore County.

A wide range of courses to upgrade skills, develop new skills, or just for special interest are offered year-round at all CCBC campus sites, at numerous community locations and online. Designed specifically with adult learners in mind, courses are offered in areas such as: art, boating and water safety, career development, consumer awareness, history, languages, health and safety, parenting skills, professional childcare various technical skills, and more. Some course offerings are designed specifically for special populations, such as senior citizens, or talented and gifted youth.

To meet the ongoing demand for language training by a growing immigrant population, the College offers both credit and non-credit courses in English as a Second Language which prepares non-native English speaking students for academic success in their major field of study.

The following table represents Community College of Baltimore County (CCBC) data showing that non-credit courses accounted for over 22% of CCBC's state-funded FTE enrollment In Fiscal Year 2015. Although Maryland space planning models do not provide for consideration of continuing education student enrollment data when computing space needs, it is rather obvious that the implications of this statistic on CCBC's facilities needs could be significant.

State-Funded FTE Enrollment (FY 2010-FY 2015)

	Fiscal Year					
	2010	2011	2012	2013	2014	2015
Credit FTE	14,478	15,493	15,447	14,730	14,173	13,472
Non-Credit FTE	4,841	4,632	4,506	4,280	4,079	3,883
Total FTE	19,319	20,125	19,953	19,010	18,252	17,355
Non-Credit %	25.1%	23.0%	22.6%	22.5%	22.3%	22.4%

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

Non-Traditional Studies

The Community College of Baltimore County offers a variety of opportunities for students to earn college credits through non-traditional course formats and individualized program advising. These formats are oriented toward self-directed students who either have encountered obstacles in meeting their educational goals through conventional academic scheduling, or who prefer the flexibility afforded through these options.

Through non-traditional course formats, students can access a broadened learning environment, develop a new kind of relationship with academic faculty, and pursue a personalized approach to study which is tailored to fit their individual situations and learning styles. Examples of non-traditional learning formats are available at CCBC include: online courses, individual study, independent study, service learning, interactive video, and telecourses.

In addition to the program formats offered by CCBC, various statewide programs are available to Baltimore County residents at other Maryland community colleges. County students enrolled in these programs are eligible for in-county tuition rates at the host institution. Eligible high school juniors and seniors may earn college credits while still in high school under CCBC's Parallel Enrollment Program (PEP). College credits earned by PEP students can often be applied toward high school graduation requirements and, in all cases, will be a part of the student's permanent college record.

Specialized Program Accreditations

As of fall semester 2014, the Community College of Baltimore County is fully accredited by the Middle States Commission on Higher Education. Programs within the College are currently fully approved or accredited as follows:

Specialized Program Accreditations

CCBC Program	Accrediting Body
Automotive	NATEF National Automotive Teachers' Education Foundation
Business Administration/Business Management	Association of Collegiate Business Schools and Programs (ACBSP)
Dental Hygiene	American Dental Association Commission on Dental Accreditation
Education (All)	National Association for the Education of Young Children
Emergency Medical Technology	Commission on Accreditation of Allied Health Education Programs and recognized by the Council for Higher Education Accreditation; Maryland EMS Board
Health Informatics and Information Technology	American Health Information Management Association (AHIMA)
Massage Therapy	Commission on Massage Therapy Accreditation
Mental Health	Council for Standards in Human Service Education
Mortuary Science	American Board of Funeral Service Education Committee on Accreditation
Music Production and Audio Recording Technology	National Association of Schools of Music Commission on Community/Junior College Accreditation
Music Transfer Programs	National Association of Schools of Music Commission on Accreditation
Nursing / RN	National League for Nursing Accrediting Commission recognized by the Council for Higher Education Accreditation and the U.S. Department of Education
Occupational Therapy Assistant	Accreditation Council for Occupational Therapy Education
Paralegal Studies	American Bar Association
Physician Assistant	Accreditation Review Commission on Education for the Physician Assistant
Practical Nursing (Licensed)	Maryland Board of Nursing recognized by the U.S. Department of Education
Radiation Therapy	The Joint Review Committee on Education in Radiologic Technology and recognized by the U.S. Department of Education
Radiography	The Joint Review Committee on Education in Radiologic Technology and recognized by the U.S. Department of Education
Respiratory Care Therapist	Commission on Accreditation of Allied Health Education Programs and recognized by the Council for Higher Education Accreditation
Theatre	National Association of Schools of Theatre Commission on Accreditation
Veterinary Technology	American Veterinary Medical Association Committee on Veterinary Technician Education and Activities

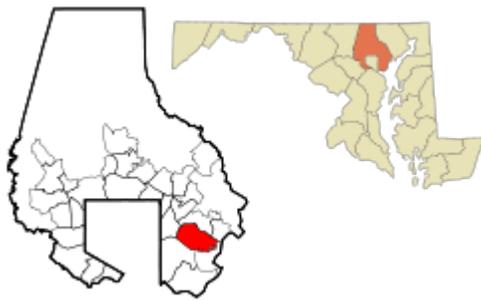
MAIN CAMPUSES

The three main campuses of the Community College of Baltimore County are each strategically located around the county just outside the Baltimore Beltway (Interstate 695) in the communities of Catonsville, Dundalk and Essex (see the graphic on page 2-1). A brief of the history and character of the CCBC Essex Campus, a location map of the Essex community, and a programmatic building summary are provided below. Detailed information relative to each building is provided in Chapter 4.

History and Character of Essex Campus

The Essex Campus (CCBC Essex) is located on 143 acres of land at 7201 Rossville Boulevard, about one-half mile north of Franklin Square Drive in eastern Baltimore County. The campus is accessible by public bus transportation.

Baltimore County / CCBC Essex Vicinity Map



7201 Rossville Boulevard Rosedale, MD 21237

Essex Community College opened in temporary quarters at Kenwood High School in 1957. In February 1961, the college moved its day program to Dorsey Avenue in Essex. The library and faculty offices moved to the Dorsey site in 1962. The present campus was opened to 2,000 students in the spring of 1968. The campus opened with three permanent buildings: Administration Building, Power Plant, and the Planetarium (AV Building). Essex's 143-acre campus now contains a total of 14 permanent buildings, 7 trailers/sea containers, and one temporary building.

The campus also includes parking surfaces, athletic fields, vehicular circulation and vacant land. A brief programmatic overview of the permanent buildings is presented in the table on the next page with more detailed discussion of each facility presented in subsequent chapters.

In 1998, Essex Community College was unified with Catonsville Community College and Dundalk Community College to become, what is now, the Community College of Baltimore County (CCBC).

The contemporary look and feel of the Essex campus invites learning. Bordered by beautiful wooded areas and open space, the campus buildings are connected by spacious plazas and lawns bordered by seasonal gardens. Noted for its strong allied health programs, Essex offers students the ability to complete clinical training next door at Franklin Square Hospital, with which it has created a "healthy" partnership, or at one of the many highly regarded health care institutions in Baltimore.

CCBC Facilities Master Plan Update 2015 CCBC Essex

Permanent Buildings (CCBC Essex)

Building	Code	Built	GSF	NASF	Primary Use
Administration Building	ADMN	1967	67,554	45,093	Instruction, Office, Assembly, Meeting
Arts and Humanities Hall	AHUM	1973	68,678	38,746	Instruction, Media Production
Athletic and Wellness Center	WELL	1971	84,500	67,151	Athletics/Physical Education/Wellness
Business, Education and Social Science Hall	BESS	1976	50,048	30,991	Instruction
Central Utility Plant	UTIL	1967	4,256	184	Mechanical
Children's Learning Center	CHLD	1987	3,191	2,712	Child Care
Classroom and Laboratory Building	CLLB	1967	6,000	4,950	Instruction
College Center	COMM	1972	50,000	32,788	Assembly, Dining, Bookstore, Lounge
Facilities Operations Building	OPER	1978	11,706	9,332	Shops, Office
Health Careers and Technology Building	HTEC	1981	51,500	32,938	Instruction, Office
James A. Newpher Library	LIBR	1969	40,280	25,037	Library
Mathematics and Science Hall	MASH	1975	73,764	38,896	Instruction
Student Services Center	SSRV	2000	58,000	37,791	Office, Instruction
Technology Services Center	TECH	1967	3,838	2,366	Office, Data Processing
Totals: CCBC Essex			573,315	368,975	

Data Source: CCBC Facilities



Essex Campus

EXTENSION CENTERS

The Community College of Baltimore County leases or owns approximately 120,000 square feet of facilities to house programs at two off-campus sites, and jointly owns the Owings Mills Facility with Baltimore County Public Library and Baltimore County Government. These sites, administered by CCBC Catonsville, are located in Hunt Valley, Randallstown, and Owings Mills. The College offers both credit and non-credit continuing education courses at these locations. Brief descriptions, site location maps and programmatic building summaries are also provided for each of the three CCBC extension center locations.

CCBC Hunt Valley

CCBC Hunt Valley is located at 11101 McCormick Road in the Hunt Valley Business and Industrial Park. A total of 12,026 net assignable square feet of rented space is used by CCBC for instruction and instructional support. Another 3,070 square feet is used by other Baltimore County agencies.

Baltimore County / CCBC Hunt Valley Vicinity Map



Buildings (CCBC Hunt Valley)

Building	Code	Built	GSF	NASF ^b	Primary Use
CCBC Hunt Valley ^a	HV	na	19,933	12,026	Instruction
Totals			19,933	12,026	

Data Source: CCBC Facilities

^aFunctions housed in off-campus leased facilities

^bRepresents portion of the facility occupied by CCBC

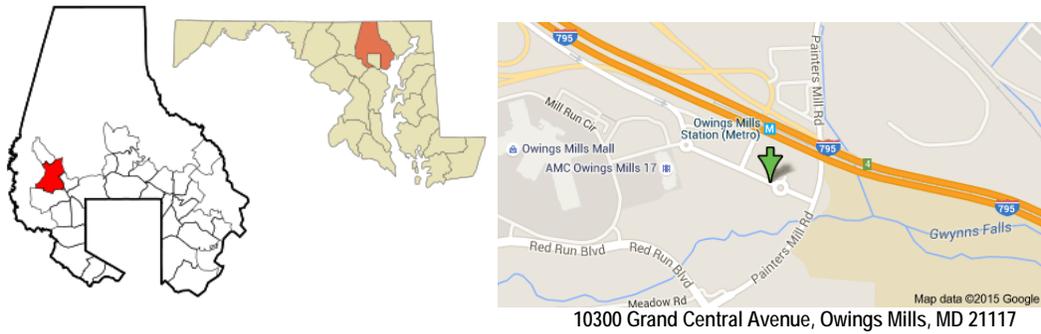


CCBC Hunt Valley

CCBC Owings Mills

CCBC Owings Mills is located at 10300 Grand Central Avenue in Owings Mills 21117. This new location is co-located with a new branch of the Baltimore County Public Library. At 49,368 net assignable square feet, this College-owned facility includes science labs, computer labs, smart classrooms, offices, a bookstore, food services, study areas, and storage areas.

Baltimore County / CCBC Owings Mills Vicinity Map



Buildings (CCBC Owings Mills)

Building	Code	Built	GSF ^b	NASF ^b	Primary Use
CCBC Owings Mills ^a	OM	2014	70,000	49,368	Instruction
Totals			70,000	49,368	

Data Source: CCBC Facilities

^aFunctions housed in off-campus facility jointly owned by CCBC, Baltimore County Public Library and Baltimore County Government

^bRepresents portion of the facility occupied by CCBC

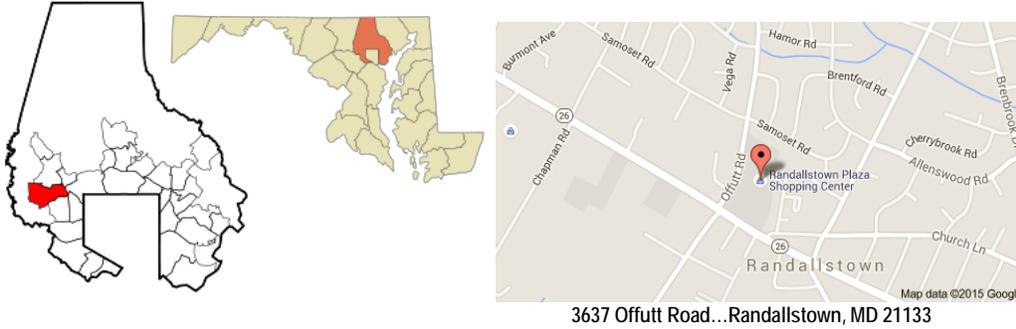


CCBC Owings Mills

CCBC Randallstown

CCBC Randallstown occupies approximately 30,000 square feet of space at 3637 Offutt Road 21133 in the Randallstown Plaza Shopping Center. This leased space, primarily serving the needs of CCBC's Division of Continuing Education and Economic Development (CEED), focuses on allied health programs, the construction trades, and Adult Basic Literacy. The center also provides some general education credit programs such as Parallel Enrollment Program (PEP) to serve the high schools along the Liberty Road corridor.

Baltimore County / CCBC Randallstown Vicinity Map



3637 Offutt Road...Randallstown, MD 21133

Buildings (CCBC Randallstown)

Building	Code	Built	GSF	NASF	Primary Use
CCBC Randallstown ^a	RT	na	26,382	20,837	Instruction
Totals			26,382	20,837	

Data Source: CCBC Facilities

^aFunctions housed in off-campus leased facilities



CCBC Randallstown

Chapter 3

Space Needs

Space Needs

Glossary of Terms

Existing Space, Demand

Quantitative Indicators of Need

Qualitative Indicators of Need

Summary

CHAPTER 3 SPACE NEEDS ANALYSIS

The growth of existing programs and the establishment of new programs suggest significant growth in enrollment and a need for specific, specialized facilities. The demand for transfer and workforce skills will drive program offerings in the coming years. Many of these programs, health sciences in particular, require specialized classrooms, labs and other facilities that can be flexibly adjusted for a variety of teaching/learning settings. This demand is considered in subsequent sections to identify space needs and suggests future physical development.

The need for facilities should also be viewed in the context of how the process of learning may evolve over time. Demand for critical skills in top growth occupations, amplified need for developmental education programs and services, flexibility in contract and workforce training with their unique learning environments, veterans, international students, and aging of the general population will be the primary drivers for future program offerings and enrollments.

As the College's student body continues to change in size and diversity, there will be greater demands placed on resources devoted to developmental education. It is expected that over the next ten years the Community College of Baltimore County, as with most community colleges, will need enhanced programs and services for a student population increasingly composed of the under prepared.

Improved literacy and refinement of technology in educational institutions dictates the provision of instructional spaces that are designed for both unique and/or shared functions. These spaces will further require adequate consistency with a global reconfiguration that increases the utilization efficiency ratio. The lack of sufficient numbers of contemporary, flexible instructional and learning spaces has directly and indirectly curtailed the College's ability to fully develop the inherent potential of its credit and non-credit course offerings.

"The county must serve the employment needs of its existing employers, helping them grow. ... Providing a steady stream of well-trained workers will be job one."

– Kevin Kamenetz
Baltimore County Executive

Continuing Education and Economic Development (CEED) does not offer "programs", as such, but "market-driven" courses. Since CEED's offerings must be extremely flexible, course changes are continuous. This flexibility is essential in order to meet the ever changing needs of its unique market. As the general population ages, it is expected that a maturing workforce will create greater demand for continuing education and personal enrichment opportunities.

Workforce development programs will require highly flexible specialized learning environments for a variety of trade skills. These types of programs often necessitate large unique commercial and industrial type specialty spaces, utilizing interior and exterior open areas. Such spaces, or groupings of spaces, are intended to maximize efficiency and flexibility of use in terms of highly specialized tasks, tools, materials, and equipment.

Due to ever changing technology for both teaching and learning, much of higher education must rethink its learning environments. Although the lecture/lab instructional delivery mode will continue to be used, colleges and universities will increasingly supplement that delivery methodology with specialized learning environments that allow for both scheduled and unscheduled instruction and learning in discipline-related simulated environments.

Future environments should be such that the distinction between a computer lab and a lecture classroom will disappear because the technology and furnishings will be unobtrusive but available on demand. All furnishings will be easily movable or the instructional area will automatically be able to configure the furnishings based upon immediate need.

With the exception of science labs, physical education spaces, and some visual and performing arts studios, the idea of rooms belonging exclusively to an instructional area will disappear. Credit classrooms would be available to Continuing Education learners and vice versa.

Electronic presentation that allows integration and manipulation of complex data into the learning environment is becoming more and more the norm. Teleconferencing and online capabilities will make learning partnerships with other schools and businesses, even ones in other countries, commonplace. Modernization of instructional delivery requires that instructional spaces be configured relative to future disciplinary/programmatic goals whose objectives and functions dictate more efficient organization and utilization of space.

Contemporary learning environments are required in order for the College to continue to successfully attract and retain a representative level of Baltimore County's available student population.

SPACE NEEDS

The purpose of space needs analysis is to assess the extent to which the current total amount of academic and other space is adequate for use in support of future enrollments. The ultimate outcome of this assessment is to provide estimates of the supply of types and amounts of space likely to be needed to accommodate Essex's projected fall 2024 demand in terms of academic programs and their ensuing enrollments and staffing levels.

The College provided a room-by-room facility space inventory, course enrollment data, and staffing data for the fall semester of 2014 which formed the basis for analyzing CCBC's space needs. The consultant team then applied elements of the data to the Maryland Higher Education Commission's *Space Allocation Guidelines for Community Colleges* (COMAR Title 13B) to provide quantitative indicators of current space needs.

Definitions and room use codes are those provided by the taxonomy found in the *Postsecondary Education Facilities Inventory and Classification Manual (FICM) 2006 Edition* published by the U.S. Department of Education in cooperation with the National Center for Education Statistics. For the most part, room use codes and classifications referenced in this analysis refer to the primary activity space plus support space that directly services the primary activity. Furthermore, the space inventory data in this section is presented in such a way as to satisfy the requirements of the *Guidelines*.

For this space needs analysis, data relating to facilities refers to permanent on-campus buildings at the Essex Campus only. Buildings classified as temporary structures are excluded from these data and analyses.

Need Determinants

The need for space via new or renovated facilities is typically calculated with respect to hours of instruction and the number of students, employees, and library volumes to be accommodated. Projections of total space need are based on an anticipated number of student enrollments, faculty and staff, and volumes for fall semester 2024. For this master planning process, the enrollment assumption is that the projected mix of academic disciplines maintains the program distributions for fall semester 2014.

Space deficits and surpluses are identified based on applying the *Space Allocation Guidelines* to inventories of various categories of space and projected student enrollments. However, guidelines are not to be used as the only determining factor when making decisions about facilities needs. A variety of qualitative or non-statistical indicators of space need, along with utilization analyses, offer augmentation to any statistical calculations.

Planning Assumptions

The base year for this analysis is fall 2014. Student headcount of 11,100 reflects the total number of students taking credit courses at CCBC Essex. FTES / FTDES are calculated from credit hours earned at CCBC Essex. Faculty and staff are the result of allocations based on primary assignment.

Planning Assumptions (Essex)

CCBC Essex	Student Headcount ^a	FTES	FTDES	Full-Time Faculty	Part-Time Faculty	Full-Time Staff
Fall 2014	11,100	5,061	4,040	201	289	321
Fall 2024	12,756	6,174	4,929	245	353	385
Percent Change 2014-2024	15%	22%	22%	22%	22%	20%
Average Annual Growth Rate	1.4%	2.0%	2.0%	2.0%	2.0%	1.8%

2014 Enrollment, Faculty and Staff Data Source: CCBC Office of Planning, Research and Evaluation

2024 Enrollment Data Source: CCBC Office of Planning, Research and Evaluation

2024 Staff Data: Community College of Baltimore County Office of Facilities

^astudents taking courses at this location

While the use of static demographics may not be realistic for micro-level planning, such as individual project programming where population movement needs to be considered and planned for, macro-level analysis and estimates of future student populations often using static demographic data have shown to be a relatively reliable tool for facilities master planning purposes.

When student population movement is projected by means of comprehensive academic planning and/or expressions of institutional policy, such considerations are incorporated into space planning guidelines applications to set priorities for campus development and to compute campuswide allowances for each category of space. In instances where such is not the case, static data for student enrollments, faculty and staff levels, and library collections are appropriately used as the basis for computing future campuswide need for space.

Summary of Key Findings

Although planned renovations to the Health Careers and Technology Building as well as renovations to the Administration Building will address some of the 2014 deficits in classroom and office space, significant deficits are still projected for these classifications for 2024 as well as for study, food facilities, shop/storage, and open laboratory space.

The 2014 campus space inventory was 368,975 net assignable square feet (NASF). The College anticipates a 2024 space inventory of 412,136 NASF as the base or supply against which the need, generated by the demand of future enrollments at Essex, would be quantified.

When space deficits and surpluses were computed as a result of comparing enrollment and staffing projections against the projected space inventory, the outcome was a projected 2024 overall space deficit of 100,883 NASF as shown by the following tables. Quantitative indicators suggest immediate and long-term need for facilities to support space classifications showing significant deficits.

Projected (Fall 2024) Space Deficits and Surpluses (Essex)

CCBC Essex (Fall 2024)					
Use	Space Classification	Deficit NASF	Use	Space Classification	Surplus NASF
400	Study	27,226	210	Class Laboratory	41,546
110	Classroom	25,280	610	Assembly	3,507
310	Office / Conference	23,230	660	Merchandising	1,158
630	Food Facility	15,532		Total	46,211
720-40	Shop / Storage	11,488			
220	Open Laboratory	10,082			
520	Athletic	6,222			
680	Meeting Room	6,041			
650	Lounge	5,384			
530	Media Production	4,314			
320	Testing /Tutoring	3,215			
620	Exhibition	3,215			
750	Central Service	1,658			
710	Data Processing	1,628			
800	Health Care	1,186			
580	Greenhouse	1,000			
760	Hazmat Storage	393			
	Total	147,094			

A comprehensive computation of space needs is summarized in the following table.

CCBC Facilities Master Plan Update 2015 CCBC Essex

Summary Guideline Calculations (Essex)

CCBC Essex		Base Year (2014)				2015-2024		Projected Year (2024)			
Use Code	Use Classification	Inventory	Guideline	Surplus	Inventory as a	Additions ^a	Deletions ^a	Inventory	Guideline	Surplus	Inventory as a
				(-) Deficit	% of Guideline					(-) Deficit	% of Guideline
100	Classroom Facilities	61,061	74,800	-13,739	81.6%	14,390	9,472	65,979	91,259	-25,280	72.3%
200	Laboratory Facilities	87,150	66,675	20,475	130.7%	47,476	21,816	112,810	81,346	31,464	138.7%
210	Class Laboratory	76,957	49,707	27,250	154.8%	46,276	21,043	102,190	60,644	41,546	168.5%
220	Open Laboratory	10,193	16,968	-6,775	60.1%	1,200	773	10,620	20,702	-10,082	51.3%
300	Office Facilities	88,961	103,324	-14,363	86.1%	20,263	11,150	98,074	124,519	-26,445	78.8%
310/50	Office / Conference	88,961	100,554	-11,593	88.5%	20,263	11,150	98,074	121,304	-23,230	80.8%
320	Testing / Tutoring	0	2,770	-2,770	0.0%	0	0	0	3,215	-3,215	0.0%
400	Study Facilities	13,625	33,735	-20,110	40.4%	0	0	13,625	40,851	-27,226	33.4%
410	Study	11,846	25,250	-13,404	46.9%	0	0	11,846	30,806	-18,960	38.5%
420/30	Stack / Study	0	6,061	-6,061	0.0%	0	0	0	7,175	-7,175	0.0%
440/55	Processing / Service	1,779	2,424	-645	73.4%	0	0	1,779	2,870	-1,091	62.0%
500	Special Use Facilities	66,212	67,080	-868	98.7%	0	0	66,212	77,748	-11,536	85.2%
520/23	Athletic	62,068	59,400	2,668	104.5%	0	0	62,068	68,290	-6,222	90.9%
530	Media Production	4,144	6,680	-2,536	62.0%	0	0	4,144	8,458	-4,314	49.0%
580	Greenhouse	0	1,000	-1,000	0.0%	0	0	0	1,000	-1,000	0.0%
600	General Use Facilities	38,988	59,517	-20,529	65.5%	3,680	210	42,458	67,965	-25,507	62.5%
610	Assembly	18,685	17,080	1,605	109.4%	3,680	0	22,365	18,858	3,507	118.6%
620	Exhibition	0	2,770	-2,770	0.0%	0	0	0	3,215	-3,215	0.0%
630	Food Facility	8,313	19,488	-11,175	42.7%	0	98	8,215	23,747	-15,532	34.6%
640	Day Care	2,349	2,349	0	0.0%	0	0	2,349	2,349	0	0.0%
650	Lounge	3,097	6,960	-3,863	44.5%	0	0	3,097	8,481	-5,384	36.5%
660	Merchandising	4,585	2,870	1,715	159.8%	0	112	4,473	3,315	1,158	134.9%
670	Recreation	0	0	0	0.0%	0	0	0	0	0	0.0%
680	Meeting Room	1,959	8,000	-6,041	24.5%	0	0	1,959	8,000	-6,041	24.5%
700	Support Facilities	12,978	23,312	-10,334	55.7%	0	0	12,978	28,145	-15,167	46.1%
710	Data Processing	1,569	2,530	-961	62.0%	0	0	1,569	3,197	-1,628	49.1%
720-740	Shop / Storage	8,138	16,414	-8,276	49.6%	0	0	8,138	19,626	-11,488	41.5%
750	Central Service	3,271	4,040	-769	81.0%	0	0	3,271	4,929	-1,658	66.4%
760	Hazmat Storage	0	328	-328	0.0%	0	0	0	393	-393	0.0%
800	Health Care Facilities	0	1,008	-1,008	0.0%	0	0	0	1,186	-1,186	0.0%
000	Unclassified	0	0	0	0.0%	0	0	0	0	0	0.0%
Totals		368,975	429,451	-60,476	85.9%	85,809	42,648	412,136	513,019	-100,883	80.3%

Data Source: Compiled by Facilities Planning Associates from data provided by CCBC Facilities and Office of Planning, Research and Evaluation

^aAdditions and Deletions represent inventory gains and losses upon completion of renovations to the Health Careers and Technology Building and the Administration Building per the FY 2016 Capital Budget.

In summary, space needs analysis is the process of estimating the needed supply of learning, support and resource space given a projected demand of academic programs, disciplines and student enrollments. Thus, space needs analysis begins the transitioning from the language of academic planning to the language of facilities planning.

GLOSSARY OF TERMS

This glossary contains brief definitions of generic terms related to educational facilities planning and explanations of the acronyms and abbreviations referred to in this Space Needs Analysis.

Bound Volume Equivalent (BVE)	The physical space required to accommodate a variety of library materials in amounts equal to one single typical book
Class Laboratory	Spaces that are used primarily for formally or regularly scheduled classes that require special purpose equipment for a specific room configuration for student participation, experimentation, observation, or practice in an academic discipline
Classroom	Spaces that are not tied to as specific subject or discipline by equipment or room configuration
Core Space	Space necessary because of existence of the institution or program without regard to other factors
Credit Hour	A numerical value awarded a student for successfully completing a course
Facilities Inventory	Room-by-room and building-by-building listing of assignable spaces, their primary use, their size and their capacity
Full-Time Equivalent Faculty (FTEF)	A base factor statistic equal to a full-time faculty plus 25% of all part-time faculty Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the FTEF computed for budgetary or other reporting purposes.
Full-Time Equivalent Student (FTE or FTES)	The total number of on-campus credit hours taught during a given semester, divided by 15 Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the FTE computed for budgetary or other reporting purposes.
Full-Time Day Equivalent Student (FTDE or FTDES)	The total number of on-campus credit hours taught before 5:00 p.m. during a given semester, divided by 15 Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the FTDE computed for budgetary or other reporting purposes.
Gross Square Feet (GSF)	The sum of square feet of space in a building included within the outside faces of exterior walls for all stories or areas that have floor surface Included are all structural, mechanical, service and circulation areas.
Net Assignable Square Feet (NASF)	The sum of all areas on all floors of a building assigned to, or available for assignment to an occupant for specific use Excluded are spaces defined as structural, mechanical, service and circulation areas.
On-Campus	Refers to CCBC's Catonsville, Dundalk or Essex campuses only
Student Contact Hour	A measure of time of scheduled interface between students and teacher that is usually expressed in terms of Weekly Student Contact Hour (WSCH), which is the number of hours per week of required interface Note: This statistic is used in this document for facilities planning purposes only, and the calculation may differ from the WSCH computed for budgetary or other reporting purposes.

HISTORICAL TRENDS

Students

By analyzing an institution's student body composition during the past few years, it is possible to deduce trends in the numbers and types of students enrolled, number of credit hours generated and choices among continuing programs.

Examination of the table below shows that fall credit FTDE enrollment trends for students attending CCBC Essex during the past six years has declined at an annual rate of 1.5%.

Enrollment Trends (Essex)

CCBC Essex	Fall Semester						Net Change 2009-2014	Annual Rate 2009-2014
	2009	2010	2011	2012	2013	2014		
FTDE	4,352	4,622	4,588	4,402	4,248	4,040	-7.2%	-1.5%

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

Faculty and Staff

Since 2009, CCBC's student to faculty ratio has improved from 20:1 to 17:1 as the College experienced a gradual increase in the number of faculty. With respect to the numbers of staff, CCBC has experienced a five year annual increase rate of 1.5%. Through the first three years (2009 through 2012) there was relatively little change (.4% annual increase). However, during the most recent two years (2013 and 2014) staff has increased at an annual rate of 2.4%. The following table presents faculty and staff trends for the combined CCBC campuses.

Faculty and Staff Trends (CCBC)

	Fall Semester						Net Change 2009-2014	Annual Rate 2009-2014
	2009	2010	2011	2012	2013	2014		
Full-Time Faculty	403	415	426	427	443	436	8.2%	1.6%
Part-Time Faculty	845	905	990	952	943	929	9.9%	1.9%
Faculty Totals	1,248	1,320	1,416	1,379	1,386	1,365	9.4%	1.8%
Full-Time Staff	834	840	857	851	909	900	7.9%	1.5%
Part-Time Staff	13	15	12	7	0	0	-100.0%	-100.0%
Staff Totals	847	855	869	858	909	900	6.3%	1.2%

Data Source: Maryland Association of Community Colleges (Faculty) and Community College of Baltimore County Office of Planning, Research and Evaluation (Staff)

EXISTING SPACE

Facilities Inventory

A room-by-room inventory of assignable space in each building was prepared by the College and given to the consultant team. This inventory of existing spaces serves as the baseline data against which computed space needs are compared.

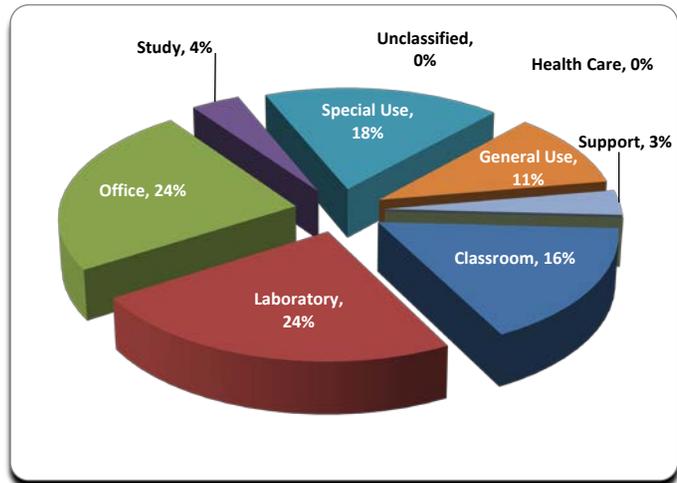
The inventory utilizes the space taxonomy found in the *2006 Postsecondary Education Facilities Inventory and Classification Manual (FICM)* published by the U.S. Department of Education in cooperation with the National Center for Education Statistics. Furthermore, the space inventory data in this chapter is presented in such a way as to satisfy the requirements of the Maryland Higher Education Commission's *Space Allocation Guidelines for Community Colleges*. More detailed attention is devoted to each of the College's building structures later in this document.

In determining the base inventory to be used in calculating permanent space needs, inventoried net assignable square footage (NASF) is designated as either "permanent" or "overflow." Only "permanent" space is used to determine space needs. Space contained in temporary structures and space in facilities at locations other than a main campus is considered "overflow" and is not included in the base calculations.

As depicted in the accompanying table and graphic, 40% of CCBC Essex's assignable space is classified as classroom and laboratory instruction (classroom 16%, laboratory 24%), 24% as office, 4% as study (library), and the remaining 32% is a combination of special use, general use and support spaces.

Distribution of Existing Space by Room Use Classification (Essex)

Use Code	Classification	NASF
100	Classroom	61,061
200	Laboratory	87,150
300	Office	88,961
400	Study	13,625
500	Special Use	66,212
600	General Use	38,988
700	Support	12,978
800	Health Care	0
000	Unclassified	0
	Total	368,975



Parking Facilities

There are 2,592 parking spaces distributed among eight primary lots as well as various secondary sites at CCBC Essex. Sixty two (62) spaces are reserved for disabled individuals. Thirty six (36) spaces are reserved for public safety, service and fleet vehicles and six are for motorcycles. These motorcycle spaces are sized for motorcycles only and do not meet guideline allowance for cars. Therefore, the available supply of regular parking spaces at Essex is 2,586. All existing parking is on surface lots as there are no parking structures at CCBC Essex.

Distribution of Existing Parking Space (Essex)

Essex Parking Area	(White)	(Red)	Handicap	Visitor	(Green)	Motorcycle	Other	Totals
	General Use	Faculty / Staff			Service			
Lot #1 - (Bays)	930	65	6	4	1	3	1	1,010
Lot #2 - (Near WELL Bldg.)	101	93	8	0	1	2	6	211
Lot #3 - (Near Athletic Fields)	209	0	2	0	0	0	0	211
Lot #4 - (In Front of ADMN Bldg.)	0	73	26	0	3	0	2	104
Lot #5 - (Close to BESS & HTEC Bldgs.)	339	1	0	0	0	1	0	341
Lot #6 - (Front of HTEC Bldg.)	57	132	0	0	0	0	0	189
Lot #7 - (By Child Care Center)	160	0	4	0	1	0	0	165
Lot #8 - (Adj to Facilities Ops)	108	0	0	0	0	0	0	108
Lot #9 - (Off Secondary Entr Road)	18	0	0	0	0	0	0	18
Secondary Entrance Rd (to King Ave.)	77	0	0	0	0	0	0	77
Rear Library	0	0	1	0	1	0	0	2
At HTEC Bldg.	0	0	3	0	1	0	0	4
College Dr (Iota to Dome Spur)	35	0	0	0	0	0	0	35
South Lane (Horseshoe to Dome Spur)	23	0	4	0	0	0	0	27
Dome Spur	20	10	0	0	0	0	0	30
Rear Facilities/Oper Bldg	30	0	0	0	0	0	18	48
Rear MASH Bldg	0	3	1	0	0	0	0	4
Rear AHUM Bldg.	0	0	7	0	1	0	0	8
Totals	2,107	377	62	4	9	6	27	2,592

Data Source: Community College of Baltimore County Office of Facilities

DEMAND AGAINST EXISTING SPACE

The base year for this analysis is 2014. Current demands against existing space reflect the actual situation during the fall semester of 2014 while the data projected to 2024 are statistically based and are, for the most part, assumptions made by the College. Summary explanations of the data assumptions for the input items are as follows:

- **Student Data** (FTDE) are calculated from course credit hours. Credit Hour and Contact Hour Data are derived from current enrollment course data provided by Community College of Baltimore County's Office of Planning, Research and Evaluation; and projections were then calculated based on enrollment projections developed by the College.
- **Faculty and Staff Data** for 2014 are provided by Community College of Baltimore County's Office of Planning, Research and Evaluation. Information about the projected number of faculty is obtained by maintaining the current student/faculty ratio. Information about the projected number of staff is based on a conservative anticipated average annual growth rate of 1.8% over the next ten years.
- **Parking Space Data** is provided by Community College of Baltimore County's Office of Facilities. Information about the projected number of parking spaces derived by applying planned adjustments over the next ten years to the existing parking space inventory. Demand against that inventory is generated by the numbers of projected students, faculty and staff.

Student Enrollments

Headcount enrollments and full-time equivalent student (FTE or FTES) enrollments are the primary measures of student population. Although the headcount is most commonly used when referring to enrollments, this measure is generally not used for facility planning purposes. The most generally accepted method of counting students for the purposes of assessing facilities needs is the FTE. However, it is useful to analyze trends in headcount enrollments with particular attention given to the mix of full-time versus part-time students. Because full-time students have more needs for space than do part-time students, a sizeable shift in the ratio of full-time to part-time could have a significant impact on FTE generation, and consequently, on overall space needs.

Space needs analysis primarily focuses upon academic activities that occur during the prime hours before 5:00 p.m. (Day), and will be engaged by full-time and part-time students, faculty and staff. Students enrolled during these hours are referred to as full-time day equivalent students (FTDES).

While presenting various measures of FTES is important, of prime significance is establishing a stable foundation of planning tools upon which the effectiveness and quality of instructional environments necessary for learning can be predicted. For those purposes, projections of weekly student contact hours (WSCH) are also presented.

The College estimates that the total daytime on-campus WSCH will reach 92,617 by fall 2024. Of this total, approximately 82,215 WSCH will be generated by lecture segments and approximately 10,402 WSCH are expected to occur in laboratory segments for courses offered before 5:00 p.m.

The table below presents an overall distribution of projected credit/contact hours for fall semester of 2024 in comparison with fall 2014 enrollments. The table isolates those on-campus credit hours, FTDES and weekly student contact hours expected to be generated on campus during the day before 5:00 p.m.

Projected Enrollments by Headcount, Credit Hours, FTES, FTDES and WSCH: Fall 2024 (Essex)

CCBC Essex	Full-Time Headcount ^a	Part-Time Headcount ^a	Total Headcount ^a	Credit Hours	FTES	ON-CAMPUS DAY ONLY (Before 5:00 pm)			
						Credit Hours	FTDES	WSCH Lecture	WSCH Laboratory
Fall 2014	2,719	8,381	11,100	75,920	5,061	60,600	4,040	67,387	8,526
Fall 2024	3,453	9,303	12,756	92,622	6,175	73,932	4,929	82,215	10,402
% Change 2014-2024	27.0%	11.0%	14.9%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%
Average Annual Growth Rate	2.4%	1.0%	1.4%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

^astudents taking courses at this location

Determination of program and course content ten years out is difficult at best. However, given an anticipated number of students to be enrolled, projections of weekly student contact hours generated, as well as the number of classroom and laboratory sections, general estimations of space need can be calculated. These projections of weekly student contact hours form the basis for planning for future instructional spaces.

Projections of enrollments for fall 2014 through fall 2024 represent the recommendations developed by Community College of Baltimore County in keeping with the pursuit of CCBC’s mission through the year 2024.

Faculty and Staff

The College expects to maintain its current student/faculty ratios of 17:1 for the year 2024. For master planning purposes, a conservative annual increase of 1.8% is projected for staff.

Current and Projected Faculty and Staff Summary (Essex)

CCBC Essex	Faculty (Credit)				Staff		
	Full-Time	Part-Time	Total	FTEF	Full-Time	Part-Time	Total
Fall 2014	201	289	490	273	321	0	321
Fall 2024	245	353	598	333	385	0	385
% Change 2014-2024	21.9%	22.1%	22.0%	22.0%	19.9%	0.0%	19.9%
Average Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	1.8%	0.0%	1.8%

Data Source: Community College of Baltimore County Office of Planning, Research and Evaluation

Library Volumes

Use of Bound Volume Equivalent (BVE) is a generally accepted determinant of need for overall library or study space. The BVE concept provides for conversion of a variety of collections materials such as e-books, audio-visual materials, and electronic reference sources into amounts equal to on typical book. Although the term bound volume equivalent is used to reference the measure of overall library collections, it should not be construed that growth in BVE’s necessarily means a corresponding growth in actual “book” resources. Although gradual acquisition of electronic formats is a goal for libraries and will begin to reduce some storage needs long term, particularly for journals, reference books, and government documents, these new formats will not obviate the need for stack space.

The learning landscape is constantly and dramatically changing in terms of the ways by which people learn and the technologies that can facilitate the learning process. Increasing use of technology that facilitates teaching, learning, and accessing and processing information creates demands for library spaces that bring together information resources. Technology also affects other kinds of space needs. Accommodating the added space needed for computer workstations and other technology often comes at the expense of space for collections or services.

Just as the use of static demographics is generally accepted as reliable in macro-level planning for people-driven space requirements, the use of book equivalents is a generally accepted methodology for estimating long-range library and study space needs. At the time of actual programming for future library/study facilities, as for other facilities, more timely consideration can be given to actual planning for design that is contemporary.

Current and Projected Library Collections (Essex)

CCBC Essex	BVE ^a
Fall 2014	60,610
Fall 2024	71,750
% Change 2014-2024	18%
Average Annual Growth Rate	1.7%

Data Source: Community College of Baltimore County Office of Facilities

^aBound Volume Equivalent (BVE): the physical space required to accommodate a variety of library materials in amounts equal to one single typical book.

QUANTITATIVE INDICATORS OF SPACE NEED

Computation of quantitative need for space is based primarily on the projected program of instruction and the number of weekly student contact hours (WSCH) that it generates. Determinations of current and projected space surpluses and/or deficits are driven by current space inventory and anticipated changes, current enrollment and projected enrollments, and current and anticipated staffing levels.

The consultant team used the space guidelines model developed by the State of Maryland and published under Title 13B of the Code of Maryland Regulations (COMAR). These guidelines, *Space Allocation Guidelines for Community Colleges*, provide an initial assessment of campus-wide facilities needs.

By applying information about the type of space required to teach the various courses to the current and projected enrollments previously presented, it is possible to determine the approximate amount of space that is needed using the guidelines. Then by applying current space inventory data, it is possible to determine the current and projected space surplus and/or deficit.

The assumptions made for the application of the formulae-driven space computations for fall 2024, as shown in the following table, were presented earlier and are shown again for easy reference and are applied to the existing campus space inventory.

Guidelines Planning Assumptions (Essex)

CCBC Essex	FTES	FTDES	WSCH Lecture	WSCH Laboratory	Full-Time Faculty	Part-Time Faculty	Full-Time Staff	Full-Time Librarians	Library Volumes
Fall 2014	5,061	4,040	67,387	8,526	201	289	321	5	60,610
Fall 2024	6,175	4,929	82,212	10,402	245	353	385	6	71,750
Percent Change 2014-2024	22%	22%	22%	22%	22%	22%	20%	20%	18%
Average Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.8%	1.8%	1.7%

2014 Enrollment, Faculty and Staff Data Source: CCBC Office of Planning, Research and Evaluation

2024 Enrollment Data Source: CCBC Office of Planning, Research and Evaluation

2024 Staff Data: Community College of Baltimore County Office of Facilities

Space Guidelines Application and Analysis (Buildings)

With respect to current and projected space surpluses and deficits as the result of the *Guidelines* application, review of the individual data elements reveals the following:



Classroom (110): Facilities used for classes and that are also not tied to a specific subject or discipline by equipment in the room or the configuration of the room. This category includes general purpose classrooms, lecture halls, seminar rooms, and support rooms that directly service classroom activity.

Guideline allowance assumes 27 hours per week target room utilization; 66.7% seat occupancy rate; and 20 NASF per student station.

Given the current inventory of classroom space, application guideline suggests a current deficit of 13,739 NASF and a deficit of 25,280 NASF by 2024.

The College currently owns 82% of the space allowance in this classification. The data suggests that by 2024, the College will own 72% of its computed space allowance.

CLASSROOM								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Classroom	61,061	74,800	-13,739	14,390	9,472	65,979	91,259	-25,280

Class Laboratory/Open Laboratory (210/220): A class laboratory or teaching laboratory (210) is space used primarily for formally or regularly scheduled instruction (including associated mandatory, but non-credit-earning laboratories) that requires special purpose equipment or a specific space configuration for student participation, experimentation, observation, or practice in an academic discipline. Included in this category are spaces generally called teaching laboratories, instructional shops, art studios, computer laboratories, drafting rooms, band rooms and similar specially designed or equipped rooms, and support rooms that directly service class laboratory activity.



An open laboratory (220) is used primarily for individual or group instruction that is informally scheduled, unscheduled, or open. An open laboratory is designed for or furnished with equipment that serves the needs of a particular discipline or discipline group for individual or group instruction. Included in this category are spaces generally called music practice rooms, language laboratories used for individualized instruction, studios for individualized instruction, special laboratories or learning laboratories if discipline restricted, individual laboratories, and computer laboratories involving specialized restrictive software or where access is limited to specific categories of students.

Class Laboratory guideline allowance assumes 18 hours per week target room utilization; 60% seat occupancy rate; 50 NASF per student station for natural and social science labs; and 115 NASF per student station for technical and career labs. The allowance assumes 80% of lab contact hours are generated in natural and social science labs, and 20% in technical and career labs. Open Laboratory guideline allowance assumes a space factor of 4.2 NASF/FTDE.

Given the current inventory of laboratory space, application of the Class Laboratory and Open Laboratory guidelines to the College's enrollment data suggests a current surplus of 27,250 NASF for Class Laboratory and a deficit of 6,775 NASF for Open Laboratory. By 2024, Class Laboratory will have a surplus of 41,546 NASF and Open Laboratory will have a deficit of 10,082 NASF.

The College currently owns 131 % of the space allowance in this combined classification. The data suggests that by 2024, the College will own 139 % of its computed space allowance.

CLASS LABORATORY / OPEN LABORATORY								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Class Laboratory	76,957	49,707	27,250	46,276	21,043	102,190	60,644	41,546
Open Laboratory	10,193	16,968	-6,775	1,200	773	10,620	20,702	-10,082
Totals	87,150	66,675	20,475	47,476	21,816	112,810	81,346	31,464



Office (300): Office facilities are individual, multi-person, or workstation spaces specifically assigned to faculty, staff, or students in academic, administrative, and service functions of a college or university. This category also includes conference rooms, file rooms, break rooms, kitchenettes, copy rooms, and testing/tutoring space. The guideline allows:



- 166 NASF per individual requiring office space, plus 1,120 NASF core space for student offices
- 1,500 NASF core space, plus 0.5 NASF/FTDE in excess of 1,500 FTDE for testing and tutoring

Given the current inventory of office space, application guideline suggests a current deficit of 11,593 NASF in Office/Conference space and a deficit of 2,770 NASF in Testing/Tutoring space. By 2024, these deficits are projected to be 23,230 NASF and 3,215 NASF respectively.

The College currently owns 86% of the space allowance in this combined classification. The data suggests that by 2024, the College will own 79% of its computed space allowance.

OFFICE								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	2015-2024 Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Office / Conference	88,961	100,554	-11,593	20,263	11,150	98,074	121,304	-23,230
Testing / Tutoring	0	2,770	-2,770	0	0	0	3,215	-3,215
Totals	88,961	103,324	-14,363	20,263	11,150	98,074	124,519	-26,445

Study (400): In this analysis, study space refers to, individually or collectively, three space categories:

- **Study (410):** A room or area used by individuals to study at their convenience and not restricted to a particular subject or discipline by contained equipment. It includes rooms or areas located in the library or other buildings. Study spaces are primarily used by students or staff for learning at their convenience.
- **Stack (420):** A space used to house arranged collections of educational materials for use as a study resource.
- **Processing/Service (440):** A room or area devoted to processes and operations in support of library functions. Included are card and microfiche areas, reference desk and circulation desk areas, bookbinding rooms, multimedia materials processing areas, interlibrary loan processing areas, and other areas with a specific process or operation in support of library functions.



Guideline allowance assumes a combination of three separate space factors:

- Seating: 25 NASF per seating station for 25% of FTDE
- Stack: .1 NASF per Bound Volume Equivalent
- Processing/Service: 40% of Stack space plus a core of 1,200 NASF.



Given the current inventory of study space, application guideline suggests a current deficit of 20,110 NASF and a deficit of 27,226 NASF by 2024.

The College currently owns 40 % of the space allowance in this classification. The data suggests that by 2024, the College will own 33% of its computed space allowance.

STUDY								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Study	11,846	25,250	-13,404	0	0	11,846	30,806	-18,960
Stack / Study	0	6,061	-6,061	0	0	0	7,175	-7,175
Processing / Service	1,779	2,424	-645	0	0	1,779	2,870	-1,091
Totals	13,625	33,735	-20,110	0	0	13,625	40,851	-27,226



Athletics / Physical Education (520): A room or area used by students, staff, or the public for athletic or physical education activities. Athletics / Physical Education space includes gymnasias, basketball courts, handball courts, squash courts, wrestling rooms, weight or exercise rooms, racquetball courts, indoor swimming pools, indoor putting areas, indoor ice rinks, indoor tracks, indoor stadium fields, and field houses. This category includes spaces used for dancing and bowling.

Guideline allowance assumes 10 NASF/FTDE beyond 1,500 plus a core of 34,000 NASF.

Given the current inventory of physical education space, application guideline suggests a current surplus of 2,668 NASF and a deficit of 6,222 NASF by 2024.

The College currently owns 105% of the space allowance in this classification. The data suggests that by 2024, the College will own 91% of its computed space allowance.

ATHLETICS / PHYSICAL EDUCATION								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Athletics / Physical Education	62,068	59,400	2,668	0	0	62,068	68,290	-6,222

Media Production (530): A space used for the production or distribution of multimedia materials or signals. This classification includes spaces generally called TV studios, radio studios, sound studios, photo studios, video or audio cassette and software production or distribution rooms, and media centers.



Guideline allowance assumes 0.8 NASF/FTDE beyond 1,500 plus a core of 1,600 NASF.

Given the current inventory of media production space, application guideline suggests a current deficit of 2,536 NASF and a deficit of 4,314 NASF.

The College currently owns 62% of the space allowance in this classification. The data suggests that by 2024, the College will still own 49% of its computed space allowance.

MEDIA PRODUCTION

	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Media Production	4,144	6,680	-2,536	0	0	4,144	8,458	-4,314



Greenhouse (HEGIS 580): A building or room usually composed chiefly of glass, plastic, or other light transmitting material, which is used for the cultivation or protection of plants or seedlings for research, instruction, or campus physical maintenance or improvement purposes.

Guideline allowance assumes a minimum core of 1,000 NASF

Given the current inventory indicates no space classified as greenhouse, application of guidelines suggests a current deficit of 1,000 NASF and a deficit of 1,000 NASF by 2024.

GREENHOUSE

	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Greenhouse	0	1,000	-1,000	0	0	0	1,000	-1,000

Assembly (610): A space designed and equipped for the assembly of many persons for such events as dramatic, musical, devotional, livestock judging, or commencement activities. Includes theaters, auditoria, concert halls, arenas, and chapels that are used primarily for general presentations (speakers), performances (dramatic, musical, dance), and devotional services.



Guideline allowance assumes 2 NASF/FTDE beyond 1,500 plus a core of 12,000 NASF.

Given the current inventory of assembly space, application guideline suggests a current surplus of 1,605 NASF and a surplus of 3,507 NASF by 2024.

The College currently owns 109% of the space allowance in this classification. The data suggests that by 2024, the College will own 119% of its computed space allowance.

ASSEMBLY

	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Assembly	18,685	17,080	1,605	3,680	0	22,365	18,858	3,507

Exhibition (620): A room or area used for exhibition of materials, works of art, artifacts, etc., and intended for general use by faculty, students, staff, and the public. This includes both departmental and institution-wide museums, galleries, and similar exhibition areas that are used to display materials and items for viewing by institutional population and the public.



Guideline allowance assumes 0.5 NASF/FTDE beyond 1,500 plus a core of 1,500 NASF.

Given the current inventory indicates no space classified as exhibition, application of guidelines suggests a current deficit of 2,770 NASF and a deficit of 3,215 NASF by 2024.

EXHIBITION								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Exhibition	0	2,770	-2,770	0	0	0	3,215	-3,215

Food Facility (630): Rooms intended for the consumption of food, and rooms that provide direct service. This category includes dining halls, cafeterias, snack bars, restaurants, kitchens, food serving areas, food storage, dishwashing, and cleaning areas. Also included are such facilities located in residence halls.

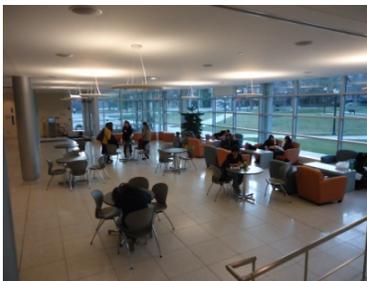


Guideline allowance assumes 8.4 NASF times Planning Headcount (50% FTDE, FTEF, and FT Staff).

Given the current inventory of food facility space, application guideline suggests a current deficit of 11,175 NASF and a deficit of 15,532 NASF by 2024.

The College currently owns 43% of the space allowance in this classification. The data suggests that by 2024, the College will own 35% of its computed space allowance.

FOOD FACILITY								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Food Facility	8,313	19,488	-11,175	0	98	8,215	23,747	-15,532



Lounge (650): Lounge space used for rest and relaxation that is not restricted to a specific group of people, unit, or area. A lounge facility is typically equipped with upholstered furniture, draperies, and carpeting, and may include vending machines.

Guideline allowance assumes 3.0 NASF times Planning Headcount (50% FTDE, FTEF, and FT Staff).

Given the current inventory of lounge space, application guideline suggests a current deficit of 3,863 NASF and a maintained deficit of 5,384 NASF by 2024.

The College currently owns 45% of the space allowance in this classification. The data suggests that by 2024, the College will continue to own 37 % of its computed space allowance.

LOUNGE

	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Lounge	3,097	6,960	-3,863	0	0	3,097	8,481	-5,384



Merchandising (660): This classification is for areas used to sell products or services. Examples include bookstores, student supply stores, campus food stores, barber and beauty shops, walk-away vending areas, and central ticket outlets.

Guideline allowance assumes 0.5 NASF/FTDE beyond 1,500 plus a core of 1,600 NASF.

Given the current inventory of merchandising space, application guideline suggests a current surplus of 1,715 NASF and a surplus of 1,158 NASF by 2024.

The College currently owns 160% of the space allowance in this classification. The data suggests that by 2024, the College will own 135% of its computed space allowance.

MERCHANDISING

	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Merchandising	4,585	2,870	1,715	0	112	4,473	3,315	1,158

Meeting Room (680): A room that is used by the institution and is also available to the public for a variety of non-class meetings.

Guideline allowance assumes a core of 8,000 NASF

Given the current inventory of meeting space, application guideline suggests a current deficit of 6,041 NASF and a continued deficit of 6,041 NASF by 2024.



The College currently owns 25% of the space allowance in this classification. The data suggests that by 2024, the College will own 25% of its computed space allowance.

MEETING ROOM

	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Meeting Room	1,959	8,000	-6,041	0	0	1,959	8,000	-6,041



Data Processing (710): A space used as a data or telecommunications center with applications that are broad enough to serve the overall administrative or academic primary equipment needs of a central group of users, department, college, school, or entire institution.

Guideline allowance assumes 0.75 NASF/FTDE beyond 4,500 plus a core of 2,500 NASF.

Given the current inventory of data processing space, application guideline suggests a current deficit of 961 NASF and a maintained deficit of 1,628 NASF by 2024.

The College currently owns 62% of the space allowance in this classification. The data suggests that by 2024, the College will own 49% of its computed space allowance.

DATA PROCESSING								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Data Processing	1,569	2,530	-961	0	0	1,569	3,197	-1,628



Physical Plant (720-760): Support facilities, which provide centralized space for various auxiliary support systems and services of a campus, help keep all institutional programs and activities operational. While not as directly accessible to institutional and community members as General Use Facilities (Code 600 series), these areas provide a continuous, indirect support system to faculty, staff, students, and the public. Support facilities are centralized in that they typically serve an area ranging from an entire building or organizational unit to the entire campus. Included are centralized areas for shop services, general storage and supply, vehicle storage (720-745); central services e.g., printing and duplicating, mail, shipping and receiving, environmental testing or monitoring, laundry, or food stores (750), and hazardous materials areas (760/770).

Guideline allowance assumes a combination of three room use categories:

- Central Services: 1.0 NASF/FTDE beyond 4,500 plus a core of 4,000 NASF.
- Shops/Storage/Vehicle Storage/Repair: 4% of all other campus inventory
- Hazardous Materials Storage: 2% of existing shops/storage/vehicle storage/repair NASF

Given the current inventory of physical plant facilities, application guideline suggests a current deficit of 9,373 NASF and a deficit of 13,539 NASF by 2024.

The College currently owns 55 % of the space allowance in this classification. The data suggests that by 2024, the College will still own 46% of its computed space allowance.

PHYSICAL PLANT								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Shop / Storage	8,138	16,414	-8,276	0	0	8,138	19,626	-11,488
Central Service	3,271	4,040	-769	0	0	3,271	4,929	-1,658
Hazmat Storage	0	328	-328	0	0	0	393	-393
Totals	11,409	20,782	-9,373	0	0	11,409	24,948	-13,539

Health Care Facilities (800): Space used for patient care areas that are located in separately organized and budgeted health care facilities: student infirmaries and centers, teaching hospitals, stand-alone clinics run by these hospitals, and veterinary and medical schools.

Guideline allowance assumes 0.2 NASF/FTDE beyond 1,500 plus a core of 500 NASF.



Given the current inventory indicates no space classified as health care facilities, application of guidelines suggests a current deficit of 1,008 NASF and a deficit of 1,186 NASF by 2024.

HEALTH CARE FACILITIES								
	2014 Inventory	2014 Guideline	Surplus (-) Deficit	2015-2024 Additions	2015-2024 Deletions	2024 Inventory	2024 Guideline	Surplus (-) Deficit
Health Care Facilities	0	1,008	-1,008	0	0	0	1,186	-1,186

Space Guidelines Application and Analysis (Parking)

Maryland's *Space Allocation Guidelines for Community Colleges* are also used to compute parking allowances. The Guidelines allow 300 square feet per car and a number of spaces to accommodate 75% of full-time faculty, staff, and eligible full-time day equivalent students with regular parking. In addition to regular parking spaces, the Americans with Disabilities Act (ADA) requires reserved spaces for disabled individuals.

There are 2,592 parking spaces distributed among eight primary lots as well as various secondary sites at CCBC Essex. Sixty two (62) spaces are reserved for disabled individuals. Thirty six (36) spaces are reserved for public safety, service and fleet vehicles and six are for motorcycles. These motorcycle spaces are sized for motorcycles only and do not meet guideline allowance for cars. Therefore, the available supply of regular parking spaces at Essex is 2,586. All existing parking is on surface lots as there are no parking structures at CCBC Essex.

When the guidelines input data assumptions are applied to current parking inventory data, it is possible to determine the number of eligible parking spaces. The current parking inventory was presented earlier and calculations of allowance are provided in the following table.

Current and Projected Parking Surpluses / Deficits (Essex)

CCBC Essex Parking Category	Factor	Allowance Current	Inventory 2014	Surplus/ (Deficit)	Allowance 10 Years	Inventory 2024	Surplus/ (Deficit)
FTDE-T	0.75	3,030			3,697		
FT-Faculty and FT Staff	0.75	392			473		
Visitors	0.02	68			83		
Reserved Accessible (ADA)	Required	45			53		
Total Spaces		3,535	2,586	(949)	4,306	2,586	(1,720)

The campus currently owns 73% of guidelines allowed parking spaces. The data suggests that by 2024, the campus will own 60% of its computed parking space allowance.

QUALITATIVE INDICATORS OF SPACE NEED

A variety of qualitative or non-statistical environmental characteristics impact the space needs of the Community College of Baltimore County. These global space needs are summarized and referenced throughout this document.

Unlike quantitative analysis, qualitative analysis is very subjective. Qualitative indicators of current conditions and program characteristics and future space needs/desires are the result of observations by the consultants and of views expressed by College personnel during interviews with the consultants and/or via written statements.

SUMMARY

It is often said that inferior spaces equal inferior environments equal perceived inferior service. Qualitative facilities problems often stem from the impact of quantitative problems on the physical campuses as a whole and the absence of certain necessary spaces.

The data leading up to and including the computed and qualitative needs establishes the necessity for renovated and/or additional facilities at the Community College of Baltimore County to meet its present and future requirements for space. Potential strategies for meeting these identified space requirements are addressed, in physical terms, by the capital projects outlined later in this *Facilities Master Plan Update*.

The next chapter begins the evaluation of buildings and campus site to determine their suitability to support existing and future programs.

Chapter 4

Facilities Assessment

Buildings

Campus-Wide Systems

Site Infrastructure

Site analysis

BUILDINGS

Building Designation Index

Building Designation and Description		NASF	GSF
SSRV	Student Services Center	37,791	58,000
COMM	College Community Center	32,788	50,000
WELL	Athletic & Wellness Center	67,151	84,500
AHUM	Arts & Humanities Hall	38,746	68,678
MASH	Mathematics & Science Hall	38,896	73,764
UTIL	Central Utility Plant	184	4,256
ADMN	Administration Building	45,093	67,554
BESS	Business, Education, & Social Sciences Hall	30,991	50,048
TECH	Technology Services Center	2,366	3,838
HTEC	Health Careers & Technology Building	32,938	51,500
LIBR	James A. Newpher Library	25,037	40,280
CHLD	Children's Learning Center	2,712	3,191
OPER	Facilities Operations Building	9,332	11,706
CLLB	Classroom & Laboratory Building	4,950	6,000
Subtotal		368,975	573,315

Student Services Center

Building Description

Building Designation	SSRV
Number of Floors	3
Net Assignable Square Feet	37,791
Gross Building Area - GSF	58,000
Net-to-Gross Efficiency	65.2%
Year Constructed	2000
Renovations	2010 Partial interior alterations to Public Safety 2011 converted a meeting space into a self-service Enrollment Lab 2015 Inserted Revolving Door to lower level main entry
Additions	Data closet cooling
Contains	First Floor: Welcome Center, Public Safety & Public Safety Call Center, Admissions, Bursar, Financial Aid, Records & Registration, International Student Office Second Floor: Career & Employment Services, Special Services, Counseling, Academic Advisement, Project Start, classrooms Third Floor: Classrooms, Reading Center, Student Success Center
General Condition	Very good
Adequacy of Space	Adequate for current functions
Sprinkler System	Yes, full coverage
Accessibility	Accessible

General / Architectural and Structural

The Student Services Center accommodates all enrollment associated functions for the Essex campus and also provides some classroom space. The building spaces and systems function well and require only regular maintenance at this time. Beyond basic functionality of the spaces, the College still intends to further consolidate student services as a “one-stop-shop” suite or cluster of related offices; this will require some re-configuration of space, particularly on the lower level.

The building is a 3-story, steel-framed structure with exterior masonry walls and construction of the building was completed in 2000. The overall condition of the building is very good.

Reported problems/Deficiencies:

- a. Building envelope leaks badly above ceiling and at the Fire department connections.

Mechanical

Renovations are needed to support new one-shop model for Student Services at enrollment.

Electrical

Existing systems: All Electrical Panelboards are located on the west side of the building.

Reported Problems/Deficiencies:

- a. Electrical Panelboards need to be added to east side of building to allow for expanded service needs.

Recommendations:

- a. Upgrade existing Electrical distribution system including the addition of new branch circuit Panelboards to serve the east side of the building to accommodate future relocations or new branch circuit requirements.
- b. Provide sub-metering of building electric service.

Information Technology

Existing Systems:

- a. Room 210 contains four data racks served by 30 multimode and 12 single mode cables.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



View from First Floor



Second Floor Reception Area



Bursar Waiting Area



Testing Area

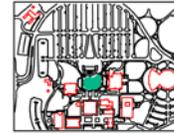


Classroom

Floor Plans



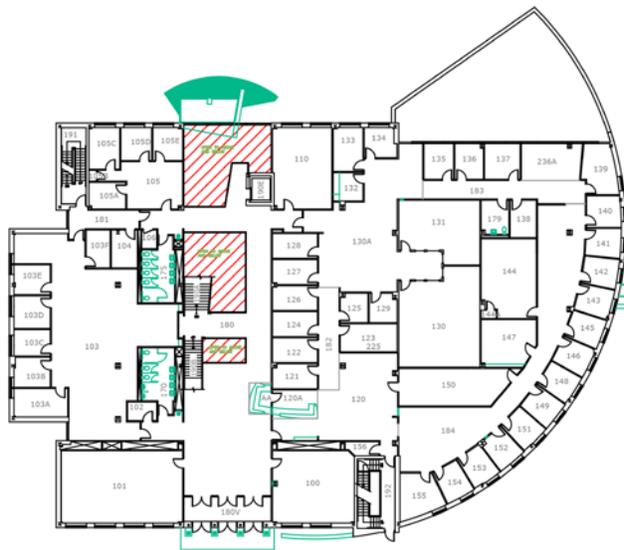
STUDENT SERVICES CENTER (SSR) – LOWER LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: 1/8" = 1'-0"



CCBC ESSEX CAMPUS BUILDING FLOOR PLAN



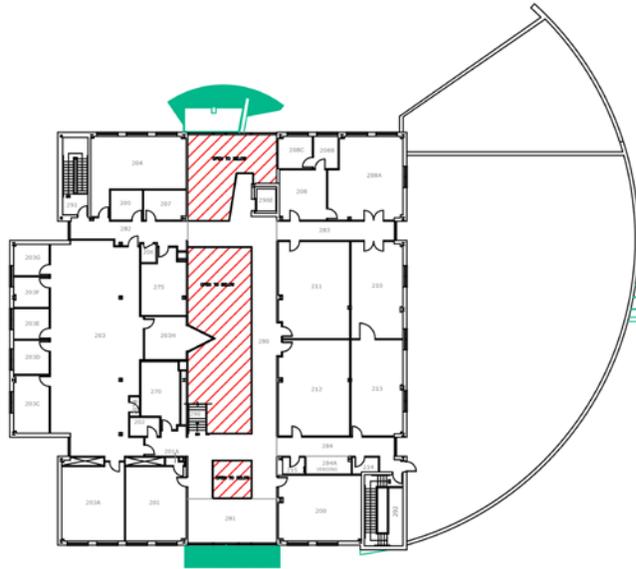
STUDENT SERVICES CENTER (SSR) – FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



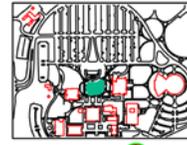
KEY PLAN
SCALE: 1/8" = 1'-0"



CCBC ESSEX CAMPUS BUILDING FLOOR PLAN



STUDENT SERVICES CENTER (SSCV) -- SECOND FLOOR PLAN
SCALE: 3/16" = 1'-0"



KEY PLAN
WEST TO SCALE



SCALE: 3/16" = 1'-0"
CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN

College Community Center

Building Description

Building Designation	COMM
Number of Floors	2 plus basement
Net Assignable Square Feet	32,788
Gross Building Area - GSF	50,000
Net-to-Gross Efficiency	65.6%
Year Constructed	1972
Renovations	1976 Dining/food service alterations 2000 Asbestos abatement, new ceiling, lighting, HVAC controls, flooring 2002 ADA Improvement (primarily restrooms) 2003 Exterior Masonry pointing 2004 Built-up roof replaced w/single-ply at fly-gallery and built-up roof at theater 2005 Bookstore expansion / alteration 2006 Fire Alarm ADA Upgrades 2008 TPO at low-level roof 2009 Pedestrian bridge replaced. 2013 Servery area updated by Sodexo 2014 Dining areas finishes were updated
Additions	Storage trailer for bookstore (Still remains in place)
Contains	First floor: Bookstore, student lounges, offices for student groups, Box Office, Theater main entrance, Student Life offices Second floor: Dining room, kitchen, conference rooms
General Condition	Fair
Adequacy of Space	Several spaces are inadequate for current needs, particularly kitchen, food service storage, food service manager office space, scene shop for theater, meeting rooms
Sprinkler System	Sprinklered
Accessibility	Not fully accessible; all building entrances are not accessible while some are accessible; problem is excessive gradients on walks to motor assisted door operators.

General / Architectural and Structural

This building is the primary gathering space on campus for the student population. Although it contains the variety of spaces necessary for the recreational needs of students, most all of the spaces are inadequate in size for present and future needs. The mechanical system is in good condition but cannot deal with peak demand of large groups of people.

The entrance to the building, while large, is inefficient and not accessible per ADA because it is at an intermediate level between the two floors of the building. Traffic flow must be a problem at peak occupancy times. The theatre and bookstore both need to expand their service capacities to serve a growing population. The kitchen suffers from two opposing issues: it is too large for small groups during off peak

hours; in addition it is inadequate for peak demand times for both food service and dining room space. All kitchen equipment must be upgraded to meet current service guidelines.

Storage for the entire building is inadequate, as indicated by the need to provide a separate trailer for the bookstore in the loading dock area. The conference areas that exist perform multiple duties for dining, meetings and classroom use beyond their original capacity.

There is a projected deficit of space for food service as the campus grows. There is also a need to improve all of the existing functions, the building finishes and the ADA accessibility to create a more useful campus gathering place. The college has engaged an architect to conduct a feasibility study related to the possible expansion of the kitchen area to the North or NW, thus avoiding the need to expand into the serving area and then expand the servery into the dining area.

The building is a 2-story, steel framed building with a basement and was originally constructed in 1972. Spalling of the precast concrete fascia band was observed. The overall condition of the building is fair.

Mechanical

Existing Systems:

- a. The building receives hot and chilled water from the Central Utility Plant and campus distribution network. Hot water serves the heating coils on a number of large air handling units, as well as several unit heaters and cabinet type convectors. Chilled water serves the cooling coils on the air handling units.
- b. Design characteristics of the major air handling units are as follows:
 - 1) Units #1 and #2 are approximately twenty-thousand (20,000) cfm each, double duct units.
 - 2) Unit #3 is a seventeen thousand six hundred (17,600) cfm single zone unit serving the Auditorium.
 - 3) Unit #4 is a thirteen thousand six hundred (13,600) cfm double duct unit serving the Dining Area.
 - 4) Unit #5 is a three thousand (3,000) cfm single zone unit serving the backstage area and stairwells.

Each of these units is rated for forty percent (40%) outdoor air at minimum ventilation. Several of the AHU's are linked to and controlled by variable frequency drives.

- c. Remote on/off control, programming and proofing of the building system are provided by a network link to a Siemens Building Tech. System 600 Energy Management System.
- d. During the heating season, domestic hot water is generated by a hot water-to-hot water converter receiving water from the central utility plant and distribution system. Storage temperature on the unit is controlled by capillary type aquastat controllers regulating a two- (2) position hot water valve. Circulation to the distribution system is by an in-line centrifugal pump. Storage temperatures on the unit are measured in the range of 125°F, which was the faucet temperature measured at several locations within the building.
- e. Building has received, elevator rehab in 2009 and stair lifts in 2009.

Reported Problems/Deficiencies:

- a. The building contains a four (4) pipe internal circulation system. The chiller and the boiler may be run at the same time if the outside air temperature is between 50°F and 60°F. Also, there are summer/winter change-over switches. If it is below 50°F outside air temperature, the building must

be in winter mode to heat properly. Above 50°F, the building can be operated in summer mode. The double duct system needs to be replaced with a much more modern HVAC distribution system.

- b. Supply air dampers are old and worn, providing only about 80% closure. Some dampers are disconnected and duct liner is loose. This still remains as a problem with AHU-1 and AHU-2 being the worst condition.
- c. Half of building has been updated to DDC controls. The other half has not yet been started; need to coordinate with major HVAC upgrade for the building to get building to really be at 100% DDC controls.
- d. Domestic hot water system is old and exhibits frequent leaks; should be replaced.
- e. The sanitary sewer system experiences frequent backups due to grease accumulation in pipes and also the relatively flat gradient of the outfall main to the point of connection on site.

Recommendations:

- a. Replace double duct heating/cooling system with more modern HVAC distribution system.
- b. Update entire building HVAC controls system to DDC controls.
- c. Replace domestic hot water piping system.
- d. Replace sanitary piping system as required to provide adequate slope for sanitary drainage.

Electrical

Existing Systems:

- a. Lighting within the Community College Center Building is fluorescent. Cafeteria lighting is equipped with twin thirty-two (32) watt tube recessed fluorescent fixtures. Core service areas are served by pendant-mounted twin thirty-two (32) watt tube fluorescent watt fixtures. Lighting in the lounge and cafeteria areas is by compact fluorescents in canister and flood configurations. The theater is served by five hundred (500) watt incandescent fixtures.
- b. Natural Gas fired electricity Generator installed.
- c. New lighting added to basement.

Reported Problems/Deficiencies:

- a. Poor lighting on the First and Second Floor Lobbies.
- b. Main switchboard is old; replacement parts are difficult to obtain. Power conductors feeding this building are original and should be re-fed with a new one.

Recommendations:

- a. Provide new LED or T-8 or T-5 fluorescent lighting system to provide required lighting levels for the lobbies.
- b. Replace main switchboard and incoming feeder, provide sub-metering.
- c. LED lighting should be considered as a replacement to fluorescent with flexible lighting controls compliant with current energy codes, as funding becomes available

Information Technology

Existing Systems:

- a. Room B114 contains one data rack served by 18 multimode and 6 single mode fibers.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



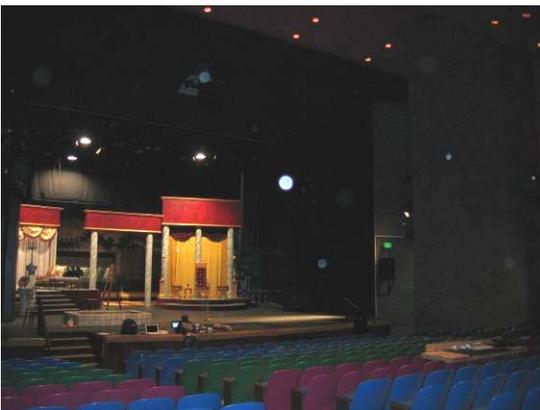
Building Exterior



Bookstore



Dining Room

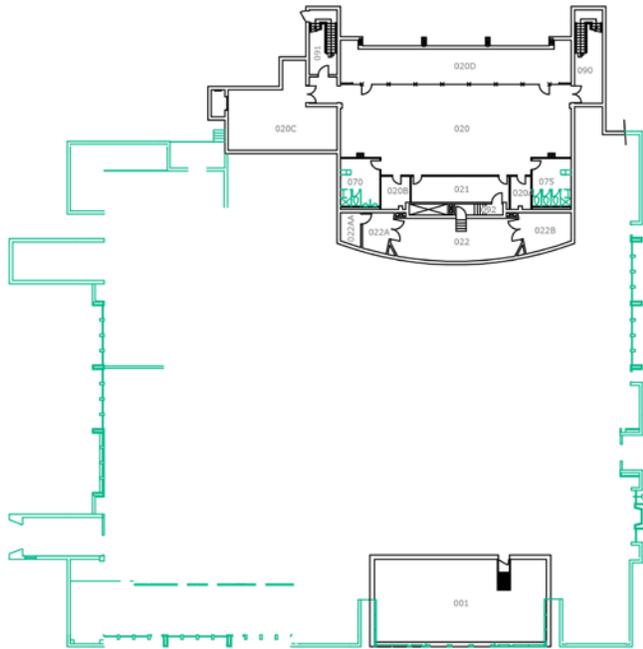


Theater

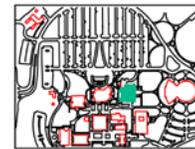


Lounge Area

Floor Plans



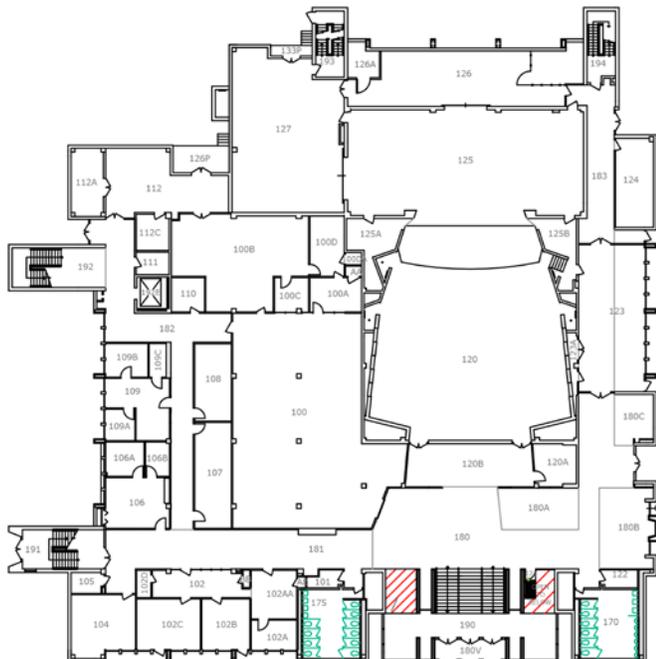
COLLEGE COMMUNITY CENTER (COMM) – BASEMENT FLOOR PLAN
Scale: 3/8" = 1'-0"



KEY PLAN
NOT TO SCALE



CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN



COLLEGE COMMUNITY CENTER (COMM) – FIRST FLOOR PLAN
Scale: 3/8" = 1'-0"

Wellness & Athletics Center

Building Description

Building Designation	WELL
Number of Floors	2 with partial mezzanines
Net Assignable Square Feet	67,151
Gross Building Area - GSF	84,500
Net-to-Gross Efficiency	79.5%
Year Constructed	1971
Renovations	Misc. Asbestos abatement, renovate lobby, lockers, corridors and gym, pool doors, pool filtration and storefront 2002 Pool lighting upgrade 2003 Selective masonry pointing, ADA modifications to include a LULA lift in the arena to mezzanine levels. 2004-2005 HVAC improvements: ground floor, dance studios, fitness center, and pool; installed cushioned dance floor 2008 Locker room finish upgrade, pool filtration system replaced, pool area walls and all CT joints renewed 2009 Gym floor 2010 Top portion of 2 racquetball courts converted to 2 classrooms and an entry hallway 2011 New roof PVC membrane systems installed over main arena and the natatorium/locker room areas
Additions	None
Contains	First floor: gym, pool, lockers, equipment and training rooms, 2 classrooms Lower level: offices and classroom for Health, Physical Education, Recreation and Dance programs, (remains of) handball courts Mezzanine level: Dance studios, weight room
General Condition	Fair-to-Poor
Adequacy of Space	Inadequate space for an accredited Dance Program
Sprinkler System	Minimum – weight room, dance studio, basement corridor, and classrooms (check this scope)
Accessibility	Partial

General / Architectural and Structural

The gymnasium, with its dome roof, provides a dramatic space for athletic events for the college and community. The pool is an additional amenity which is used throughout the year.

The overall building envelope is in fair to good condition; the roofs have been replaced. However, the interior space is functionally inadequate in many areas and has not changed significantly since being built. The offices are small and there is need for more space for current and future staff. The offices, along with two classrooms, are in the basement. The weight machines and dance studios are on two ends of the mezzanine. Storage is inadequate with large pieces of equipment in every available corner of the gym.

This building has had no major renovation since it was built in 1971. Funds were made available to provide increased air conditioning capacity for dance studios, weight rooms, offices and classrooms. Proper humidity control and ventilation still needs to be provided for the pool and lockers to control the decay of the building envelope. This is a future, long term project.

The building is essentially composed of 2 connected sections. The circular arena is a 2-story steel framed structure while the pool/locker room section is a single story fan-shaped structure. Both sections utilize precast concrete wall sections at the grade-level exterior walls. Roofing improvements were completed in 2011. The overall condition of the building is fair, but M&E systems are in the poor range.

There appears to be a condensation problem in the pool area which has resulted in some concrete spalling and metal deterioration of the exposed surfaces. Upgrade of mechanical systems will help create more favorable environmental conditions in the natatorium. If and when mechanical systems upgrades occur, for example, air-conditioning the gym, other areas and building systems upgrades should be undertaken at the same time. The entire building would benefit greatly from a comprehensive renovation.

The college has engaged an architect to prepare a concept study for a small 1-story addition near the north end of the building for a revamped fitness/exercise room so that the old location for fitness/exercise can be converted into a large dance studio, a requisite item for accreditation of Dance Program.

Mechanical

Existing Systems:

- a. The building receives space heating hot water from the central utility plant and campus distribution network. Most of the building distribution system receives water directly from the central network, without any reset through outdoor air or return water temperatures. Hot water to the Pool and Locker areas is reset by the outdoor air.
- b. Hot water serves the heating coils on a number of air handling units and also serves a limited amount of reheat coils and baseboard convectors throughout the building. The building does not receive any chilled water from the central distribution system and provides cooling only in the classroom and office areas through a 20-ton direct expansion system. A/C recently added to dance studios, weight rooms, fitness center, and ground floor offices. Ventilation upgraded in pool area.
- c. There are fifteen (15) air handling units serving various areas of the building. The only large units are the four (4) thirty-thousand (30,000) CFM air handlers serving the main gymnasium areas. The rest of the systems are fairly small and are dedicated to relatively small areas of the building. Units #2 through #5 are one hundred percent (100%) outdoor air. Air Handling Units #6 through #10, and #15 incorporate fifty percent (50%) outdoor air. Air handling units #11 through #14 incorporate thirty-three percent (33%) outdoor air. Air handling units #7 through #15 incorporate standard single zone controls, with increased outdoor air to reduce supply air temperatures as space temperatures exceed thermostat set-point. Air Handling Units #9 through #15 incorporate warm-up cycle controls, incorporating one hundred percent (100%) return air until space temperature meets a preset set-point. Discharge temperatures on these units are by face and bypass dampers, as well as three-way valves on the heating coils. Units # 1 through #5 incorporate constant discharge air temperatures and one hundred percent (100%) outdoor air, with space temperatures controlled by baseboard convectors in the areas served.
- d. Air Handling Unit #6 incorporates constant discharge temperatures at 55°F with space temperatures controlled by the reheat coils serving the various spaces.
- e. Remote on/off control, programming and proofing of building systems are provided by a network link to a Siemens System 600 Energy Management System.

- f. On/off systems control is split into nine (9) zones. Each zone is capable of separate programming through the energy management system.
- g. There are a number of exhaust systems serving the building, including three thousand four hundred (3,400) CFM each from the men's and women's locker room areas, four thousand three hundred (4,300) CFM from the main floor arena, and four thousand six hundred (4,600) CFM from the pool area. Exhaust systems are also controlled in an occupied/unoccupied fashion, and air handlers are interlocked with exhaust systems in a number of areas.
- h. Domestic hot water during the heating season is provided by a shell and tube type, hot water-to-hot water converter receiving hot water from the central utility plant. During the non-heating season, hot water is provided by a local gas-fired hot water heater, rated at three hundred sixty thousand (360,000) BTU's per hour.
- i. Hot water for the swimming pool is provided by a U-tube hot water-to-hot water converter also receiving water from the central utility plant during the heating season, and by a local gas-fired heater rated at one million two hundred, sixty-six thousand (1,266,000) BTU's per hour during the non-heating season. A replacement gas fired pool heater was installed in the summer 2009.

Reported Problems/Deficiencies:

- a. Centralized cooling is not available to this building. The lower level is cooled by a stand-alone 20-ton A/C unit. If outside air is above 95°F, the A/C unit must be operated for comfort at the lower level of the building. Stand-alone A/C units have been added to dance studios, fitness center, and ground floor offices.
- b. The upper levels experience overheating year-round.
- c. The presence of a swimming pool with consistent year-round 86°F water compounds the space temperature control throughout the building, especially at the lower level.
- d. Extensive corrosion of metal/steel structures throughout the building is due to the presence of chlorine (pool treatment).
- e. The computer and other specialized labs are cooled 24/7/365 by stand-alone A/C units.
- f. Locker Rooms are in need of dehumidification.
- g. HVAC controls upgrade is needed for the Lower Level.
- h. Plumbing fixtures need to be replaced in faculty section of locker room area.
- i. Air handling units #1-6 is rusted out. A/C unit #6 needs replacement due to age.
- j. Air shafts are deteriorating
- k. Domestic water piping is galvanized and failing, and Hot water tank is old. Hot water recirculation system does not work well.
- l. Exhaust fans are old, except #5

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Lighting within the building is a mixture of metal halide, fluorescent and incandescent bulbs and fixtures. Lighting in the main gymnasium courts area is by four hundred (400) watt metal halide bulbs and 500 watt reflector flood light fixtures. The remainder of the building is lighted by fluorescent bulbs in two (2) and four (4) tube configurations and in various fixture types, including pendant and ceiling-mounted units.
- b. Emergency lighting energy is provided by a natural gas-powered electrical generator.
- c. Pool lighting has recently been upgraded.
- d. Fire alarm system has been upgraded to accommodate ADA requirements.

Reported Problems/Deficiencies:

- a. The mixture of different types and wattages of lights in the main Gym is inefficient and a maintenance problem.
- b. Most lighting needs to be upgraded as well as controls for gym lighting.
- c. Outdoor light poles are original and unsightly. Wiring for pedestrian globes on 10ft poles is going bad.
- d. Electrical panels don't meet code
- e. Generator for emergency power is the old original unit. It is difficult to maintain and may not run when called upon to do so in an emergency situation despite exercise and testing.
- f. Additional electric powered AC for any more spaces may require an upgrade of the electrical switchboards and conductors.

Recommendations:

- a. . LED lighting should be considered with flexible lighting controls compliant with current energy codes.
- b. Panelboards in the building should be replaced with increased capacity, sub-metering added to electric service to the building.
- c. Replace the emergency generator.
- d. Replace site lighting branch circuits originating from the building.

Information Technology

Existing Systems:

- a. Room D-10 contains one data rack served by 12 multimode and 6 single mode fibers.
- b. Room D-52 contains Smart Classroom technology.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Building Exterior



Gym



Interior Circulation

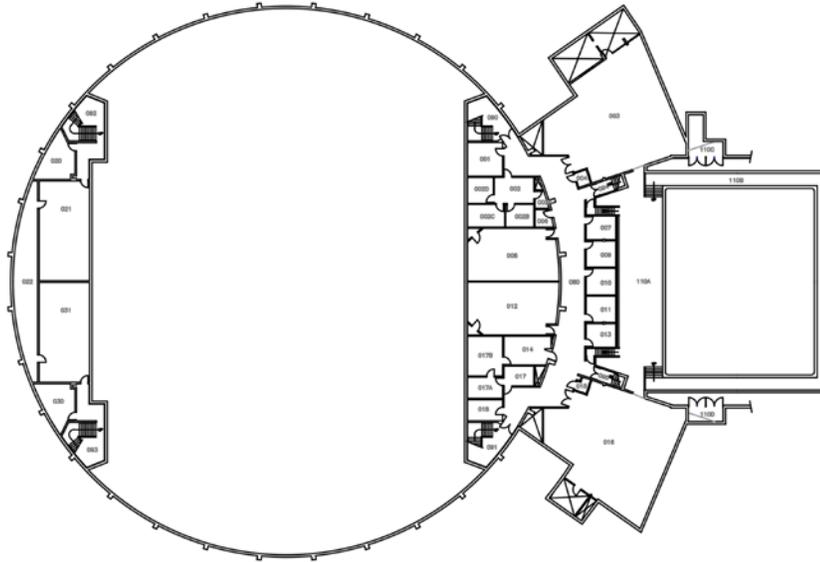


Locker Room

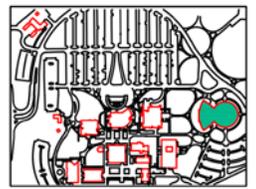


Pool

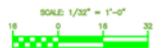
Floor Plans



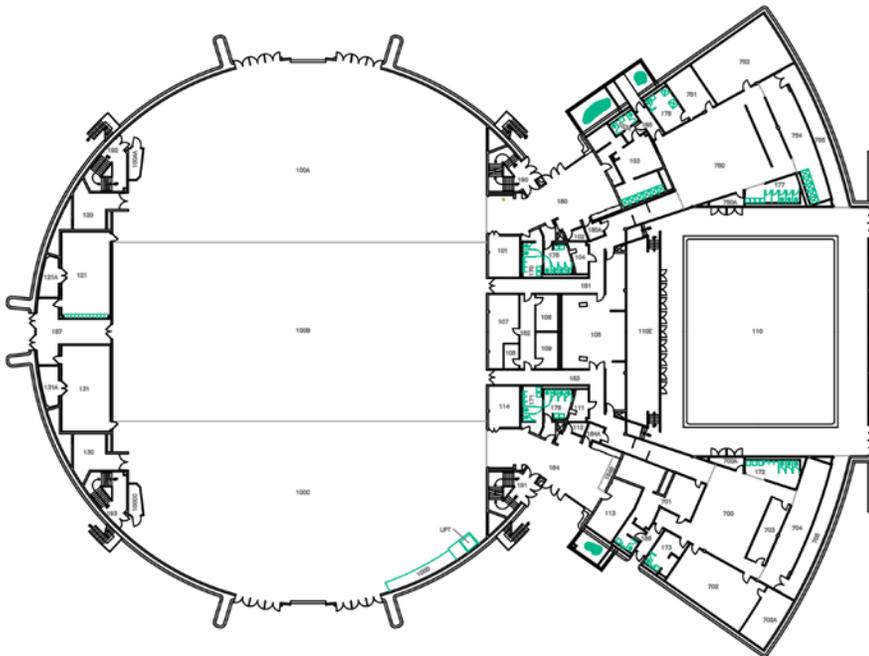
WELLNESS & ATHLETICS CENTER (WELL) – LOWER FLOOR PLAN
SCALE: 1/32" = 1'-0"



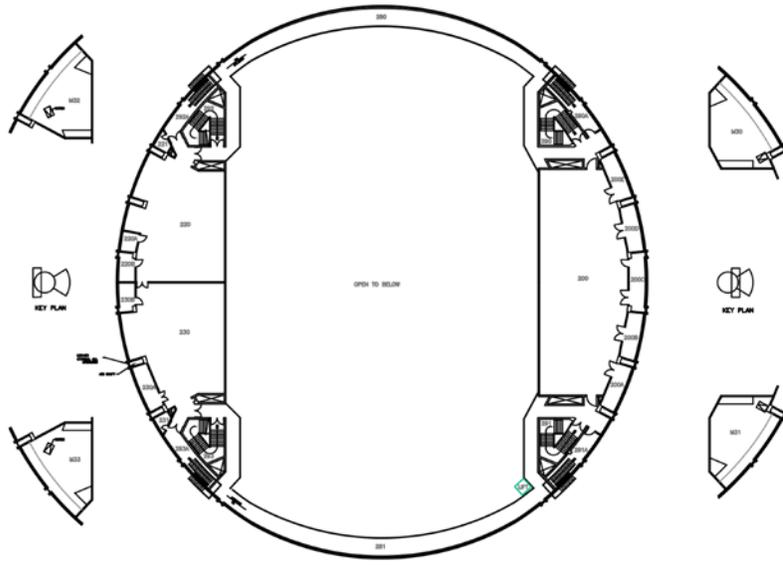
KEY PLAN
NOT TO SCALE



CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN



WELLNESS & ATHLETICS CENTER (WELL) – MAIN FLOOR PLAN
SCALE: 1/32" = 1'-0"



BELLWES & ASSOCIATES CENTER (BELL) - UPPER FLOOR PLAN (REV. 02/16)

Arts and Humanities Hall

Building Description

Building Designation	AHUM
Number of Floors	3
Net Assignable Square Feet	38,746
Gross Building Area - GSF	68,678
Net-to-Gross Efficiency	56.4%
Year Constructed	1973
Renovations	2002 Data Closet Cooling, Audio Lab 2007/2008 General Renovation; TPO roof
Additions	2007/2008 Mechanical Room added as part of renovation project 2014 Art Gallery at main entrance 2015 Classroom wing (3 story) addition
Contains	Lower: TV studio and support, duplicating services, media services, audio/video instructional labs Ground: art studios, faculty offices, art gallery, recital hall, music studios, classrooms Second: Faculty offices and classrooms for English, Music, Art, Theater and Language departments
General Condition	Good
Adequacy of Space	Relatively adequate but some additional space is needed.
Sprinkler System	Partially sprinklered (1 st floor only)
Accessibility	Accessible, with only 1 unisex ADA restroom on art gallery level

General / Architectural and Structural

The building is entered from a partially open central court. There is a wide variety of specialized teaching spaces which are required for the arts and humanities. While the organization of the building is clear, there are some flaws in its layout.

The 2007-2008 renovation greatly improved the individual and public spaces of the building as well as building systems. Arts and music studios, classrooms and offices are much more serviceable than before the renovation. The need for additional space was accommodated by the creation of an art gallery and the South addition which provides a home for more practice studios, a band/orchestra practice room, faculty office and storage.

The building is a 3-story, exposed frame cast-in-place concrete structure with masonry infill panels constructed in 1972. Thanks to the two recent renovations and additions, the overall condition of the building is very good.

Mechanical

Existing Systems:

- a. Perimeter spaces which are mostly classrooms/labs are served by new power exhaust unit ventilators. These ventilators are now served by an interior 4-pipe heating/cooling network.
- b. The interior spaces and North studios are served by new central station constant pressure, variable flow air handling units.
- c. As the building mechanical system was most recently renovated in 2007-2008 the majority of the equipment is less than 10 years old.
- d. A summer condensing boiler was added in 2008 for better dehumidification and occupant comfort when the central plant boilers are turned down and centralized reheat is unavailable.

Reported Problems/Deficiencies:

- a. Exhaust fans for various spaces including the sculpture/welding studio are old and need to be replaced.
- b. Outside/relief air recirculates in air shaft.
- c. Galvanized domestic water pipes leak.
- d. Water leaks into building through old underground air ducts serving art studios.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. All lighting has been upgraded to new T-8 fixtures except the Recital Hall. These fixtures are not as efficient as LED would be.
- b. Emergency lighting is provided by a new natural gas-driven generator located outside the building.

Reported Problems/Deficiencies:

- a. None reported.

Recommendations:

- a. Provide sub-metering on building electric service.

Information Technology

Existing Systems:

- a. Room E-3435 contains two data racks served by 30 multimode and 12 single mode fibers.
- b. Room E-121 contains Smart Classroom technology.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Courtyard



Music Studio



Recital Hall

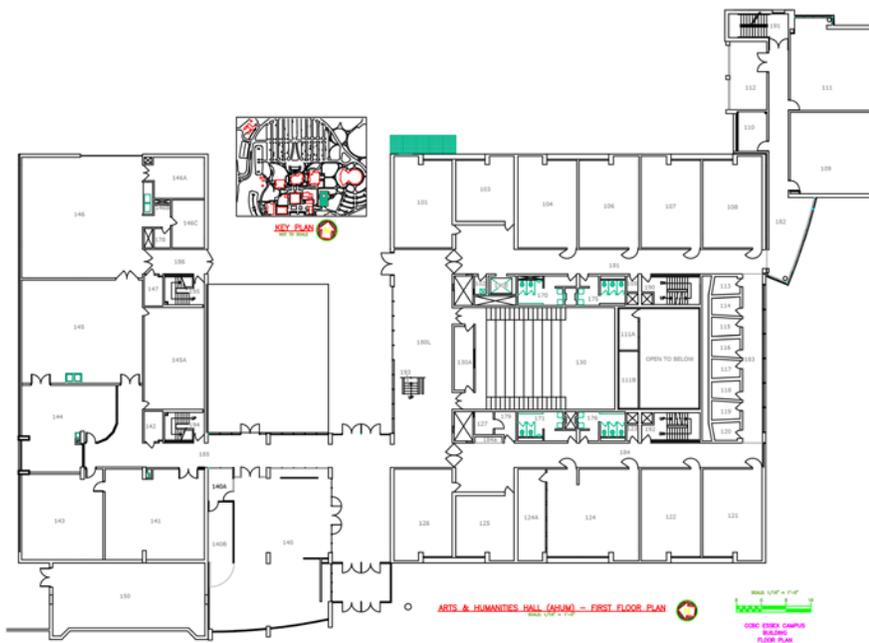


Gathering Space



Classroom

Floor Plans



Mathematics and Science Hall

Building Description

Building Designation	MASH
Number of Floors	8 plus mechanical penthouse
Net Assignable Square Feet	38,896
Gross Building Area - GSF	73,674
Net-to-Gross Efficiency	52.8%
Year Constructed	1975
Renovations	Misc. – Enclose 1 st floor breezeway space and misc. Asbestos abatement (ceiling tile) 1997 New single-ply IRMA roof 1998 Partial sprinkler in basement storage 2002 Smart Classroom 2003 Cyber Café 2007 Renovation for HVAC, life safety 2011-12 Lab and Exterior Renovation
Additions	None
Contains	Classrooms, laboratories and faculty offices for Vet Tech, Science/Math departments, Cyber Cafe
General Condition	Very Good-Excellent
Adequacy of Space	Adequate for current programs
Sprinkler System	Fully sprinklered
Accessibility	Accessible

General / Architectural and Structural

This high-rise building is the largest classroom building on campus. It is a unique facility housing laboratory type classrooms and support spaces.

The ground level has been altered by inserting vending and one instructional space and converting a classroom to a café in recent years. Upper floors are bound by a relatively small footprint, allowing scant public space outside of labs, offices, and classrooms.

A second phase of renovations was performed in 2011-2012 which provided for complete renovation of labs, classrooms, office spaces, toilet rooms, and exterior facade work.

The building is an 8-story, steel framed structure with pre-cast lightweight insulated concrete wall panels. The steel frame dates from the original construction in 1975. The typical floor framing consists of exposed precast tees. A protected membrane roof was installed in 1997. The college has performed numerous leak investigations and patching regimens as a result of the several recent renovations and the many independent contractors working on rooftop antennae. Most recently the college has added membrane flashing to the parapet walls on the north end of the building to resolve some persistent leak problems. .. The overall condition of the building has been improved to very good.

A roof replacement should be planned sometime in the 2020-2023 time period.

Mechanical

Existing Systems:

- a. The building receives hot and chilled water from the power plant and distribution network. Hot water from the boiler feeds several hot water-to-hot water converters, which serve the reheat coil and baseboard convection systems within the building, as well as heating coils on the air handling units. According to the drawings, outlet water temperatures from the converters serving the baseboard convectors and those serving the terminal reheat coils are reset according to outdoor air, with 180°F water at 0°F outdoor air, and 100°F water at 70°F outdoors. Circulation on the two (2) systems is by duplex arrangements of centrifugal pumps rated at ten (10) horsepower each with two (2) pumps on each loop controlled in a lead/lag mode.
- b. Air Handling Units #1 and #2 are each rated at forty thousand (40,000) CFM at nine (9) inches of static pressure, and sixty-five percent (65%) minimum outdoor air. Fan motors on these units are one hundred (100) horsepower each. Each unit also incorporates a return air fan rated for twenty-two thousand (22,000) CFM at five tenths (.5) inches of static pressure, and incorporating five (5) horsepower fan motors. These units serve all areas of the building, with the exception of chemical storage and x-ray.
- c. The two (2) main air handlers (#1 and #2) serve approximately ninety (90) reheat coils distributed throughout the building.
- d. Air Handling Unit #3 is a single zone unit serving the chemical storage area. The fan is rated at three thousand one hundred seventy-five (3,175) CFM at two and five-tenths (2.5) inches static pressure and two (2) horsepower.
- e. Air Handling Unit #4 is a single zone unit serving the X-ray area. The unit is rated at one thousand one hundred eighty (1,180) CFM, at one and five-tenths (1.5) inches of static pressure, and one-half (1/2) horsepower, and incorporates one hundred percent (100%) outdoor air.
- f. Remote on/off control, programming and proofing of building systems are provided via a network link to a Siemens Building Technologies Apogee Energy Management System.
- g. The building incorporates approximately sixteen (16) fume hoods, ranging in size from one thousand (1,000) to two thousand six hundred seventy-five (1,675) CFM, and is served by forty-six (46) separate exhaust fans ranging in size from one hundred sixty (160) to six thousand seven hundred fifty (6,750) CFM.
- h. Domestic hot water is generated by hot water-to-hot water converter during the heating season and by an electric hot water generator during the non-heating season. The electric unit is rated at fifty-four (54) kW. Faucet temperatures within the building measured greater than 125°F during the survey. Hot water uses within the building include laboratory and other such process applications so that hot water consumption is estimated to represent ten percent (10%) of natural gas consumption within the building.
- i. This building has a domestic booster pump and fire/jockey pump.

Reported Problems/Deficiencies:

- a. The building is a four (4) pipe system. The chiller and boiler must be operated at the same time for optimal space temperature control. If the outside temperature is below 50°F, fin radiation pumps must be run to heat level, especially Rooms 111, 102, and 103, which are glass-walled and on the perimeter of the building. These rooms are more often under-heated.
- b. This building still has some galvanized domestic hot water and drain piping that causes leaks on occasion.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Lighting within the building is predominantly fluorescent in single and twin thirty-two (32) watt tube fixtures. Some compact fluorescent can lighting is installed in the elevator lobbies and bathrooms on each floor. Extensive natural lighting is available through the new window systems.
- b. Emergency lighting is provided by a natural gas-powered generator located on the eighth floor of the building.

Reported Problems/Deficiencies:

- a. None

Recommendations:

- a. Add sub-metering to the building electric service.

Information Technology

Existing Systems:

- a. The Third Floor Mechanical Room #3 contains two data racks served by 18 multimode and 6 single mode fibers.
- b. The Sixth Floor Mechanical Room #3 contains two data racks served by 18 multimode and 6 single mode fibers.
- c.

Reported Problems/ Deficiencies:

- a. None reported.

Photographs



Building Exterior



Roof



Café



Open Office

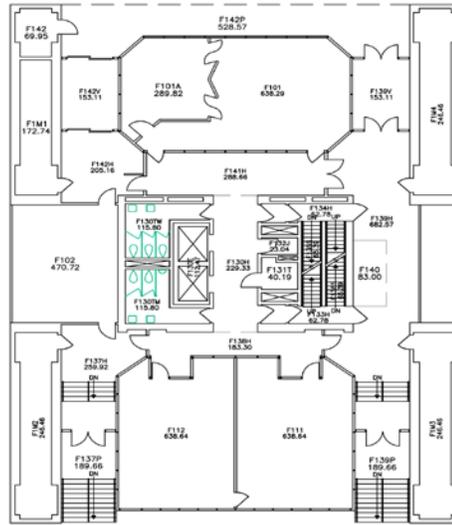


Science Lab

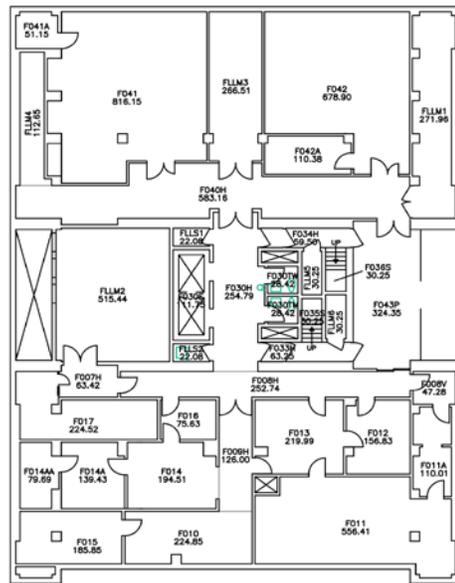


Computer Classroom

Floor Plans

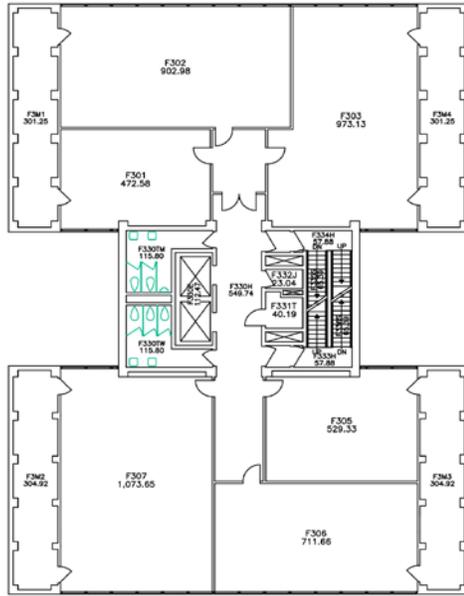


MATHEMATICS AND SCIENCE HALL - GROUND FLOOR & FIRST FLOOR PLANS
SCALE: 1/16" = 1'-0"

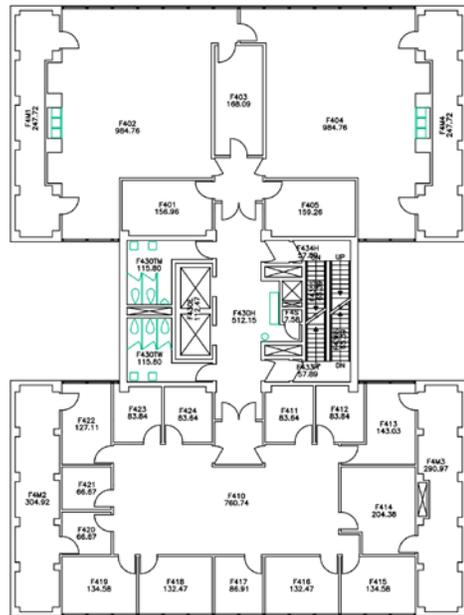


GROUND FLOOR

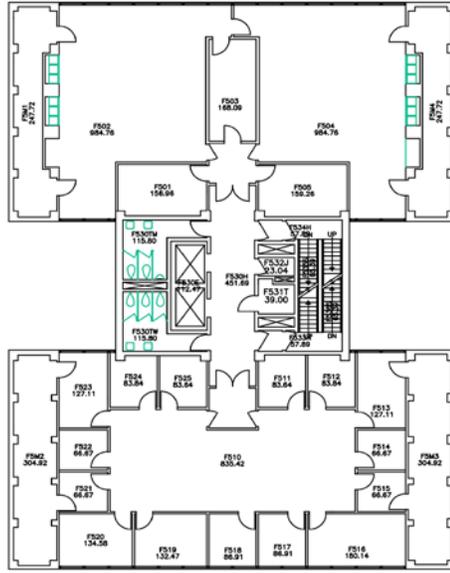
MATHEMATICS AND SCIENCE HALL (F) - GROUND FLOOR & FIRST FLOOR PLANS
SCALE: 1/16" = 1'-0"



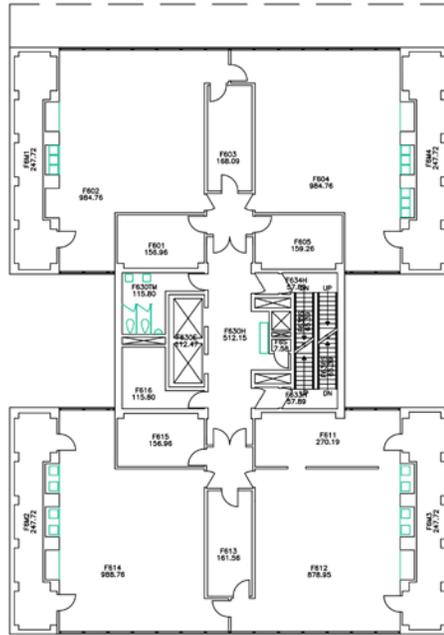
MATHEMATICS AND SCIENCE HALL (F) – SECOND FLOOR & THIRD FLOOR PLANS
SCALE: 1/16" = 1'-0"



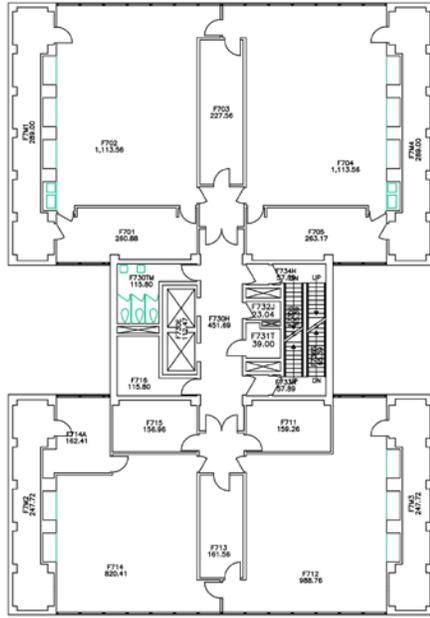
MATHEMATICS AND SCIENCE HALL(S) – FOURTH FLOORPLAN
SCALE: 1/8" = 1'-0"



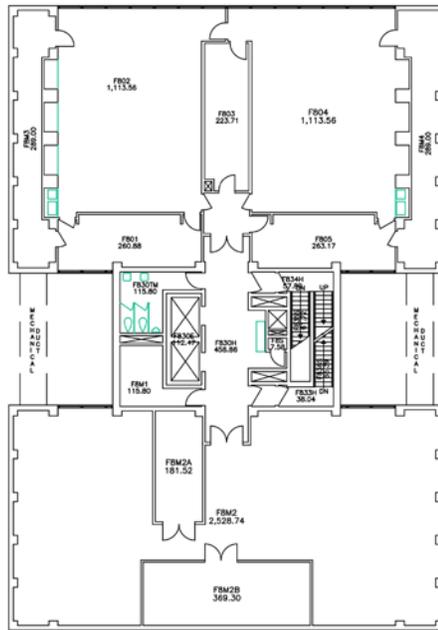
THEMATICS AND SCIENCE HALL(F) – FOURTH FLOOR & FIFTH FLOOR PLANS
SCALE: 1/16" = 1'-0"



MATHEMATICS AND SCIENCE HALL(F) – SIXTH FLOOR & SEVENTH FLOOR PLANS
SCALE: 1/16" = 1'-0"



MATHEMATICS AND SCIENCE HALL(F) – SIXTH FLOOR & SEVENTH FLOOR PLANS
SCALE: 1/16" = 1'-0"



EIGHTH FLOOR

MATHEMATICS AND SCIENCE HALL (F) – EIGHTH FLOOR & PENTHOUSE FLOOR PLANS
SCALE: 1/16" = 1'-0"

Central Utility Plant

Building Description

Building Designation	UTIL
Number of Floors	1
Net Assignable Square Feet	184
Gross Building Area - GSF	4,256
Net-to-Gross Efficiency	N/A
Year Constructed	1967
Renovations	2003 Asbestos Abatement 2004 New Chiller and cooling tower rehab 2007 New Chiller and cooling tower 2008 Replaced Hot water boilers #2 and #3; 2011 Roof
Additions	1976 Expanded to add boilers and chillers 1992 Added new ISO HP boiler
Contains	Central boilers and chillers, maintenance office
General Condition	Good
Adequacy of Space	Adequate for current needs but expansion will be needed in the future
Sprinkler System	Minimal
Accessibility	Partial

General / Architectural and Structural

This is the central plant which handles the nine major campus buildings: Administration, Library, Wellness and Athletics Center, Arts & Humanities, Mathematics and Science Hall, Business, Education and Social Sciences, Health Careers and Technology , College Community Center, and Student Services Center.

The building is in fair condition and appears to function well for its age. There is limited room for expansion due to its central location in the campus, until Classroom/Laboratory Building is demolished, allowing expansion to the south.

The 1-story steel framed building with masonry walls was built in 1967 and expanded in 1976. The overall condition of the building envelope is fair. It should be noted that the roof was replaced in 2011.

Mechanical

Existing Systems:

- a. The Central Boiler Plant is comprised of three (3) Cleaver Brooks Type CB package fire tube boilers. The boilers are four (4) pass types and are capable of burning either natural gas or No. 2 heating oil. No. 2 oil is burned using air atomization.
- b. Boiler #1 is rated at ten million five hundred thousand (10,500,000) BTU's per hour natural gas or seventy (70) gallons per hour No. 2 oil. Boiler #2 is rated at eleven million six hundred thousand (11,600,000 BTU's per hour natural gas or ninety-eight (98) gallons per hour No. 2 oil. Boiler #3 is

- rated at twenty-one million (21,000,000) BTU's per hour of natural gas or one hundred fifty (150) gallons per hour No. 2 oil.
- c. The units operate as hot water generators, with outlet water temperatures maintained by standard aquastats controlling the burners.
 - d. Hot water from the Central Utility Plant is distributed in three (3) circulating zones to the Campus. These zones are designated Business and Humanities, Administration, Social Sciences, and College Center and Physical Education Building. Supply water temperature to all zones is approximately 175°F. Return water temperature from the zones varies between 145°F and 155°F.
 - e. The Central Chilled Water Plant is comprised of two (2) Carrier eight hundred (800) ton and one (1) Carrier six hundred (600) ton centrifugal chilled water generators served by water-cooled condensers and outdoor water cooling towers. This plant is equipped with a refrigerant leak detection system.
 - f. Chilled water also circulates on the three (3) loops outlined above. It is noted, however, that the duplex chilled water pumping sets serving each loop are comprised of a larger and smaller pump with the Administration loop served by a one hundred twenty-five (125) horsepower unit, in conjunction with a forty (40) horsepower unit. The other two (2) loops are served by seventy-five (75) horsepower pumps in conjunction with fifty (50) horsepower units. The larger pumps operate under more severe cooling loads, with the smaller pumps serving the system during milder times of the cooling season.
 - g. The plant is equipped with a Siemens Building Technologies Apogee Energy Management/Building Automation System. The system front-end is located in the Power Plant and is part of the campus network to which all major buildings are connected. The front end is driven by vendor-provided software - "INSIGHT" which provides such system capability as on-off control, proofing and schedule programming.
 - h. The cooling tower serving Chiller #1 is a draw-through type, with an axial fan and slat type flow configurations and was recently retrofitted. The tower serving Chiller #2 has been replaced. The tower serving Chiller #3 is similar to that for Unit #1.
 - i. Natural gas pressure in the BGE main serving the campus was upgraded to high pressure (100+ psi). New regulators to reduce pressure were installed in the service entrance at the plant in 2009.

Reported Problems/Deficiencies:

- a. Non-environmental friendly refrigerant -- R-12 is used in Chiller #3. Funding for replacement has been provided in FY 2016.
- b. Water treatment is manual rather than automatic.
- c. Chiller #3 has been taken out of service due to its poor condition.
- d. CW pumps are old and should be replaced with variable speed motors and drives when Chiller #3 is replaced or along with the Renovation/Addition to HTEC project.

UNITS	MACHINE#	YEAR	Refrigerant	MODEL	Capacity
Chiller #1		2004	---	TRANE	800-TON
Chiller #2		2007	---	TRANE	800-TON
Chiller #3	19EA4G-308	1975	R-12	19EA7645DG	600-Ton

UNITS	MANUFACTURER	YEAR	CAPACITY
Boiler #1	Cleaver - Brooks	1992	150 HP
Boiler #2	Cleaver - Brooks	2009	350 HP
Boiler #3	Cleaver - Brooks	2009	500 HP

Electrical

Existing Systems:

- a. Lighting in the building is two (2) tube pendant-mounted fluorescent fixtures. Lighting levels in the building range from approximately forty (40) foot-candles in the Boiler Room to fifty to sixty (50-60) foot-candles in the offices.
- b. The campus is served by two 13 kV primary electrical service provided by the Baltimore Gas and Electric Company. The primary electrical service is equipped with double-ended switchgear, which permits cross-over from one feeder to the other in event of an outage. The service is stepped down for each building, through a series of transformers across the campus.

Reported Problems/Deficiencies:

- a. Hot spots were recently identified with an infra-red scan of the existing feeders. The problems with these hot spots need to be investigated.
- b. Main switchgear is mostly original and has had problems passing muster on tests despite fairly routine preventive maintenance.

Recommendations:

- a. Procure a testing company to investigate problems detected with the infra-red scan on the existing feeders with hot spots
- b. Replace the main primary switchgear.
- c. LED lighting should be considered as a replacement to fluorescent with flexible lighting controls compliant with current energy codes, as funding becomes available.

Information Technology

Existing Systems:

- a. Room H-1 contains a wall-mounted data cabinet served by six strands of multimode fiber.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Building Exterior

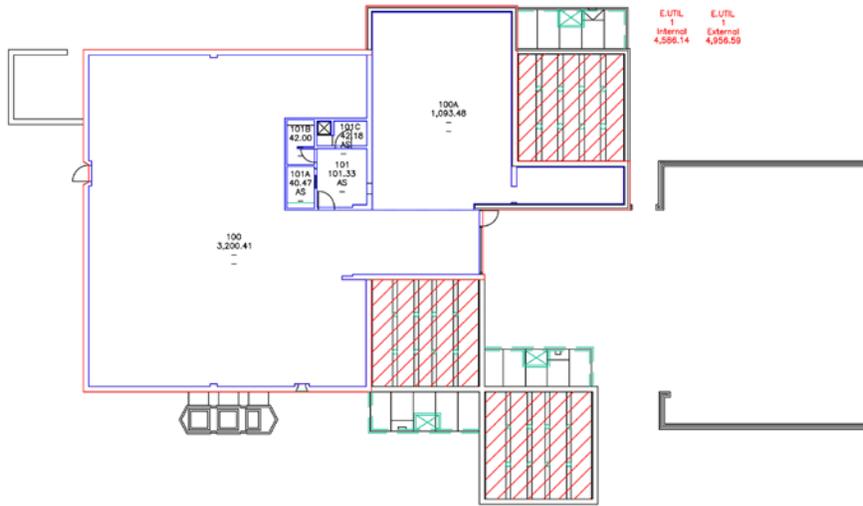


Pumps



Boilers

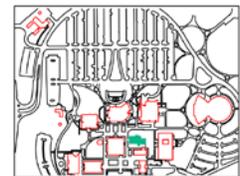
Floor Plan



E UTIL 1
Internal 4,296.14

E UTIL 1
External 4,956.59

CENTRAL UTILITY PLANT (UTIL) – FLOOR PLAN
SCALE: 1/16" = 1'-0"



KEY PLAN
NOT TO SCALE



CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN

Administration Building

Building Description

Building Designation	ADMN
Number of Floors	1
Net Assignable Square Feet	45,093
Gross Building Area - GSF	67,554
Net-to-Gross Efficiency	66.8%
Year Constructed	1967
Renovations	1999 Reading Center offices 2001 New roof/Asbestos Abatement 2002 ADA improvement 2003 Major renovation (including New HVAC Plant) 2004 First floor restrooms renovated 2009-11 various control rooms added for Nursing simulation labs
Additions	None
Contains	First: Administrative offices, executive board room, lecture hall, Honors Program, classrooms/labs and offices Second: Information Technology, offices, classrooms Third: Classrooms, labs, and offices of School of Health Professionals
General Condition	Good
Adequacy of Space	Inadequate for functions contained within
Sprinkler System	Sprinklered
Accessibility	Accessible

General / Architectural and Structural

The Administration building was one of the four original buildings built when Essex campus was created. The first floor administrative offices are spacious and well organized. The boardroom and auditorium are both large and useful for promoting the school, although lighting in the boardroom needs improvement.

This building has had significant renovations to the structure, shell or services since its construction in order to accomplish asbestos replacement. The offices for computer support were moved as part of a complete renovation of the A/V annex.

Reported Deficiencies:

Planned relocation and consolidation of health sciences spaces will free up current lab spaces in the upper levels for other uses.

The building is a 3-story, steel framed structure with a basement and masonry walls constructed in 1967. The building was partially renovated in 2003. Recent improvements include new roof (2001) and ADA (2002). The roof deck is a poured gypsum system which will deteriorate when exposed to moisture. The overall condition of the building is good.

Mechanical

Existing Systems:

- a. The building receives hot or chilled water from the Power Plant and campus distribution system. Hot water serves heating coils on two (2) air handling units, as well as a perimeter convection system on the Second and Third Floors. Chilled water serves cooling coils in two (2) air handlers.
- b. Domestic hot water for the building is generated by a commercial grade gas-fired hot water heater. Hot water use is limited to lavatories and is not a major natural gas consumer within the building.
- c. Air Handler #1 (which was replaced in 2003) is a double duct unit, rated at sixty-one thousand (61,000) CFM, with forty-seven percent (47%) outdoor air. The unit is designed to operate at a static pressure of six and one-half (6-1/2) inches of water and is served by a one hundred (100) horsepower supply fan. This unit provides conditioned air to all spaces in the building, with the exception of the Lecture Hall and Room 201.
- d. The Lecture Hall unit (which was replaced in 2010) is a five thousand three hundred (5,300) CFM, single zone configuration, designed for forty-five percent (45%) outdoor air, and an operating static pressure of two and one-half (2-1/2) inches, served by a seven and one-half (7-1/2) horsepower supply fan.
- e. A second temperature reset system serves the hot deck of the double duct air handling unit. Cold deck and mixed air temperatures on the unit are mixed manually.

Reported Problems/Deficiencies:

- a. Domestic hot water pipes (galvanized) are failing.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Remote on/off control programming and proofing of the building system are provided by a network link to Siemens Building Technologies Apogee Energy Management System.
- b. Lighting in the building is fluorescent T-8 fixtures with occupancy sensors in the classrooms.
- c. A feeder from the emergency generator system at TECH (M) Building has been installed to provide emergency power for the campus telephone switch located in the basement of the building.

Reported Problems/Deficiencies:

- a. Although T-8 lighting was state of the art when installed in 2003, it is now no longer the least cost illumination method.

Recommendations:

- a. LED lighting should be considered although in combination with an appropriately flexible and reliable lighting control package.

Information Technology

Existing Systems:

- a. Main Campus Telephone Switch located in Basement Level.
- b. Room J205 contains four data racks served by 30 multimode and 12 single mode fibers.
- c. Room J-138 contains Smart Classroom technology.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Auditorium



Classroom

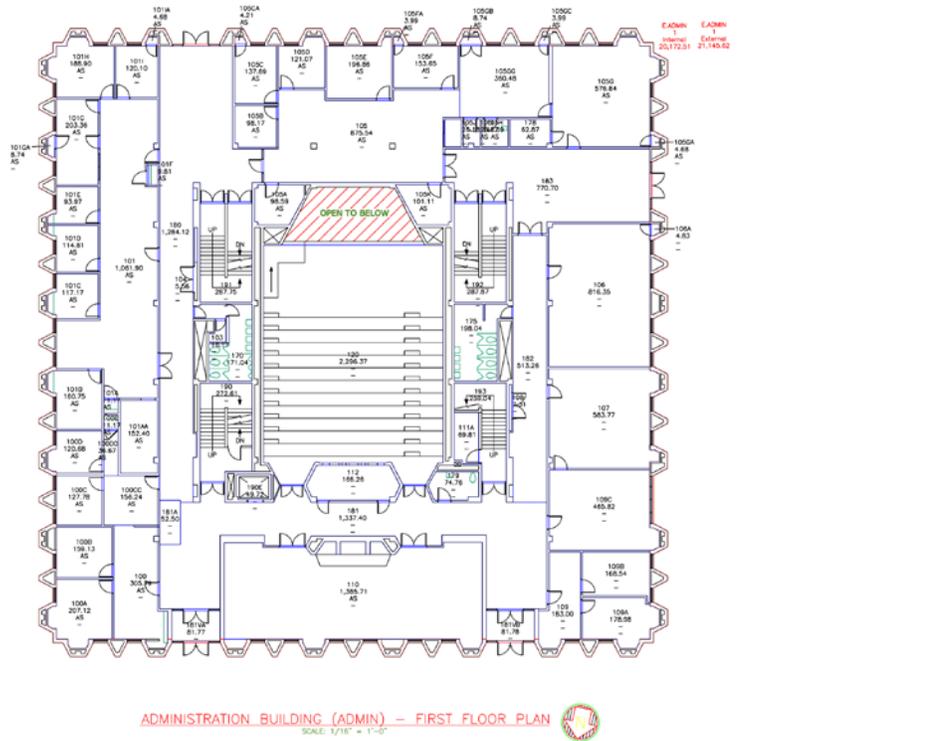
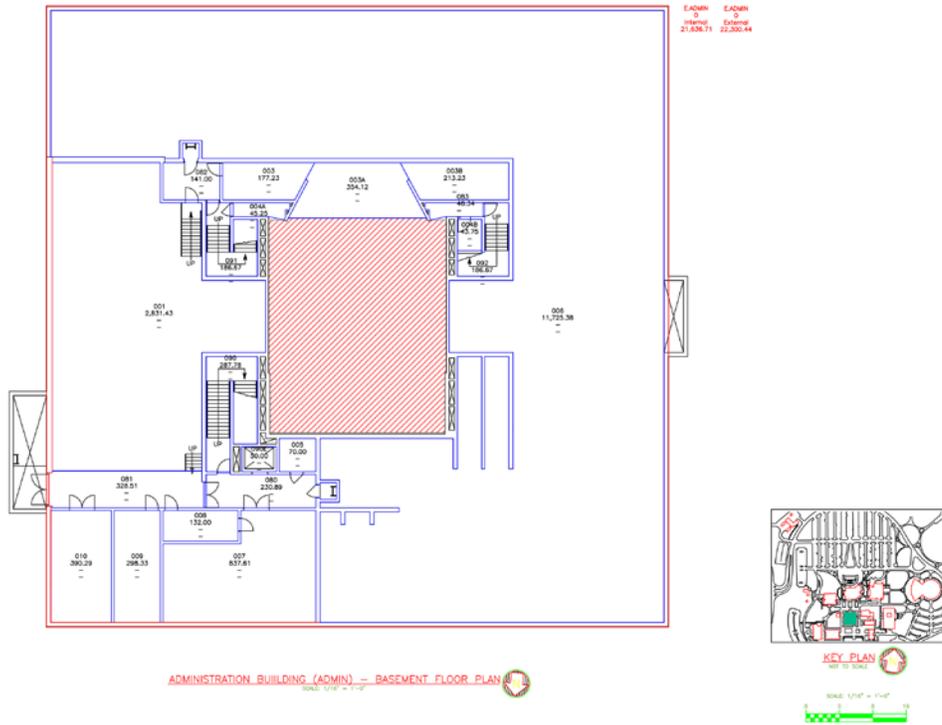


Nursing Lab



Board Room

Floor Plans



CCBC Facilities Master Plan Update 2015: CCBC Essex



ADMINISTRATION BUILDING (ADMIN) – SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"



ADMINISTRATION BUILDING (ADMIN) – THIRD FLOOR PLAN
SCALE: 1/16" = 1'-0"

Business, Education and Social Sciences Hall

Building Description

Building Designation	BESS
Number of Floors	3
Net Assignable Square Feet	30,991
Gross Building Area - GSF	50,048
Net-to-Gross Efficiency	61.9%
Year Constructed	1976
Renovations	Misc.- Learning Assistance Center, Welcome Center 1999 Reading center demolished 2001 Admin Offices, Continuing Education 2003 Unit ventilators replaced 2004 New roof, admin office, business division 2005 Elevator refurbishment 2005 Re-insulate above ceiling chilled water piping and replace ACT panels 2011 Restrooms renovated 2011 foundation underpinned on SW corner of building 2012 Faculty office refurbishment 2014 ADA compliant handrails installed in stairwells
Additions	None
Contains	First floor: Offices, Classrooms, Con-Ed labs, Business Division labs Second & Third floors: Offices and classrooms for Social Sciences, Business and Education programs
General Condition	Good
Adequacy of Space	Adequate for current functions but needs to be considered in overall context of campus space needs.
Sprinkler System	Minimal – janitor closets
Accessibility	Partial Almost fully accessible.

General / Architectural and Structural

This building is very plain in appearance and it is the most organized and efficient in layout for use as a classroom facility, providing a large portion of the classrooms on campus. The 3-story, steel framed structure with masonry walls was constructed in 1976. A new roof was installed in 2004. Except for windows, the building envelope is in good condition. The lighting is functional and adequate. The overall condition is good.

The first floor office spaces are well organized and there does not appear to be any overcrowding. The classrooms on the second and third floor are clean and functional. Faculty offices are full and some contain two occupants, and probably do not meet minimum area requirements. While every available space is utilized on the top two floors there is no equipment storage in corridors.

This building is the most effective in terms of its function, since it still houses the same type of lecture oriented classrooms it was designed for. Use of computers and electronic teaching aids has become ubiquitous since the last master plan. All mechanical equipment will need to be modernized and replaced.

Reported Deficiencies:

- a. Windows are in need of replacement due to being single glazed units with many units not able to be closed properly as the wind has sprung almost all of the side-hinged operable windows. Intake louvers for the unit ventilators will also need to be replaced with the window units.

Mechanical

Existing Systems:

- a. The building receives hot or chilled water from the Central Utility Plant and distribution system. Hot water serves the heating coils on two (2) air handling units, as well as perimeter convectors and unit ventilators. Chilled water also serves the two (2) air handlers, as well as the unit ventilators throughout the building.
- b. Air Handling Unit #1 is a thirteen thousand (13,000) CFM variable volume reheat unit, originally designed for twenty-five percent (25%) minimum outdoor air, one and twenty-five one-hundredths (1.250) inches of static pressure, and a ten (10) horsepower supply fan motor. This unit also has a thirteen thousand (13,000) CFM return air fan rated at one-half (1/2) inch of static, with a five (5) horsepower motor.
- c. Air Handling Unit #2 is again a variable volume reheat type unit designed for six thousand two hundred, (6,200) CFM supply air, twenty-five percent (25%) outdoor air, one and one-tenth (1.1) inch of static pressure, and a five (5) horsepower supply fan. This unit incorporates a return air fan rated at two (2) horsepower, six thousand two hundred (6,200) CFM, and five-tenths (.5) inches of static pressure.
- d. Air Handling Unit #1 serves the core areas of the First and Second Floor. Air Handling Unit #2 serves the Third Floor core areas.
- e. Supply air from the air handling units feeds a number of variable volume dump type boxes located in the interstitial spaces between suspended ceilings and slabs on each floor. The VAV boxes incorporate reheat coils to further boost air handler supply temperatures upon a call for heat in the space.
- f. Standard pneumatic wall thermostats control the VAV boxes so that at space temperatures below thermostat set-point the reheat coil is in full flow to the coil; and the VAV damper on the box is full open to maximum supply air into the space. As space temperatures approach set-point from below, supply air is reduced by modulation of the damper on the VAV box, with the reheat coil still at maximum heat. Upon attainment of minimum supply air, further increase in space temperature results in shut-off of the reheat coil, reducing supply air temperature. Increases in space temperature beyond that point result in increased air flow at minimum temperature into the space.
- g. Close-off of the supply air damper results in supply air being "dumped" into the ceiling plenum for return to the air handling unit. The system is not truly variable volume, since the volume of supply air at the air handling unit fan is constant.
- h. There are twenty-one (21) such boxes within the building. In addition, there are nineteen (19) variable volume boxes with reheat coils in which the space thermostat modulates the supply air damper open and closed to maintain set-point.
- i. Supply air temperatures on the air handling units are reset according to outdoor air during the heating season, with 65°F supply air at 0°F outdoors, and 55°F supply air at 55°F outdoors. Supply air temperatures during the cooling season are set manually.
- j. Control of the unit ventilators serving the classroom areas is by standard pneumatic wall thermostats which modulate outside and return air dampers on those units, as well as control

valves on the heating and cooling coils. Upon a call for heat in the space, outside air dampers are at minimum position, return air at maximum position, and the coil control valve at full flow to the coil. As space temperatures approach set-point from below during heating operation, the coil control valve modulates toward closed. A rise in space temperature beyond that point results in opening of the outside damper and closing of the return air damper in order to reduce supply air temperature.

- k. Circulating hot water within the building is apparently reset according to outdoor air using a three-way diverting valve and pneumatic sensors and receiver controllers. The schedule, according to the control drawings, provides 180°F water at 0°F outdoors, with 120°F water at 60°F outdoors.
- l. The building is served by a number of exhaust systems, including five thousand (5,000) CFM of toilet exhaust.
- m. Occupied/unoccupied control of the building incorporates cycling of fans and air handling units and unit ventilators in order to maintain setback temperatures, along with warm-up cycle controls to minimize use of outdoor air during morning warm-up. Remote on/off control, programming and proofing of building systems are provided by a network link to a Siemens Building Technologies Apogee Energy Management System.
- n. Domestic hot water is generated by a fifteen (15) kW electric hot water generator. Storage temperatures on this unit are apparently maintained in the range of 105°F, which was the faucet temperature measured during the survey. Hot water use in the building is limited to lavatories.

Reported Problems:

- a. The building can run without the pump running if the outside air temperature is above 50°F. Below 50°F the heating water pumps must run; above 50°F to 60°F, the chilled water pumps must run. To heat the classrooms, the building must be in Winter mode. There is a return air problem on the First Floor.
- b. Automatic temperature controls are in an acute state of disrepair.
- c. There is water infiltration into the mechanical room, possibly from a leak in the hot/chilled water piping. There is also water that enters the diffusers on the floor.
- e. Two original AHU's need to be replaced.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Emergency lighting is provided by a diesel-driven generator.
- b. Lighting in Parking Lot #7 is fed from this building.
- c. Building interior lighting system is not state-of-the-art.

Reported Problems/Deficiencies:

- a. Fire alarm upgrade is not ADA compliant.
- b. Feeders to Lot 7 are original and have been repaired on numerous occasions.

Recommendations:

- a. Replace fire alarm system with code complaint system
- b. Replace feeder to Lot 7 in their entirety.
- c. LED lighting should be considered as a replacement to fluorescent with flexible lighting controls compliant with current energy codes, as funding becomes available.

- d. Provide sub-metering on building electric service.

Information Technology

Existing Systems:

- a. Room ME1-3 contains two data racks served by 30 multimode and 12 single mode fibers.
- b. Rooms L-307 & L-317 contain Smart Classroom technology.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Open Office Space



Computer Classroom

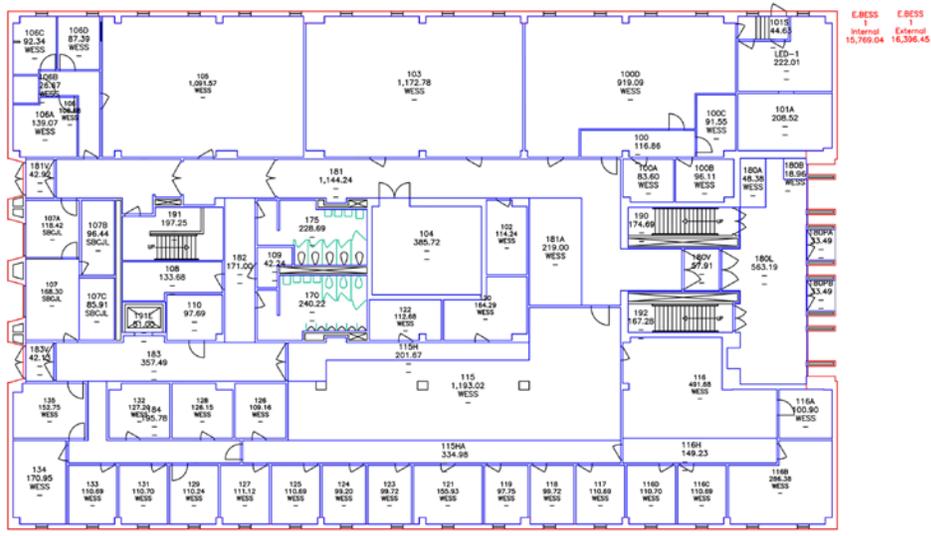


Classroom

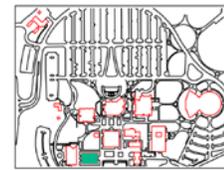


Corridor

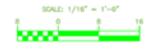
Floor Plans



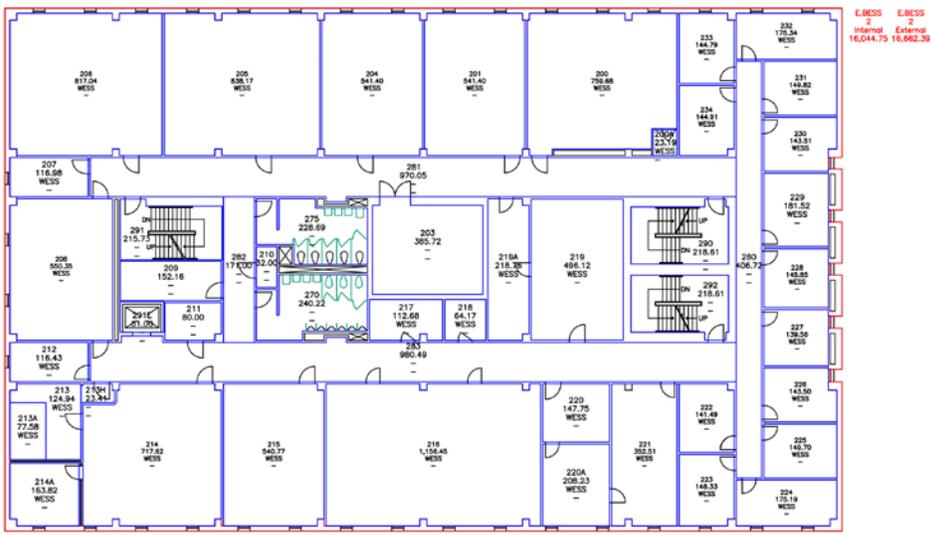
BUSINESS, EDUCATION, & SOCIAL SCIENCES HALL (BESS) – FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



KEY PLAN
NOT TO SCALE

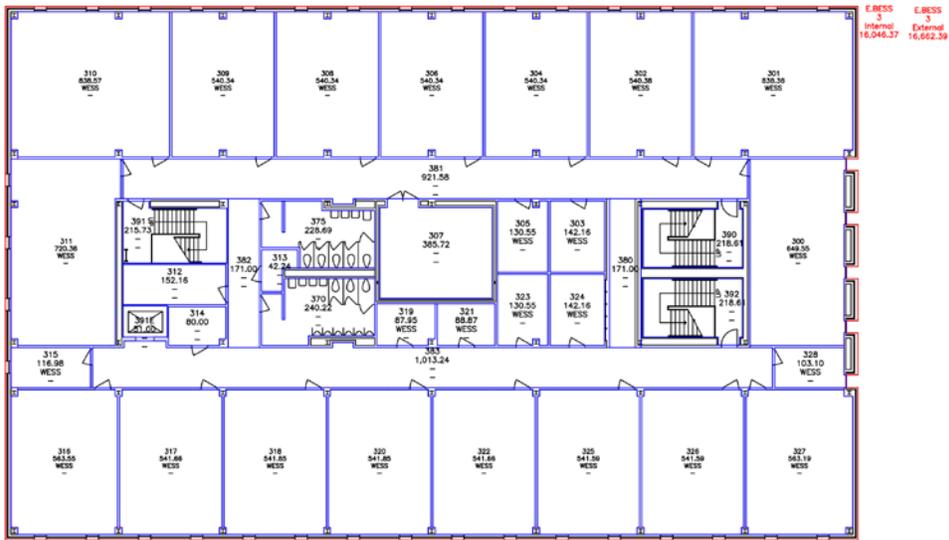


SCALE: 1/16" = 1'-0"
CBC ESSEX CAMPUS
BUILDING
FLOOR PLAN



BUSINESS, EDUCATION & SOCIAL SCIENCE HALL (BESS) – SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

CCBC Facilities Master Plan Update 2015: CCBC Essex



BUSINESS, EDUCATION & SOCIAL SCIENCES (BESS) – THIRD FLOOR PLAN
SCALE: 1/16" = 1'-0"

Technology Services Center

Building Description

Building Designation	TECH
Number of Floors	2
Net Assignable Square Feet	2,528
Gross Building Area - GSF	3,838
Net-to-Gross Efficiency	65.9.%
Year Constructed	1967
Renovations	1999 Abatement 2002 Major Renovation (Level 2 added)
Additions	New Electric Generator
Contains	Central Campus Information Technology Operations
General Condition	Good
Adequacy of Space	Adequate for functions contained
Sprinkler System	Yes
Accessibility	Partial; achieved through Building J

General / Architectural and Structural

This building is one of the original structures to be built and it is adjacent to the Administration building. It was originally built as a shell for a future planetarium but has been renovated and is currently occupied as the IT computer center for CCBC Essex.

The building was renovated to serve as the computer information center for the campus. A mezzanine was installed to increase its usable area. A bridge connecting to the second floor of administration was also constructed at the time of renovation. The building is a 1-story, steel framed structure with masonry walls constructed in 1967. A major renovation was completed in 2002. The overall condition is good.

Mechanical

Existing Systems:

Reported Problems/Deficiencies:

- a. Computer room A/C near end of life expectancy

Electrical

Existing Systems:

- a. Hand down generator from CCBC Catonsville was installed in 2002 to serve as backup power source for computer center as well as for the PBX telephone gear located in the adjacent Administration Building basement.
- b. Lighting systems utilize primarily T8 fluorescent lamps,

Reported Problems/Deficiencies:

- b. No reported problems.

Recommendations

LED lighting should be considered as a replacement to fluorescent with flexible lighting controls compliant with current energy codes, as funding becomes available.

Information Technology

Existing Systems:

- a. This building contains the Main Campus Computer Center. All fiber optic cables terminate in this building.
- b. The Main Computer Room contains four data cabinets, two for active electronics, one for fiber terminations, and one for patch panels.

Reported Problems/ Deficiencies:

- a. No reported problems.

Photographs



Building Exterior



Building Interior

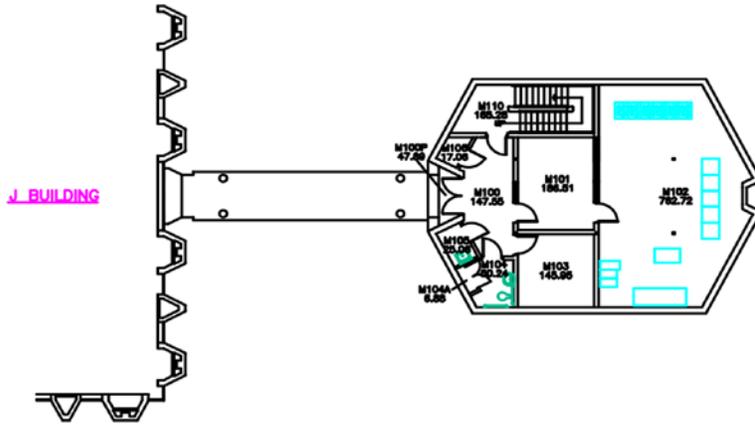


Office Space

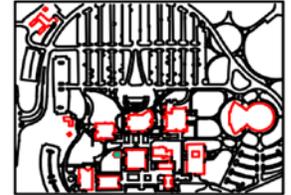


Computer Area

Floor Plans



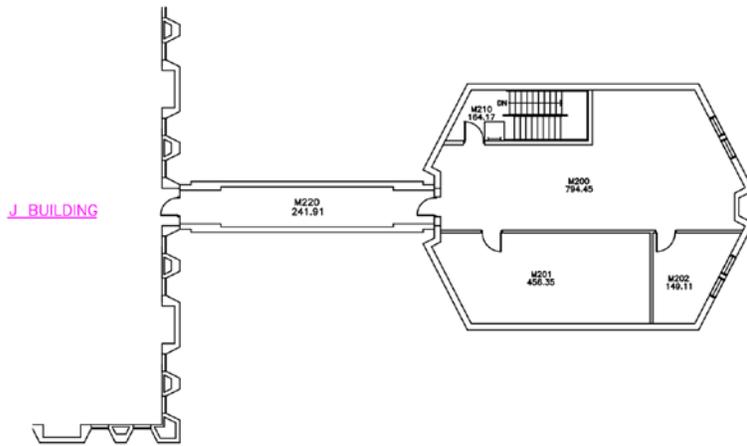
TECHNOLOGY SERVICES CENTER (M) – FIRST & SECOND FLOOR PLANS
SCALE: 1/16" = 1'-0"



KEY PLAN
NOT TO SCALE

SCALE: 1/16" = 1'-0"

**CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN**



AUDIO/VISUAL BUILDING (M) – FIRST & SECOND FLOOR PLANS
SCALE: 1/16" = 1'-0"

Health Careers and Technology Building

Building Description

Building Designation	HTEC
Number of Floors	3
Net Assignable Square Feet	32,938
Gross Building Area - GSF	51,500
Net-to-Gross Efficiency	64%
Year Constructed	1981
Renovations	Misc. – Business and Economic Development Center 2004 HVAC/Space Renovation 2006 Elevator Jack replaced 2008 Restrooms Renovated 2011 Roof Replacement 2014 Space renovated for Cyber Security Program
Additions	None
Contains	First Floor: Business and Economic Development Center, classrooms, Con-Ed labs Second Floor: Lecture halls, classrooms and offices for SHP programs Third Floor: Divisional offices of SAIT, faculty offices for SHP plus classrooms and labs, Cyber Security program space
General Condition	Poor to Fair
Adequacy of Space	Inadequate for many of the current functions but better for CEED and SAIT functions than SHP functions.
Sprinkler System	Fully sprinklered.
Accessibility	Mostly accessible; tiered lecture halls are the most problematic.

General / Architectural and Structural

The building is one of the newest on campus at 35 years old, designed to match the brick exterior of the adjacent buildings. There is extensive use of computers throughout the SAIT spaces on the second floor with a need for more in the future. All of these spaces are handled by separate air conditioning units with a need for more units as computer classrooms are added. Centralized cooling to handle computer environments should be considered. Lighting appears to be adequate, although corridors are dim. All lecture halls, computer labs and demonstration classrooms should have dimmers on lights.

Functionally, the building is fairly efficient but does have some parallel circulation corridors. The offices and classrooms on the third floor are full but don't appear overcrowded. There is a variety of classrooms on the second floor including specialized rooms for Physicians Assistants. All are functional, thanks to recent technology upgrades. The two lecture halls extend into the lower floor and they contain some video and electronic teaching equipment. However, sight lines, acoustics, and accessibility are problems for both of these spaces.

The Economic Development Center is available for use by the business community for teaching and seminar space. These meeting rooms must also be available for use by the campus as general classrooms.

This building is also functionally sound. Expansion of health professions in the short term will require additional space within the building. Space for the respiratory care lab or the dental assistants' lab would seem to make sense adjacent to the Physicians Assistant program. The mechanical and electrical systems should be improved to solve operational problems and better serve the computer environments. This is a future, long term project.

Reported Deficiencies:

- a. Water infiltration into lower level spaces has been a recurring theme for this building and repeated attempts to thwart the influx of groundwater have met with limited success.
- b. There are many bricks that are either missing or cracked, apparently as a result of the rain water infiltration and subsequent freeze action.
- c. There exists grading problems on the high side of the building.
- d. Site masonry retaining walls have also experienced failures of bricks with many of them missing.
- e. The exterior stair assembly on the south end of the building is cast in place concrete and is a visual mess and safety hazard with the deterioration of the treads/risers due to chloride intrusion and subsequent rebar oxidation/expansion.

The building is a 3-story, steel framed structure with masonry walls constructed in 1981. Other than mechanical/electrical systems, the overall condition of the building is fair.

Reported Deficiencies:

- a. Water infiltration through masonry envelope into building. This is a chronic problem.

Mechanical

Existing Systems:

- a. The building is connected to the central utility plant through an underground supply/return distribution system for heating and cooling. Fresh air is supplied through a central fresh air unit to the building space. The general building exhaust is to the outside through the fresh air unit. Only the AV space, kitchen hoods, and fume hoods exhaust directly to the outside. Heating is accomplished by forced air over a coil through which hot water is circulated. Cooling is accomplished by forced air over a coil through which chilled water is circulated. Make-up components of the HVAC System include:
 - 1) Four (4) air handling units (AHU's).
 - 2) One (1) Fresh Air Supply Unit (FAU) (new 2004).
 - 3) Forty (40) Fan-coil units (Ceiling-mounted).
 - 4) Five (5) Unit Heaters.
 - 5) Two (2) Hot-water supplies to FAU pump.
 - 6) Two (2) Chilled water supply pumps.
 - 7) One (1) Hot-water supply pump.
- b. Domestic hot water is provided by a hot water heater of the helical-coil design with boiler water in coils and domestic water in shell. The heater is capable of heating 15 GPM.
- c. Remote on/off control programming and proofing of the building system are provided by a network link to a Siemens Building Technologies Apogee Energy Management System.
- d. Additionally, many wall units are utilized for conditioning perimeter spaces.

Reported Problems/ Deficiencies:

- a. All fan coil units are old and rusted and need to be replaced.
- b. Pipe insulation has been replaced in building except in rooms 218 & 220.

- c. All piping at wall penetrations is showing signs of advanced corrosion and will likely fail in the near future unless it is replaced soon.
- d. The building has exhaust air issues which could easily be solved with an ERV with an economizer cycle or to install exhaust fans.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Emergency lighting is provided by a combination of UPS units and wall-mounted battery packs.
- b. Generator, fire alarm, and lighting recently installed.

Reported Problems/Deficiencies:

- a. The building has a history of flooding and leaks at the basement floor. Existing raceway, conduits, and boxes are showing signs of rust and water contamination.
- b. This building experienced an under-slab electrical fire in 2013.
- c. There is much water infiltration at the mechanical/electrical room causing much corrosion and making normal maintenance and servicing of items problematic.

Recommendations

- a. Replace all Electrical raceways, conduit, wiring and boxes affected by the basement flooding.
- b. Provide sub-metering of building electric service.

Information Technology

Existing Systems:

- a. Room 219 contains two data racks served by 30 multimode and 12 single mode fibers.

Reported Problems/ Deficiencies:

- a. No reported problems.

Photographs



Building Exterior



Multi-Use Instructional space



Office Area



Computer Classroom



Cyber Security Suite



Tiered Lecture Hall

James A. Newpher Library

Building Description

Building Designation	LIBR
Number of Floors	3
Net Assignable Square Feet	25,037
Gross Building Area - GSF	40,280
Net-to-Gross Efficiency	62.2%
Year Constructed	1969
Renovations	1991 Asbestos abatement 1992 Interior renovation 1997 New built-up roof 1998 Career development center, study rooms 2002 Data closet cooling 2004 ADA upgrades 2010 Renovation of basement for two classrooms 2013 Restrooms renovated 2014 New front door assemblies installed 2014 Carpeting replaced and walls painted on 2 floors
Additions	None
Contains	First floor: Library, Center of Learning Excellence Second floor: Library Basement: storage, classrooms, mechanical
General Condition	Good
Adequacy of Space	Inadequate
Sprinkler System	Partial
Accessibility	Partial

General / Architectural and Structural

The library is a 46-year-old facility, which has had some building renovations in recent years, to abate asbestos and improve the function of interior spaces. However, as a resource center, the library lacks many of the support spaces and systems associated with a 21st century learning center. While many handicap accessibility issues were addressed in previous renovations, the staff survey points out the need for additional changes (wheelchair and vision impaired access to the elevator, wheelchair access to second floor stacks, handicap access to reception desk and access to homework lab). The building is in good condition primarily due to its recent renovations. The space allocated for library seems adequate and the staff spaces are full but are not yet overcrowded. There are no windows in the technical staff area.

In the short term, additional office space could be generated by relocating Media Delivery and Repair to renovated basement space. Additional study rooms are needed and existing study rooms will need upgraded technology.

There is a current and projected deficit of reading and stack space which translates into a need for a major addition to this building. Future growth will involve increased use of computers, access to the Internet and staff to maintain electronic reserves and the electronic media. Existing and new mechanical equipment and electrical wiring will be needed to handle the increase in computers. Current ADA accessibility issues will be resolved as a result of this addition. This is a future, long term project. The loading dock area of this building should be better screened from the main campus roadway.

The building is a 3-story, steel framed structure with masonry walls constructed in 1969, renovated in 1992, and a new roof installed in 1997. The overall condition of the building is good.

Mechanical

Existing Systems:

- a. The building receives hot or chilled water from the Central Utility Plant and distribution system. Hot water serves a large air handling unit heating coil. Chilled water serves the air handling unit chilled water coil. There are no perimeter systems, with the exception of some supplemental baseboard and some unit heaters serving a few areas. The air handling unit is a double duct system, rated currently at thirty-five thousand five hundred (35,500) CFM at four (4) inches of static pressure. The unit is served by a sixty (60) horsepower supply fan and provides conditioned air to all spaces within the building. The system also incorporates a large return air fan currently rated at thirty-two thousand six hundred fifty (32,650) CFM at one and five-tenths (1.5) inches of static pressure, served by a twenty (20) horsepower motor. AHU and return air fan are connected to a variable frequency drive.
- b. The cold deck on the unit is maintained at a constant temperature by manual reset of a transmitter. The hot deck is rescheduled according to outdoor air using standard sensors and pneumatic receiver controllers.
- c. Remote on/off control, programming and proofing of building systems are provided by a network link to a Siemens Building Technologies Apogee Energy Management System.
- d. Control of the seventy-three (73) VAV boxes throughout the building is by pneumatic wall thermostats which regulate a "flapper" type damper on the box to proportion the amounts of hot deck and cold deck air in order to maintain space temperature.
- e. The air distribution system was upgraded in 1990-1991 to a ducted system to replace the original supply air plenum system.
- f. Domestic hot water is generated by an electric hot water heater rated at ten (10) kW. The building distribution system is served by a small in-line circulating pump. Faucet temperatures measured in the range of 105°F during the survey. Domestic hot water use within the building is limited to lavatories, and is not a major energy consumer.
- g. The sprinkler system was expanded to major spaces in the basement level in 2010.

Reported Problems:

- a. Public restrooms are not ADA compliant.; a unisex ADA compliant restroom is available near the 1st floor restrooms.
- b. The constant volume boxes, retrofitted to serve as VAV boxes, somewhat compound the heating/cooling problems of the space. Breakdowns are random and frequent; and operating efficiency is very low. Terminal units are old, duct liner is loose, pinot tubes are rusted, and actuators are bad. Need to replace all VAV terminal units.
- c. Chilled water coil in main AHU needs to be replaced.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Lighting within the building on Floors 1 and 2 is primarily fluorescent in four (4) thirty-two (32) watt tube recessed ceiling fixtures with electronic ballasts. Two (2) of the four (4) tubes in each fixture have been removed in 1991 as part of a comprehensive de-lamping program within the building. A small number of compact fluorescent fixtures serve the staircase areas.
- b. Emergency lighting is provided by wall-mounted battery packs throughout the building.

Reported Problems/Deficiencies:

- a. Needs generator to better serve emergency lighting and fire alarm.
- b. Lighting is not state of the art in terms of energy use and should be considered a good candidate building for a lighting fit up along with flexible lighting controls. There is not much opportunity for daylight harvesting in this building however.

Recommendations:

- a. Provide diesel powered emergency generator and emergency power distribution system to serve rewired egress lighting, fire alarm system and other critical branch circuit loads.
- b. LED lighting should be considered as a replacement to fluorescent with flexible lighting controls compliant with current energy codes, as funding becomes available..
- c. Provide sub-meter at building electric service.

Information Technology

Existing Systems:

- a. Room P-104 contains two data racks served by 18 multimode and 6 single mode fibers.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Open Space



Upper Level Stacks

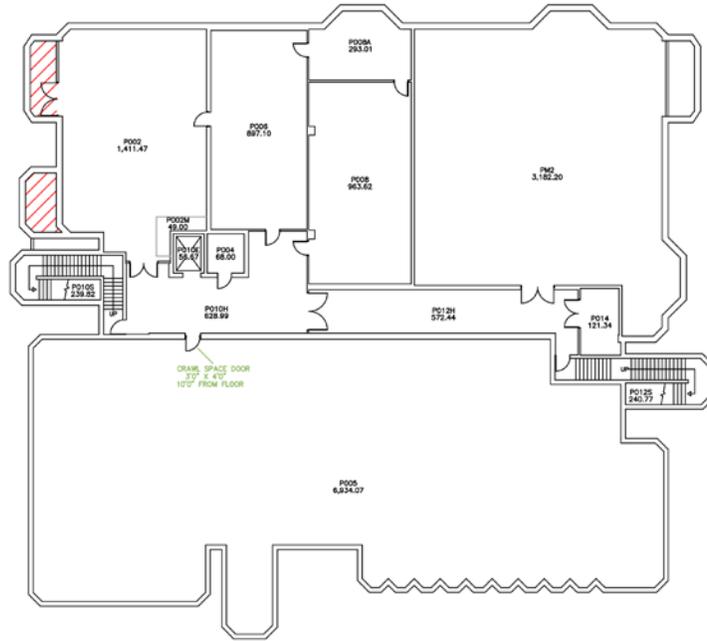


Staff Work Room

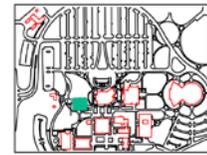


Classroom

Floor Plans



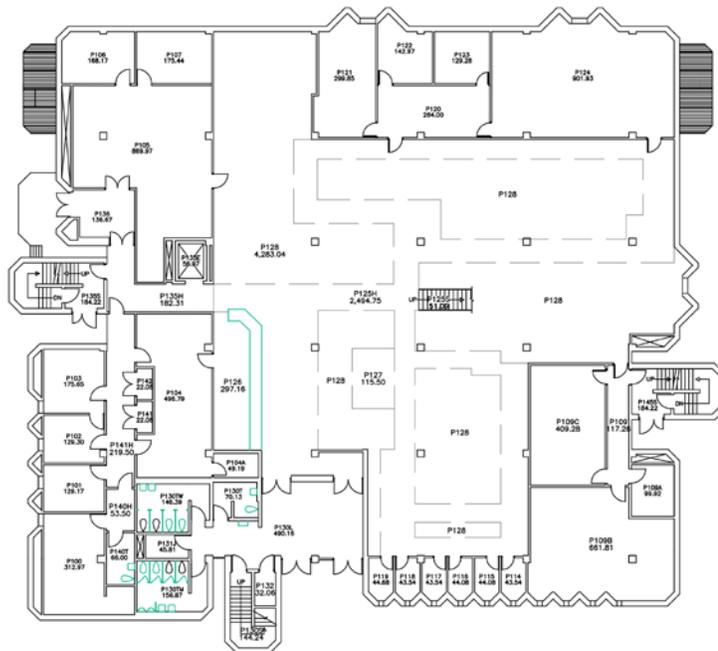
JAMES A. NEWPHER LIBRARY (P) – BASEMENT FLOOR PLAN
SCALE: 1/16" = 1'-0"



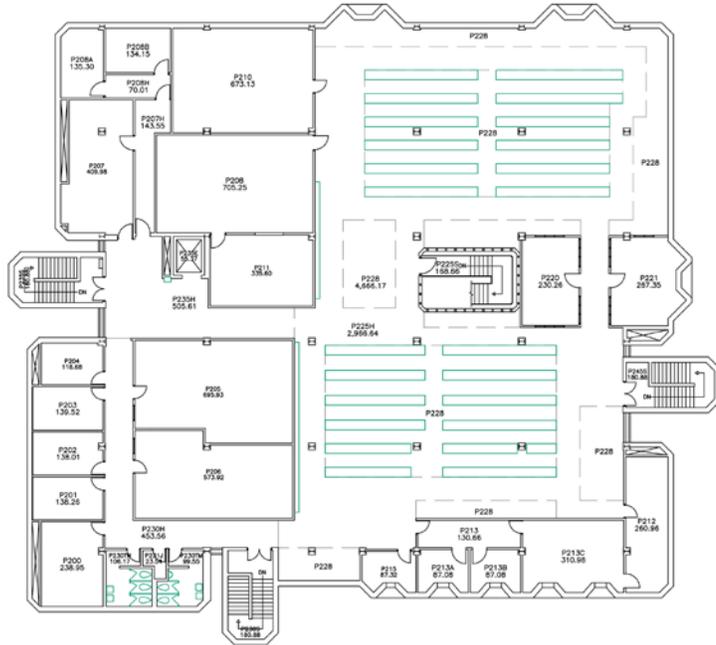
KEY PLAN
NOT TO SCALE



CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN



JAMES A. NEWPHER LIBRARY(P) – FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



JAMES A. NEWPHER LIBRARY (P) - SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"



Children’s Learning Center

Building Description

Building Designation	CHLD
Number of Floors	1
Net Assignable Square Feet	2,712
Gross Building Area - GSF	3,191
Net-to-Gross Efficiency	85%
Year Constructed	1987
Renovations	1988 Separate storage shed added 2001 Cupola new siding 2000 Fire Alarm system upgraded 2004 Roof shingles replacement 2012 Renovated restrooms and kitchen area
Additions	None
Contains	Day care and early child care
General Condition	Good
Adequacy of Space	Adequate for current needs
Sprinkler System	Fully sprinklered
Accessibility	Accessible

General / Architectural and Structural

The Children’s Center was built to house a day care center for use by the college staff and students. The building envelope is wood framing which allows for increased insulation values.

The building is readily identified with its sloping roof residential detailing and entry tower. It is a pleasant first visual experience as you enter the campus from Rossville Boulevard. It provides appropriately cheerful and bright environments for the children. The support spaces such as storage, office and TV viewing rooms are overcrowded. The main activity rooms also appear to be full to maximum capacity. The building is not considered to be a teaching facility but students majoring in early childhood education are afforded the opportunity to work here.

This building is basically sound and in good condition. However, an increased student and staff population will require more day care space. An additional wing would provide space for growth and an opportunity to improve existing space for staff and storage. This is a future, long term project.

The 1-story wood framed building with partial exterior masonry veneer was built in 1987 with a separate storage shed was added in 1988. Exterior improvements were completed in 2001. Roofing was replaced in 2004 and restrooms and kitchen area was renovated in 2012. The overall condition of the building is good.

Mechanical

Existing Systems:

- a. The building is not hooked up to the central heating/cooling power plant. The HVAC has two zones. There are heat pumps with economizer and fresh air intake capability. The backup heat source is electric resistive. The System has been balanced. It is equipped with duct smoke detectors to de-energize the system. Electric baseboard heat is also provided for floor play comfort.
- b. Sanitary - Gravity is towards the manhole at the Library.
- c. Sprinkler piping is above ceiling wet pipe system using Blaze Shield plastic pipe.

Reported Problems/Deficiencies:

- a. Sprinkler pipes have frozen and broken in extreme cold weather.

Recommendations:

- a. Consider changing the system to a dry-pipe type system or add heat trace to all above ceiling sprinkler pipe.

Electrical

Existing:

- a. Electric: Tapped off main feeder in route to Central Utility plant. Entry is through slab in conduit at the Southeast corner of the building. Secondary electrical service is 120/208V- 3 phase - 4 wire.
- b. Fire Alarm: Complete F.D. system installed and then replaced with EST-3 standard system in 2000.
- c. Emergency lighting is provided by wall-mounted battery packs throughout the building.

Reported Problems/Deficiencies:

- a. No reported problems.

Information Technology

Existing Systems:

- a. Room 104 contains one wall cabinet served by 12 multimode and 6 single mode fibers.

Reported Problems/ Deficiencies:

- a. None.

Photographs



Building Exterior



Playground

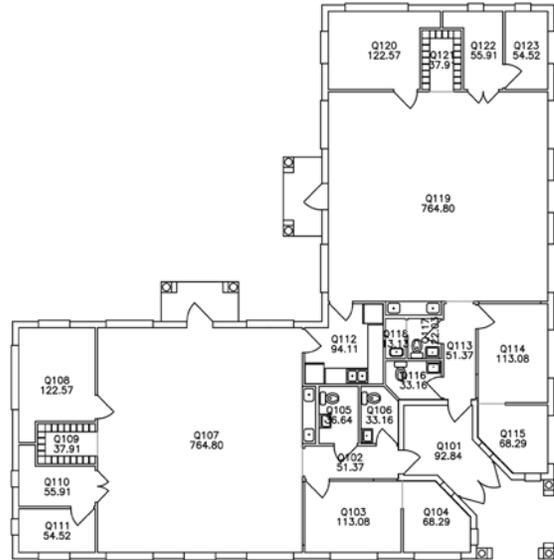
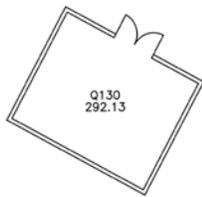


Classroom



Classroom

Floor Plans



CHILDREN'S LEARNING CENTER (Q) - FLOOR PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN
SCALE: 1/8" = 1'-0"



CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN

Facilities Operations Building

Building Description

Building Designation	OPER
Number of Floors	2
Net Assignable Square Feet	9,332
Gross Building Area - GSF	11,706
Net-to-Gross Efficiency	79.7%
Year Constructed	1978
Renovations	2011 Roof Replacement 2012 Office area renovation; limited HVAC upgrades 2012 Relocated data closet to lower level
Additions	None
Contains	Ground floor: Receiving, mail room, building, vehicle and grounds maintenance shops Second floor: Facilities management offices
General Condition	Fair
Adequacy of Space	Adequate for current needs except for storage of vehicles and outside materials
Sprinkler System	None
Accessibility	Limited

General / Architectural and Structural

This building is the second facility that visitors see as they enter the campus from Rossville Boulevard. While it is utilitarian, it is well organized and there appears to be space for equipment on site. The clutter that exists is in the adjacent service yard for vehicles, behind the building.

Functionally, the building is satisfactory. There is no overcrowding at this time. All maintenance and storage spaces are full. Each space opens directly to the outside which causes discomfort for staff moving about the building during the winter months. Break areas exist in each maintenance room but they are very makeshift.

As the campus continues to grow, this facility will need additions and renovations to keep pace. There is a significant need for a material and vehicle storage facility to consolidate equipment and improve the appearance of this operation from Rossville Boulevard. Additional planting screens would also be effective in this area. All maintenance shops should be renovated to provide improved working conditions for the staff. This is a future, long term project.

The conditions in the restrooms on the lower level are poor.

The building is a 2-story, steel framed structure with masonry walls constructed in 1978. The masonry veneer is supported laterally from metal studs in the second floor office portion of the building. The overall condition of the building is fair.

Mechanical

Existing Systems:

- a. This building is not hooked up to the Central Utility Plant. Heating is provided with 200°F hot water, generated in cast iron gas-fired boilers and pumped through two (2) AHU's. The boiler is Weil-McLain PG-1086W. The current boiler was replaced in 1996. Heating in the main building (upper level) is by ducted air supplied through diffusers. The remaining sections of the building are heated by fan-coil wall units and unit heaters. Cooling is accomplished through a combination of direct expansion cooling coils and through-the wall A/C units. The system is comprised of air-cooled condensers (2) and forced circulation AHU's with direct expansion coils and self-contained compressors. Cool air to the space is via flexible supply ducts above the ceiling. Ventilation is accomplished with a low velocity duct system terminating in duct-mounted type exhaust fans and louvers. Automatic temperature control is accomplished with sensor controllers, Honeywell thermostats, motorized dampers, and duplex air compressors.
- b. Domestic hot water is provided by a two hundred fifty (250) gallon water heater, PVI Model 2.0 SA-250-0 with 268 GPH recovery rate, 1/7 hour burner and 2 GPH firing rate.
- c. A forced sanitary sewer line is connected to the new 4" main and fed by a Duplex Sewage Pump (250 GPM at 70 HD). The sanitary line is buried in the earth and below the building within ten feet of the exterior wall, using cast iron pipe and fittings.
- d. The water service to the building is via an 8" water main connected to the existing 10" water main. Gate valve and drains are installed on the water service entrance to the building.
- e. The natural gas supply to the building was installed in 1996.
- f. Natural Gas to Boiler.
- g. Gasoline storage - Four thousand (4,000) gallon underground Fiberglass tank, remote monitoring of use, leak(s), water level, etc.

Reported problems:

- a. Heating/cooling of the second floor of the building is improved but not ideal. Space zoning does not entirely match the equipment configuration.
- b. Two (2) AHU's need replacement. Currently, the AHU's are adequate
- c. AHU located close to sewage ejector pump in one of the rooms; causes occasional odor when AHU fires up.
- d. Plumbing fixtures not adequately anchored to discharge piping. This allows release of sewer gas into spaces.

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. The primary electrical service at 13.2 kV is extended from the existing manhole at BESS building via an underground duct bank and direct-buried cable to pad-mounted 300 kVA transformer in the building. Secondary electrical service the building is 120/208 volts - 3 phase - 4 wire, terminating at the building's main switchboard.
- b. Lighting is a combination of fluorescent, incandescent, sodium and mercury vapor lighting fixtures.
- c. Fire Alarm System consists of an Edwards selective code, double supervised control panel. There is no sprinkler system.
- d. Emergency lighting is provided by wall-mounted battery packs throughout the building.

Reported Problems/Deficiencies:

- a. None reported.

Information Technology

Existing Systems:

- a. Room R-212 contains one wall-mounted cabinet served by 12 multimode and 6 single mode fibers.

Reported Problems/ Deficiencies:

- a. None reported

Photographs



Building Exterior



Building Exterior – Upper Yard



Building Exterior – Rear Lot



Mail/Receiving



Grounds Shop

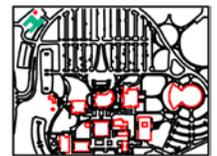


Carpentry Shop

Floor Plans



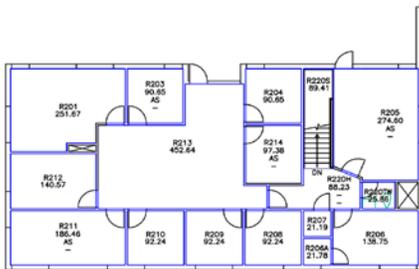
FACILITIES OPERATIONS BUILDING (R) — FIRST FLOOR & SECOND FLOOR PLANS
SCALE: 1/16" = 1'-0"



KEY PLAN
NOT TO SCALE



CCBC ESSEX CAMPUS
BUILDING
FLOOR PLAN



FACILITIES OPERATIONS BUILDING (R) — FIRST FLOOR & SECOND FLOOR PLANS
SCALE: 1/16" = 1'-0"



Classroom and Laboratory Building

Building Description

Building Designation	CLLB
Number of Floors	1
Net Assignable Square Feet	4,950
Gross Building Area - GSF	6,000
Net-to-Gross Efficiency	82.5%
Year Constructed	1967
Renovations	1973 Music room created 1988 Roof coating 1989 VAT abatement for music and kitchen 1992 Gas heat/electric cooling for music 2010-11 Entire interior spaces/systems renovated 2011 Asphalt emulsion coating of roof with top-coat of white acrylic
Additions	1970 addition of 800 SF on west end 1982 Ceramic kiln addition
Contains	Ceramics classroom and kiln, 2 science labs and 1 prep room, ,
General Condition	Excellent interior and roof; fair exterior skin
Adequacy of Space	Adequate.
Sprinkler System	None
Accessibility	Fully accessible

General / Architectural and Structural

This building was one of four original facilities built when the Essex campus was created. A temporary facility, it is reported in the campus facility inventory. It is a metal clad building which is not compatible with the brick finishes to be found in the central core. It provides space for the Ceramics program which are more appropriately located with the Humanities and Arts Building, and also contains 2 science wet labs and companion prep room which can be used when demand for lab space is high.

The building is a 1-story structure constructed in 1967 with an addition built in 1970 and then gut renovated in 2010-2011. Some of the exterior metal panels are dented. Handicapped accessibility has been accomplished. Windows and doors have been replaced although the siding still remains. The college is planning to re-clad the exterior with metal panels similar to those now on the adjacent Mathematics and Science Hall.

Mechanical

Existing Systems:

- a. This building is not hooked up to the central power plant. Heating is provided by several above ceiling mounted gas fired furnaces with a DX coil for cooling. Cooling is provided by an at grade mounted ACCU with dedicated refrigerant lines to the coils in the gas furnaces. Domestic hot water is provided by a 52 gallon, 4500-watt water heater.

- c. Sanitary - 4" PVC from several building discharge points runs by gravity to the new PVC line parallel to long edge of building and then into existing SS manhole.
- d. The water connection from the 8" main is a 6" DIP combination fire/domestic service. Connection was made using a TS&V.

Reported Problems/Deficiencies:

- a. Pipes in outside walls can freeze

Recommendations:

- a. Correct reported problems and deficiencies, noted above.

Electrical

Existing Systems:

- a. Electric: Feed from breaker in Power Plant through 50 kVA dry type transformer; secondary electrical supply is 120/240 single phase and 120/240 single phase.
- b. Lighting: Predominantly T-8 fluorescent, with limited CFL's.
- c. Emergency lighting is provided by wall-mounted emergency battery packs.

Reported Problems/Deficiencies:

Recommendations:

- a. None to report at this time.

Information Technology

Existing Systems:

- a. None.

Reported Problems/ Deficiencies:

- a. None.

Photographs

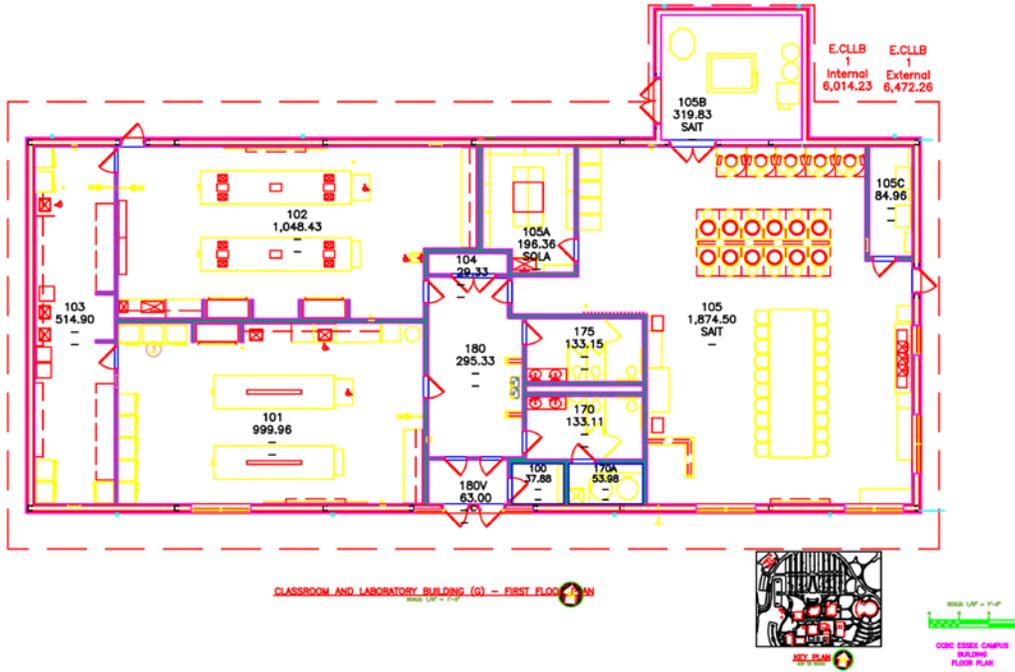


Building Exterior



Ceramics Studio

Floor Plans



CAMPUS-WIDE SYSTEMS

Electrical

Existing Systems:

- a. The existing campus site lighting system has been partially upgraded. Lot#1 has been upgraded. Lot#3 has new conductors. The lighting systems in the other lots are very old and have reached the end of their life expectancy. Some of the quad lighting has been replaced with LED type fixtures.
- b. Although the parking lots and building exteriors are provided with exterior lighting, the pathways or pedestrian sidewalks are not always well illuminated. There is an existing emergency call system at the campus. The system performs well and needs no attention at this time.
- c. The BGE feeder from Rossville Blvd has been replaced. A second BGE feeder is routed from Franklin Square Hospital to switchgear with a tie switch. The condition of this switchgear is questionable.
- d. Outages resulting from poor condition of campus feeders are reported to occur on average every six months.

Recommendations:

- a. The remainder of the existing campus site lighting system should be replaced with new parking lot and pedestrian site lighting consisting of pole-mounted lighting fixtures to serve the parking lots and attractive luminaries on 12-foot poles to serve the pedestrian pathways. This would improve the appearance of the campus at night and would provide a more secure campus for all faculty and students who attend evening courses.
- b. The new site and pedestrian lighting system should be provided with branch circuit wiring in PVC conduit to eliminate the maintenance and unreliability of direct burial conductors.
- c. Branch circuits should be divided up on the campus so two levels of illumination can be provided so that most of the site lighting fixtures can be de-energized at off-peak hours of operation to save energy.
- d. The new site and pedestrian lighting system should be provided with a state of the art automatic lighting control system to eliminate unreliable photocells and manual operation. Today's systems can be equipped to provide off-site lighting control utilizing the internet.
- e. Maintenance testing of campus primary feeders and replacement of any defective cabling is recommended. A complete replacement of any defective feeder is recommended.
- f. IR scanning of the primary switchgear is recommended to determine whether replacement is required.

Information Technology

Existing Systems & Reported Problems/Deficiencies:

None.

Recommendations:

None.

SITE INFRASTRUCTURE

OVERVIEW

CCBC Essex is located at 7201 Rossville Boulevard in eastern Baltimore County just outside the Baltimore Beltway I-695 off of the Philadelphia Road exit. The campus is bounded by Rossville Boulevard to the west, Franklin Hospital to the south and residential neighborhoods to the east and north. The property is zoned DR-5.5, Density Residential - 5.5 dwelling units per acre.

A visual review and cursory assessment of the CCBC Essex site infrastructure was completed in 2015 by Morris & Ritchie Associates, Inc. (MRA). Several campus visits were made during which we observed existing conditions and reviewed previously identified problem areas as reported by CCBC personnel. We also researched utilities with Baltimore County Department of Public Works (DPW), traffic control with Baltimore County Department of Transportation (DOT) and private suppliers such as Baltimore Gas & Electric (BGE), Verizon and Comcast.

The campus map is basically circular-shaped and consists of five parcels: 350, 359, 562, 640 and 645. According to current Maryland Department of Assessments and Taxation records the total campus area, as represented by the five parcels, represents 136.86 acres. Please note that the Mace Burial Plot represents parcel 597 and exists completely within campus property. It would appear that the Mace family would own some rights to gain access to the burial plot – mainly through the grassy area in between Lot 5 and the burial plot. During our field visits, we did not observe a worn path in the area. Note that the recent I-95 and I-695 interchange project has reduced the site area for Parcels 432 and 349 which are both listed as owned by Baltimore County.

Topography of the central campus core area is moderate and slopes downward in all directions at a slight pitch to College Drive, basically a loop road around the campus. Outside College Drive the topography continues to slope toward the lower elevations of Franklin Square Hospital, storm water management areas and woodlands.

MRA prepared a base map for the Essex Campus utilizing GIS information provided by Baltimore County. This base map was provided to the Campus Master Planner, Hord/Coplan/Macht (HCM), to use for their site analysis.

Overall the condition of the visual portions of the CCBC Essex site infrastructure was found to be in good condition. While specific areas of deferred maintenance existed, such as silt/leaf clogged storm drain inlets and areas of failed pavement, we observed the campus to be well maintained with planning efforts instituted to maintain the campus' good condition.

INFRASTRUCTURE REVIEWED

Sanitary Sewer

CCBC Essex discharges to the Baltimore County DPW 8 inch sanitary sewer line which runs underneath Parking Lot 4 and out through Franklin Square Drive in a southerly direction. The sewer line also serves Franklin Square Hospital, and is connected to the Rossville sub-interceptor/Stemmers Run interceptor. According to Baltimore County DPW, the 8 inch main in Franklin Square Drive has a 2009 reserve capacity of 200,000 gallons per day, which is available to both the Franklin Square Hospital and CCBC Essex. Based on Baltimore County DPW guidelines for colleges with non-residential students:

Peak Flow = 57.8 gallon/day/student and 0.36 gallon/square foot/day for offices

For CCBC Essex, this reserve translates into capacity for 3,460 additional students or 556,000 square feet of additional space.

Sanitary back-ups have lessened as the lines are occasionally blown out. Heavily populated of mature trees on campus have caused areas of root damage to the underground pipe lines. These are evaluated during the annual inspection and cleaning program.

Water System

The campus is served by an 10 inch water meter connected to a Baltimore County DPW 16 inch water main in Rossville Boulevard. The site water meter exists approximately 100 feet south of the entrance road just off the Rossville Boulevard property line.

Existing 8 inch and 10 inch main lines extend to and through the academic quad area and reduce to smaller mains serving the rest of the campus including the recreational facilities at the northeast corner of the campus. The 16 inch public main in Rossville Boulevard and the large on-site mains result in fire flow tests of over 2,000 gpm. The flows and pressure are not abundant, but appear adequate to sprinkler a 1- and 2-story buildings without a fire pump, depending on location and if designed carefully. Buildings taller than 2-stories or 2-story buildings in elevated or remote locations may need a fire pump to boost pressure. Buildings close to the area where the second flow test was taken, might work for a 3-story building without a fire pump. However, the flows do not meet ISO flow requirements.

Two other Baltimore County water mains can possibly be tapped as a second water service source for the campus if ever necessary. A 12 inch main runs along King Avenue to the north and another 12 inch main runs along Franklin Square Drive to the south.

Storm Drains & Storm Water Management

CCBC Essex is located on the Flood Insurance Rate Map #240010 0430 B and Baltimore County Metropolitan District Key Map I N.W. and M S.W. According to the drawings, the campus exists in Zone C, areas of minimal flooding - non-flood plain. Existing storm drainage is collected throughout the campus by a network of inlet catch basins and storm drain pipes which drain surface runoff and discharge into numerous major outfalls.

CCBC has worked extensively with the Maryland Department of the Environment to analyze and treat the storm water on the Essex Campus. CCBC provides quarterly reports to MDE on their pollution prevention plan and the goal is to reduce impervious coverage by 5.3 acres by 2019. Any proposed expansion or new construction must take this approved program into consideration.

Site Utilities

Several private utilities supply services to this campus including Baltimore Gas & Electric, Verizon and Comcast. BGE supplies natural gas to the CCBC Essex through two lines. A 4 inch 100 psi line which connects to the boiler room and a 1-1/4 inch line serve the Facilities Operation Building. In addition, a PR Station has been installed at the Central Utility Plant. There is no report of insufficient service.

BGE also provides two primary electrical feeders to the campus running parallel to the main water service line. Both feeders terminate at the Central Utility Plant switchgear. From there, medium voltage cables distribute electrical service to the individual building's transformer. During our recent stakeholder interviews, there were reports of power outages every 6 months. In addition, BGE is (or will be) replacing a 13 KV line that serves the campus.

Verizon serves CCBC Essex with a direct buried conduit line connected to the Administration Building where the PBX is located. Telephone and electric services are distributed throughout the campus in underground conduit. Internal fiber optic lines have not been mapped. Future building projects should help locate these lines for future reference.

Finally, Essex is in the process of installing a wide array of solar panel fields over existing parking lots. Once these are up and fully functioning, the Campus can reevaluate their electric usage and needs.

Roads & Parking Pavement

Two access roadways control vehicle traffic to and from the campus. The main entrance exists at a traffic light along Rossville Boulevard and a secondary access exists at King Avenue. Poor vehicular circulation exists flowing to the front entrance due to the current traffic patterns on the campus. The amount of traffic trying to access College Drive may be too great for the roadway pattern to handle. Vehicles often double and triple park in front of buildings, causing congestion in the adjacent parking lots along with vehicles traveling in the wrong direction on a 1-way road and a mix of pedestrians/vehicular crossing one another. Another bad mix of pedestrian and vehicle circulation was along Secondary Entrance Road with parked vehicles pulling out blind, into pedestrians and turning around to the King Avenue exit.

Baltimore County Traffic Engineering & Planning was contacted to request traffic signal Level-of-Service (LOS) ratings at, and adjacent to, the campus entrances. LOS ratings for the two traffic signals (rating A means a load factor of 0 percent – no vehicles wait past one exchange of red light, B is 1 – 10% load factor, C is 11 – 30%, D is 31 – 70%, E is 71 – 85% and F is failure 86% - 100%) were:

Franklin Square and Rossville Blvd. (Traffic Count on 7/31/2012) - - Rated B
 Philadelphia Road and Rossville Blvd. (Traffic Count on 07/21/10) - - Rated C
 Lillian Holt/Perry Hall Blvd. and Rossville Blvd. (Traffic Count on 07/06/10) - - Rated A

Note that traffic surrounding the campus has remained the same since the last master plan update.

The existing pavement around CCBC Essex was found to vary from good to poor condition. A portion of Parking Lot 1 was recently repaved, but the remainder of the lot is considered in poor condition. Asphalt paths by the Stadium were recently redone and are in great condition. Other pavement areas around campus also need resurfacing along with base repairs. Two plaza areas adjacent to the Student Services Center contain numerous open joints, allowing water to infiltrate under the pavement.

Campus parking is allocated to nine parking lots including Lot 8 which was striped prior to the last Master Plan update and contains a hot-mix surface course. A total of 2,592 spaces were counted during prior field visits. Existing parking meets the current demand.

Site/Parking Lot Lighting

Campus visits during the evening have verified that campus site lighting is adequate. Campus representatives reported that pedestrian site and security lighting are constantly worked on, but needs to be improved. Lighting for those parking lots that were upgrade with the solar arrays have been improved as part of the construction.

Handicap Accessibility

The campus core classroom buildings exist on a crest area, which is of higher elevation than parking lots. Major pedestrian walkways from the parking lots to the classroom building "plaza" area are too steep to provide proper access, thereby causing the campus to install site ramps. Several of these ramps are non-compliant to the latest regulations. Improvements to the reserved handicap parking spaces (lack of access aisles and proper signage), curb ramps and building ramps must also be completed. According to preliminary parking counts, it appears that the campus contains 62 reserved handicap parking spaces. This is below what is required by ADA regulations. CCBC continuously strives to add handicap parking spaces in the most appropriate locations throughout the campus to serve faculty, students and visitors.

Recreational Fields

A soccer/football stadium (with artificial turf), baseball field, basketball court, tennis courts, two soccer/multi-purpose fields and a practice field area exist on campus. A fitness trail and five pedestrian bridges have been installed on campus, prior to the last Master Plan update. A series of existing fitness workout stations exist along the bituminous walkway around the athletic area. Because both CCBC and Baltimore County High Schools hold sports events at the stadium, permanent restrooms, locker rooms and concession stand are recommended. The eastern portion of the tennis courts have experienced storm water ponding in the past due to the adjacent stormwater outfall being clogged.

Miscellaneous Site Infrastructure

A series of retaining walls exist throughout the campus to provide proper pedestrian, and handicap, accessibility. Screen walls have been installed around a majority of exterior mechanical equipment. Several attractive gazebo, arbor and canopy structures exist throughout the campus.



Recent paving improvements throughout the campus



New solar arrays to promote sustainability



Upgraded turf field and repaved track



Repaved multi-purpose paths throughout campus

SITE ANALYSIS

INTRODUCTION

CCBC Essex is located in the southeastern section of the county, near the interchange of I-95 and the Baltimore Beltway, off of Rossville Boulevard. The campus is well-defined and sits prominently on a gentle hill. The following paragraphs describe and analyze the existing campus in terms of overall campus organization, land use, access and vehicular circulation, pedestrian circulation, open space, parking and campus landscape. Refer to *Exhibit 4.1, Existing Campus Facilities*.

CAMPUS ORGANIZATION

Existing Conditions

The CCBC Essex campus organization is defined by a series of roads, open spaces and buildings. The majority of the campus buildings and parking resources are located within a loop defined by College Drive North and South. Some facilities, however, are located outside the loop including the athletic fields, Facilities Operations, the Children's Learning Center and some parking.

The primary organizing element within the campus is the east-west quad which essentially establishes a grid system around which most campus elements are organized. The buildings in the core campus are organized along east-west and north-south open spaces. The main parking lot (Parking Lot 1) is organized in a north-south arrangement. As one moves further out from the campus core, the grid organization begins to dissolve as topography and property lines heavily influence the arrangement of campus elements and forms.

Analysis

With most of the buildings tightly organized in the core, along a main quad on the highest elevations, the campus has a distinct "sense-of-place" with most of the facilities well connected in a coherent manner. Facilities Operations is the only facility that feels disconnected from the core, however, it is appropriate that this facility be located at the edge of the campus rather than in the center. The athletic fields are somewhat separated from the campus by the Wellness and Athletic Center and topographical change, however, this separation is appropriate for the use. In particular, there are no large parking areas between the campus core and athletic fields, making them feel more connected to the campus core.

The athletic fields are also organized on a grid; however, this grid is skewed from the campus core grid. In addition, the athletic fields also have a distinct "sense-of-place" as the fields are divided into a series of outdoor rooms created by the existing woodlands. As the campus continues to grow, the distinct campus organization of two different grids should be preserved and reinforced.

LAND USE

Existing Conditions

As with any institution, the land uses throughout CCBC Essex are varied. Most academic and administrative/support uses are located in or near the campus core, parking uses are concentrated in a ring around the core and athletics are located beyond the College Drive. A significant portion of the campus remains as open space, comprised of woodlands. The maintenance function of the campus is well-located outside of the campus core. *Refer to Exhibit 4.1 Existing Campus Facilities.*

Analysis

Generally, the distribution and grouping of land uses works well and is appropriate for CCBC Essex. An exception to this is the Children's Learning Center and Facilities Operations which are disconnected from other academic spaces by the College Drive loop. It is appropriate, however, that these uses have some separation from the other facilities located in the campus core.

ACCESS AND VEHICULAR CIRCULATION

Existing Conditions

The campus is served by one primary access (College Drive North from Rossville Boulevard) and one secondary access from King Avenue. College Drive North circles the top half of the campus and becomes College Drive South on the southern half of the campus, between it and Franklin Square Hospital Center. Three significant drives extend off of College Drive North and provide access to the parking areas and the Campus Core and include South Lane, Division Lane and East/West Horseshoe. The Horseshoe is the primary visitor drop-off to Student Services Center and the visitor parking area. Several other drop-off loops occur along College Drive including north of Wellness and Athletics Center, Dome Spur (adjacent to the Children's Learning Center), adjacent to the Library, adjacent to Health Careers & Technology Building, and adjacent to Math & Science Hall and Arts & Humanities Hall. Wayfinding signage along College Drive and throughout the campus directs visitors to various campus facilities. *Refer to Exhibit 4.2 Vehicular Circulation*

Analysis

The main and secondary access points to the campus are well-defined and are clearly identifiable, providing a positive arrival experience for campus staff, faculty, students and visitors. College Drive North and South establishes a loop, however, the organization of this loop somewhat dissolves on the western edge where a portion of it occurs within a parking bay. The result is that the arrival sequence between the main entrance and the visitor drop-off of South Lane is somewhat confusing. First time, and even repeat, visitors naturally proceed into the parking lot along Division Lane. While this will lead them to the Horseshoe, this is not initially clear and one gets the impression they are just entering the parking area. As the campus continues to grow, consideration should be given to establishing a clearer arrival sequence and enhancing wayfinding signage.

Another concern with the circulation system is that all parking bays in Parking Lot 1 feed directly into College Drive North, South Lane and Division Lane, creating significant congestion during peak traffic times, particularly along College Drive North. Consideration should be given to using medians and planting islands to limit the number of access drives that connect directly with College Drive North.

PEDESTRIAN CIRCULATION

Existing Conditions

The Campus Drive loop road and location of most parking facilities along the perimeter of the campus core (inside the loop) allows for a predominantly pedestrian campus, with few vehicular/pedestrian conflict areas. The exception to this occurs between the campus core and the athletic fields and between the campus core and the Children's Learning Center. The pedestrian network extends into the athletic/recreation district with a fitness trail, linking the athletic fields with each other and to the campus core. A paved section of the fitness trail follows along the boundary between the campus and Franklin Square Hospital along Parking Lots 3 and 4 leading towards Parking Lot 1. Pedestrian access to surrounding neighborhoods is limited to the few sidewalk links between the Franklin Square Hospital and the campus. Sidewalks along Rossville Boulevard are discontinuous along the campus frontage and there lacks sidewalk connections from the public right-of-way into the campus. Rossville Boulevard is scheduled to receive dedicated bike lanes connecting from Pulaski Highway to the campus. The long and steady rise in elevation from Pulaski Highway and the dispersed nature of land uses in this area of Baltimore County does not enhance the attraction to bike or walk to school. Refer to *Exhibit 4.3 Pedestrian and Bike Circulation*.

Analysis

Within the campus core, the pathways are quite generous and often occur in the form of paved plazas, providing a clear hierarchy of primary and secondary pedestrian routes. While there is a clear hierarchy, in many cases there appears to be excessive paving, particularly in the main quad between Student Services Center and Administration Building. The pathways within the athletics/recreation district are quite successful and provide an enjoyable experience for people spending time in this district. The orientation of parking bays in Parking Lot 1 facilitates good pedestrian circulation between most of the parking resources and the campus core, as people naturally walk along the drive aisles of parking bays. This does result in multiple crossing points (and conflicts) along Division Lane and South Lane.

While there is a good pedestrian network on campus, there are some challenges associated with the topography, although not as great as on the Catonsville campus. Having to walk up hill to the campus from the parking areas, particularly from Parking Lot 1 accentuates the distance one has to walk to get to the campus core. In addition, some additional pathways are required to better accommodate pedestrian routes including an additional route from Parking Lot 3 up to Arts and Humanities Hall. Completion of sidewalks along Rossville Boulevard and path connections from the right-of-way is a strategy to encourage walking to school. A shared use pathway or dedicated bike way from Rossville Boulevard to the campus core in the vicinity of Parking Lot 5 offers a gentler gradient and more direct connection for pedestrians and cyclists. Where possible, a bike route should avoid traversing parking lots and intersections along College Drive. Bike racks should be located at highly visible, safe and convenient locations adjacent to building entrances. However bike racks should not obstruct pedestrian space, particularly inside the campus core. Amenities such as access to showers, lockers and covered bike storage should be provided to encourage year-round bicycle commuters.

OPEN SPACE

Existing Conditions

The campus consists of a variety of open spaces including the main quad areas in the campus core; landscaped perimeter areas along Rossville Boulevard and individual buildings; the athletic/recreation fields; wooded groves and a significant established woodland along the northern perimeter of the campus. In addition, Parking Lot 1 contains significant bands of open space between each parking bay. The athletic fields are open for community use from 6-10 pm Monday through Saturday. Athletic fields are also used by Eastern Tech High School. The performance field utilizes artificial turf. The tennis courts are in need of repair including resurfacing with new nets and fencing.

Analysis

With the exception of the athletic fields, the main quad areas provide the most useable open space because they are the primary spaces through which pedestrians travel and also the spaces onto which most of the campus buildings face. The main quad/plaza space located between Student Service Center and Administration Building is clearly the “heart” of the campus where there is a significant amount of pedestrian activity and opportunities for social interaction. This space, along with several other spaces within the campus core, are well-defined by buildings and trees and are quite legible as quad spaces, however, there tends to be more pavement and hard surfaces than is necessary. Some refer to this as the “concrete highway”. Other spaces, particularly those adjacent to Arts and Humanities Hall, College Community Center, Central Utility Plant and Classroom and Laboratory Building are less defined even though they have strong architectural edges. This is attributed to a number of factors including adjacencies to blank walls, insignificant tree cover/definition or insignificant pedestrian walkway areas. The landscaped setback area along Rossville Boulevard is well-maintained and provides an attractive front lawn and “public face” image for the campus at its main entrance. *Refer to Exhibit 4.4 Open Space Typologies.*

As the campus continues to develop, special attention should be given to preserving the existing open space network and using new buildings and landscape elements to continue to reinforce the quad spaces. Special attention should be given to orienting building entrances and windows onto the quad spaces to further activate them, particularly those that are currently less defined. In addition, attention should be given to reducing excessive expanses of paving in pedestrian areas, such as the main quad between Administration Building and Student Services Center.

The athletic fields illustrate good examples of integrating active recreation into a park-like setting by preserving significant stands of vegetation to create separate “rooms” for the fields and taking advantage of the topography to create additional separation of use areas. This works particularly well for the field east of Wellness and Athletics Building which is used for student gatherings and graduation in addition to recreation.

PARKING

Existing Conditions

As summarized in a table in Chapter 3, the CCBC Essex campus has 9 numbered parking lots, 7 parking areas associated with buildings and parking along the College Drive North, College Drive South, Dome Spur, Secondary Entrance Road and South Lane, totaling approximately 2,592 spaces. Parking spaces are divided into 5 categories including 2,107 for students, 360 for faculty/staff, 62 accessible, 9 for service and 54 other (visitor, reserved, pick-up and motorcycle). *Refer to Exhibit 4.1 Existing Campus Facilities*

Analysis

In terms of distribution, parking is not evenly distributed around the perimeter of the campus, as most of the parking resources are located within Parking Lot 1 on the north side of the campus core. Many of the spaces within this lot are over 600' from the campus core. The topography creates the perception that these parking resources (on the north side of campus) are even further away than they actually are. Unlike CCBC Catonsville, the parking bays are oriented perpendicular to the slope (and campus core) allowing for direct pedestrian circulation along the drive aisles. The parking lots on the south side of the campus core are oriented parallel to the slope, thus pedestrian access is not as clear cut. The topography does make the parking lots on the south side ideal for structured parking which could be designed to have access at multiple levels, without internal ramping. Parking Lot 1 is heavily treed with natural woodlands, providing shade and comfort for pedestrians as opposed to Parking Lots 5 and 6 which have no shade. Aging, deteriorating and pruned trees as well as recent woody shrub and brush removal has opened up the views between parking bays of Lot 1 and the campus.

As the campus continues to develop, opportunities to construct structured parking need to be preserved, particularly close in to campus. With some surface parking areas already located 600' from the campus core; continued development of surface parking areas will only create greater walking distances.

CAMPUS LANDSCAPE

Existing Conditions

The landscape at CCBC Essex is comprised of manicured lawn areas, natural woodlands, and groves of trees. Planting islands are provided throughout all of the parking areas; parking Lot 1 is unique as it is characterized by broad wooded medians. Trees within the athletic/recreation district subdivide this district into smaller and distinct areas. *Refer to Exhibit 4.4 Open Space Typologies.*

Analysis

The diversity of landscape settings results in a rich campus experience for those using and visiting the campus. The extensive woodlands distinguish this campus from CCBC Dundalk and CCBC Catonsville and the wooded parking lot, in particular, distinguishes the CCBC Essex campus from many other college campuses. One of the most striking features of the CCBC Essex landscape is how the woodlands seem to extend right into the campus core, creating a strong relationship between the natural and man-made

environments. This effectively extends into the athletic/recreation district as well. The result is a series of athletic fields set within a park-like setting, providing shade for players and spectators alike.

Many canopy trees occur throughout the campus, and those within the main quad areas play a significant role in making these attractive spaces. A notable example is the main plaza area between Administration Building and Student Services Center. The presence of the mature Oaks provides shade and helps to reduce the scale and massiveness of some of the adjacent buildings as well as the expansive paved areas. The quad area as defined by Central Utility Plant, College Community Center and Arts and Humanities Hall on the other hand is not as comfortable and attractive because there are predominantly small ornamental trees that are not as effective at providing shade or reducing the scale of large blank walls (such as on Central Utility Plant).

Canopy trees also allow unobstructed sight lines beneath their canopies which is an important consideration in terms of safety and perception of safety. As the campus continues to grow, it is important to emphasize the planting of new canopy trees to increase the overall tree canopy and to establish "replacements" for those trees nearing the end of their lifespan. In particular, more canopy trees should be planted in the parking lots on the south side of the campus to provide shade and break up large expanses of parking. In addition, the College may need to prepare a Forest Stand Delineation and Forest Conservation Plan, particularly if any existing wooded areas will be impacted during future campus development.

While the campus does not have significant areas of accent plantings, there are some in important locations such as outside of Administration Building and within the main quad area between Administration Building and Student Services Center. These accent plantings help make the campus more pedestrian-friendly. The most successful of these accent plantings are those that utilize bold simple masses of plantings, with a limited plant palette, particularly because of the large scale and modern design of many of the buildings. Simpler plant beds also tend to be easier to maintain. In addition to accent beds, the College has done a tremendous job at incorporating flower pots throughout the campus. These are all well-maintained and convey a positive image for the campus.



Exhibit 4.1 Existing Campus Facilities

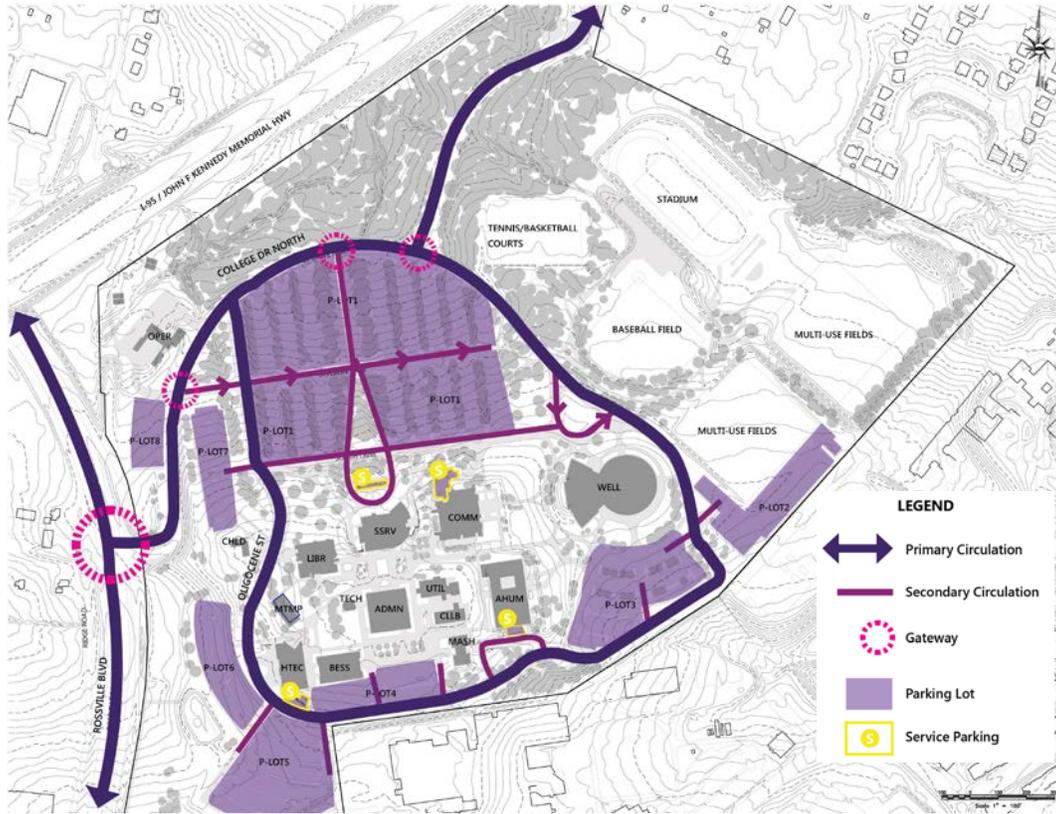


Exhibit 4.2 Vehicular Circulation

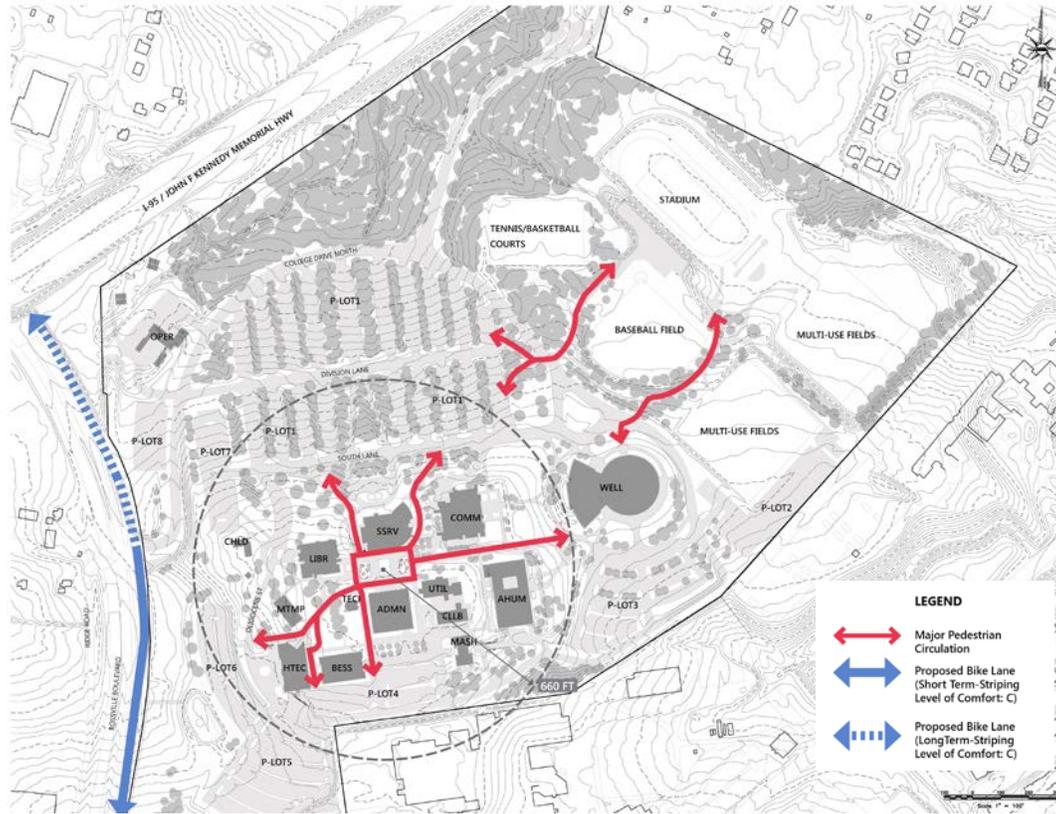


Exhibit 4.3 Pedestrian and Bike Circulation



Exhibit 4.4 Open Space Typologies

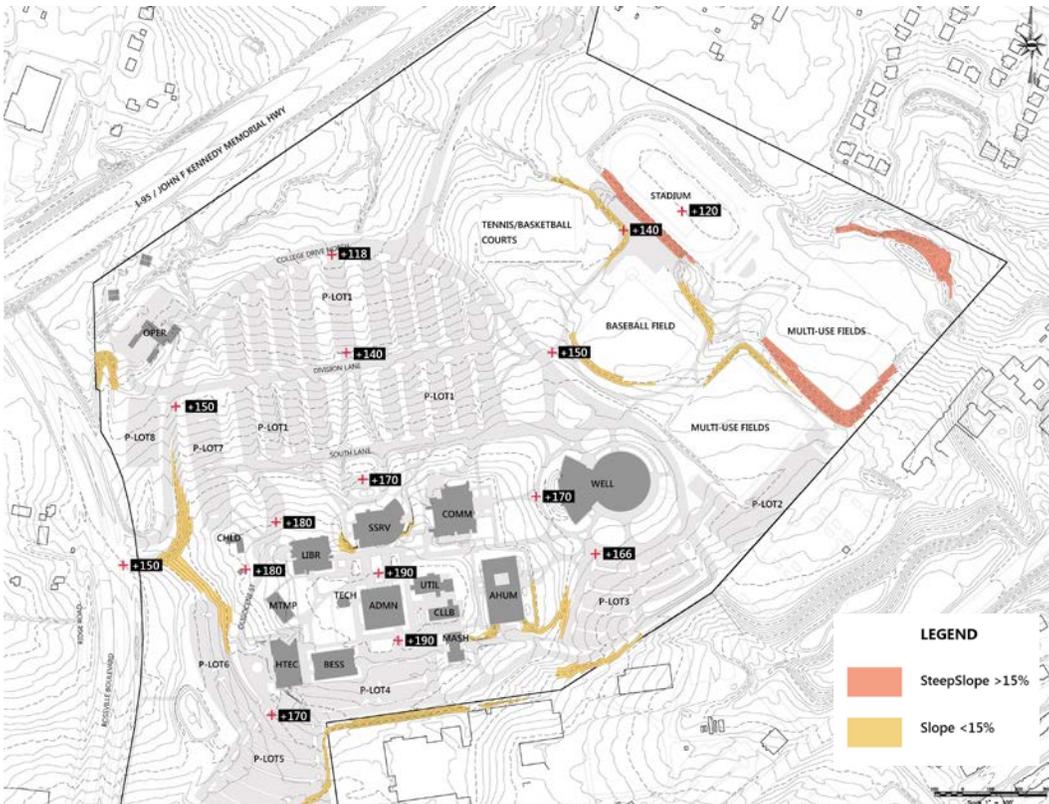


Exhibit 4.5 Topography

Chapter 5

Looking Towards the Future

Opportunities, Recommendations

Capital Projects

Proposed Campus Development

CHAPTER 5 LOOKING TO THE FUTURE

Opportunities, Recommendations

BUILDINGS

ARCHITECTURAL CONSIDERATIONS

The “infrastructure” of most buildings, in this case meaning the essential structure and architecture, is generally adequate to allow the buildings to be successfully renovated. Exterior envelopes, foundations, supporting structure, floor plates, and floor-to-floor heights are sufficiently stable and dimensioned to allow new building systems to be installed.

Availability of space is extremely limited within existing buildings, especially after re-purposing and renovating rooms for instructional space. This generally precludes temporary occupancy of swing space during renovations of other buildings. Except for the Student Services Center, buildings are generally more than 35 years old and most are in need of renovation. The Arts and Humanities Building was recently renovated, with a small addition. With limited funds, the College has invested in the existing buildings by renovating some spaces and undertaking systems upgrades. This has generally improved the quality of the spaces and components but is not the most efficient means of renovating the facilities. While the amount of available space on campus is limited, there are nonetheless sites that represent opportunities for new buildings, some as additions to existing buildings and some as stand-alone.

As buildings are renovated, expanded, and new buildings are constructed, the architecture of the existing buildings should be respected. Unifying exterior elements include tones of brick, compatible with the existing brown color; other materials which can complement the brick; clear anodized windows, doors, and curtain walls; clear glass except where other types of glazing are suggested by internal functions; and unifying signage indoors and on the building facades. Building size should not exceed any of the largest existing buildings, and overall height should be limited to four stories. Garages should be similar in height, not to exceed 5-6 levels. Roofs may be relatively level but all with positive slope, and some roofs may be sloped if suggested by their internal functions. Main entrances should be clearly discernable and should be fully accessible.

In academic buildings – including labs, classrooms, lecture halls, and offices – the faculty offices should be integrated with the instructional spaces. That is, they should be convenient to each other, so that faculty are accessible to students such as before and after class. Faculty offices should not be remote, such as in separate wings of buildings, certainly not in separate buildings, and should be on the same floors as the instructional spaces. Offices should be grouped in suites where feasible. As informal learning spaces, lounges should be integrated into all buildings to provide convenient drop-in / touch-down spaces. Ideally, they are convenient to the most heavily used programmed spaces and through-routes within buildings and are equipped with networked computers, data outlets, and/or wireless coverage, plus power outlets for students’ devices.

Structural systems generally should avoid interior bearing walls, to facilitate flexibility in future renovations. Corridor-to-exterior wall bays should be at least 30 feet wide to allow for flexibility in configuration of learning spaces and office suites. Corridors should be generous, and modulated, to allow for ease of passage and for

interaction by students, faculty, and staff. Ceiling heights should be appropriate to the spaces, and in any case not less than 9 feet for small-to-moderate sized spaces. In new facilities not tied to existing buildings, floor-to-floor heights should be sufficient to avoid systems conflicts both in the initial installation and future modifications. Each building project needs to be designed with sustainable building systems, orientation, compactness, and configuration and must be designed to achieve a *LEED* Silver rating.

SITE

INFRASTRUCTURE

The sanitary sewer in Franklin Square Boulevard and the water main in Rossville Boulevard appear to have adequate capacity for the improvements. Since the campus contains many underground utility lines, each new building or addition will require relocation of existing lines to clear the new footprint area.

If any improvement project disturbs more than 40,000 square feet of area, Baltimore County Department of Environmental Protection and Resource Management will require the preparation of a Forest Conservation Master Plan for the entire campus before reviewing a Forest Stand Delineation and Conservation Plans for individual improvements. All plans for improvements must take into account the mature woodlands throughout this campus.

Any proposed project with an area of disturbance of more than 5,000 square feet will require a stormwater management system design based on the Environmental Site Design (ESD) techniques specified in the new Maryland Department of the Environment SWM Manual which favors local/micro water quality devices such as swales, bio-retention areas, rain gardens, roof leader disconnects, etc. Any new SWM facility must take into account the Pollution Prevention Plan agreed to with MDE. Also projects with an area of disturbance of more than 5,000 square feet or excavation of more than 100 cubic yards will require a sediment control plan to be submitted to the Baltimore County Soil Conservation District for review and approval.

A list of individual site improvement recommendations follows:

Sanitary Sewer

- Survey entire on-site sewer system to include invert elevations, and since sections of the system are over 30 years old, use CCTV for inspection of the underground pipe lines.

Water System

- Coordinate with Baltimore County DPW for water service upgrades, including the possibility of tapping a second water service source for the campus, i.e. 12 inch main runs along King Avenue to the north and another 12 inch main runs along Franklin Square Drive to the south.

Site Utilities

- There is no report of insufficient service from private utility suppliers.

Roads & Parking Pavement

- Resurface remaining area of Parking Lot 1
- Replace bituminous walkway surfaces where necessary.
- Seal open joints on plaza surfaces.
- Improve traffic control and circulation throughout campus, especially related to the entrances and at Parking Lot entries.

- Repair roadway and parking lot pavement around campus.

Site/Parking Lot Lighting

- Improve pedestrian site and security lighting.

Handicap Accessibility

- Complete improvements to the existing reserved handicap parking spaces (lack of access aisles and proper signage) and curb ramps.
- Install 52 additional reserved handicap parking spaces per current ADA regulations.
- Upgrade campus handicapped access routes - ramps need landings, handrails, proper signage, etc.

Recreational Fields

- Install restrooms, locker rooms and concession stand.
- Resurface eastern portion of the tennis courts to eliminate storm water ponding.
- Resurface basketball court; install nets and rims on backboard.
- Install handrails on 2 Fitness Trail bridges.
- Repair Fitness Trail bridge just south of the Secondary Entrance Road.

Miscellaneous Site Infrastructure

- Repair masonry site infrastructure around grounds, cracking and deteriorated mortar joints exist.
- Seal or replace wood picnic tables and benches.
- Repair/upgrade concrete retaining wall east of Building F, steep soil has eroded onto the service drive.

CAMPUS PLANNING

The following paragraphs describe site recommendations for enhancements to CCBC Essex. The recommendations follow the overall approach of connecting space smartly to create a more cohesive physical campus and learning environment and to enhance the inherent qualities for this particular campus. Recommendations are described below and illustrated on the Campus Development Plan located at the end of this chapter.

Opportunity Sites

Based on the site analysis described in Chapter 4, there are several logical “opportunity sites” within the campus where new facilities can occur. These facilities could be in the form of new buildings, open spaces and/or parking resources and may replace buildings, green spaces and/or surface parking areas that currently exist. These sites are illustrated in *Exhibit 5.1 Opportunity Sites*.

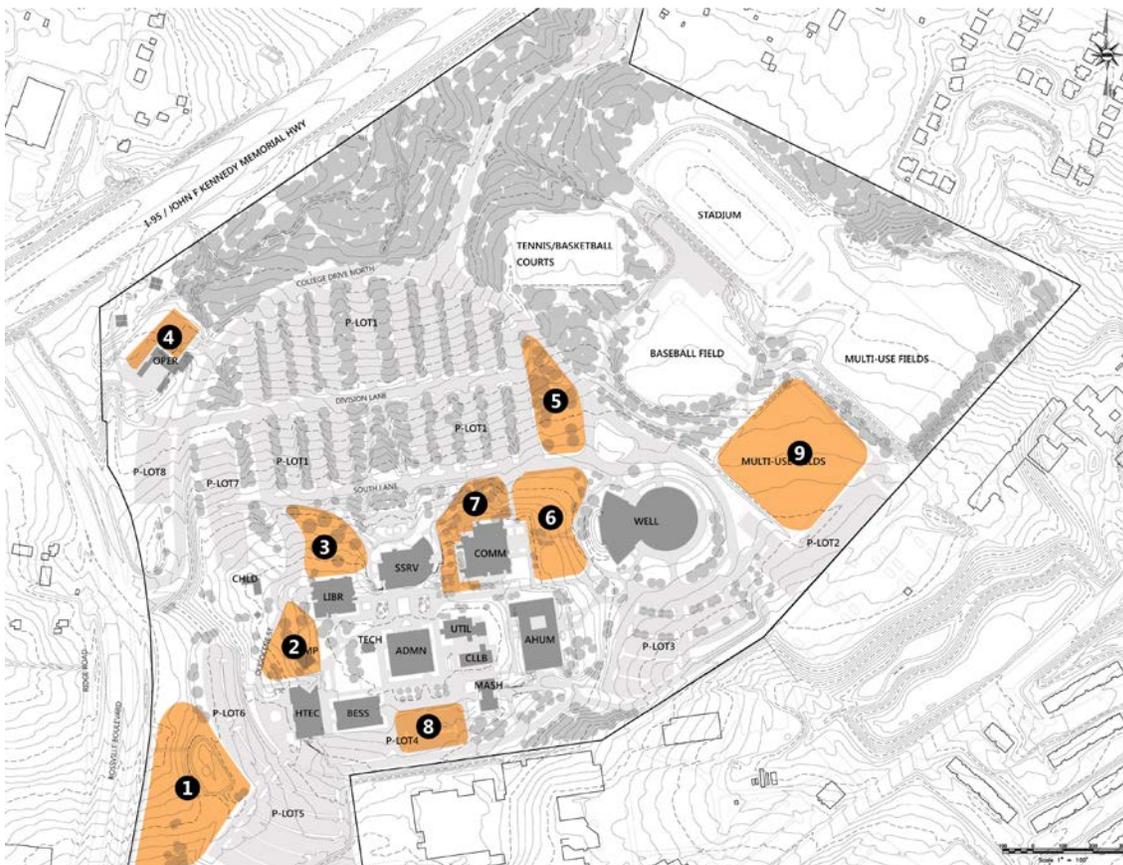


Exhibit 5.1 Opportunity Sites

Campus Organization and Land Use

Like CCBC Catonsville and CCBC Dundalk, the CCBC Essex campus is organized around a fairly well-defined campus core. Unlike the other campuses, the athletics area is in close proximity to the campus core and is not separated by visual barriers or parking areas. Following are recommendations to strengthen the campus organization and land use distribution as the campus experiences significant growth:

- Distribute additional campus programming by expanding the campus core to the east and the west with new quads and gathering areas, around which new buildings are located.
- Maintain the current location of the Facilities Operations Building and provide for expansion.
- Preserve “placeholders” for future development opportunities beyond the timeframe of this master plan.
- Preserve and reinforce strong connections between campus core and the athletic fields.

Access and Vehicular Circulation

As described earlier, the existing circulation system lacks clarity along the western side of the campus, resulting in problems with way-finding and congestion at peak times. The following recommendations address circulation issues and include:

- Clarify the overall circulation to orient visitors and better distribute traffic.
- Establish a pair of traffic circles at the arrival to campus to distribute traffic to College Drive, Division Drive/Parking Lot 1 and South Drive to help maximize the continuous flow of traffic.
- Reconfigure College Drive to allow for an expanded campus core along the west side of campus, but preserve the front lawn along Rossville Boulevard.
- Explore a right-only lane linking the main campus entrance at Rossville Boulevard to the reconfigured North College Drive to help minimize unnecessary vehicular movement into Parking Lot 1.
- Explore a mid-block right-in and right-out access lane linking Rossville Boulevard to the reconfigured North College Drive as a limited secondary access point.
- Reduce, where possible, the number of access points between Parking Lot 1 and College Drive North to minimize conflict points.
- Provide visible way-finding signage at new traffic circles and intersections to clearly direct visitors to the appropriate destination.

Parking

As described earlier, parking at CCBC Essex is poorly distributed, with the majority of it located on the north side of campus. In addition, the campus will require a significant number of additional parking spaces in order to accommodate its projected growth. Land resources are limited; therefore, additional parking will need to be developed in the form of structured parking. Recommendations for parking include:

- Develop multiple parking structures to minimize size and scale of parking structures.
- Locate parking structures on the south side of campus where land area is most limited.
- Utilize topography where possible to provide access at various levels from existing grade.
- Locate parking facilities to reinforce pedestrian connections and minimize impacts to important views.
- Reconfigure the northern perimeter of Parking Lot 1 to reduce access points onto College Drive North and minimize conflicts.
- Provide clear connections for pedestrians between parking structure entrances and campus circulation routes.

- Provide some “convenience parking” inside the loop road near new development areas along the western perimeter of the campus core.

Pedestrian and Bike Circulation

As the campus continues to grow, there is an opportunity to enhance pedestrian circulation to create stronger connections between districts and facilities; enhance the ways in which students, faculty and staff experience the campus and have opportunities to interact; and ease the challenges associated with the difficult topography. The following recommendations will help to enhance the pedestrian and bike experience on the CCBC Essex campus:

- Capitalize on multi-level buildings and parking structures to accommodate grade changes.
- Provide clear pedestrian connections between new parking structures and the campus core.
- Use walkways to unify expanded campus core areas into the heart of the campus.
- Enhance the experience of pedestrians moving through Parking Lot 1 through landscape treatments.
- Provide sidewalk connection between Children’s Learning Center and to the campus core.
- Create a bike way along the north and east edge of the campus core linking proposed Rossville Boulevard bike lanes to the Wellness and Athletics Center:
 - Create an off-road dedicated two-way bike lane on the east side of Rossville Boulevard starting at the signalized intersection at the entrance to Franklin Square Hospital and traversing the front lawn open space to connect to the reconfigured North College Drive.
 - Align the dedicated two-way bike lanes along the eastern side of North College Drive heading north to South Lane.
 - Remove parallel parking along South Lane to accommodate dedicated two-way bike lane and pedestrian sidewalks. Continue alignment along South Lane to connect to Wellness and Athletics Center with spurs into the campus core and athletic fields.
 - Explore opportunities to create ‘shared’ lanes along South College Drive.
- Provide signage to enhance awareness of bike use, particularly at intersections.
- Provide bike racks in visible locations near building entrances.
- Provide covered bike racks, storage and repair station near the Wellness and Athletic Center to enable ease of access to shower and locker rooms for commuter bikers.
- Replace, where necessary, storm grates (grates parallel to the flow of bikes) that impair bike mobility.

Open Space

The open space is the component that knits various buildings and facilities together into a unified campus environment, allowing for learning and discovery to happen in a variety of spaces throughout, and creating an image for the institution. The CCBC Essex campus has a strong open space framework that will only get stronger as the campus continues to develop. The following recommendations will allow for new and enhanced open spaces throughout the campus:

- Provide a variety of spaces that encourage students to stay on campus, including settings for social interaction and, in particular, quiet sanctuary spaces and spaces to support teaching and learning.
- Reconfigure the main quad into a hierarchy of flexible spaces that reduce the large expanse of pavement and provide more green gathering areas.
 - Establish a series of small gathering spaces along the perimeter of the space and between buildings, offering different things to do and opportunities to learn.
- Enhance the definition of the open space to the west of Administration Building by reinforcing the space with a new building (HTEC expansion) along the west side.

- Create a new quad/event lawn at the east side of campus, activated by new buildings fronting onto it.
 - Utilize new space to further reinforce linkages among athletics, the campus core and parking.
 - Provide a flexible central space with some flat area that allows for a variety of activities including informal games, such as Frisbee.
 - Accommodate quiet sanctuary spaces along the edges of the space and between buildings.
 - Utilize existing slope to accommodate outdoor teaching areas and café space and provide “people-watching opportunities” and opportunities for spectators to watch volleyball and other games.
- Preserve front lawn and campus image along Rossville Boulevard.
- Enhance grounds between Wellness and Athletics Center and athletic fields with seating and gathering areas at key nodes along pedestrian routes.
- Preserve athletic fields’ distinct sense-of-place and character as a series of “outdoor rooms”.
- Enhance the setting for Administration and create an active/formal courtyard space.
- Preserve and enhance the café space outside of Math and Science Hall.
- Enhance the woodland amenity on the north side of Student Service Center. Maintain canopy of overstory trees but open up sightlines so students feel more secure.

Campus Landscape

Successful open spaces within a campus require both architectural and landscape definition. The campus landscape allows for a variety of settings, reinforces the campus image and provides comforts, such as shade, to those using the campus. Recommendations to enhance the campus landscape at CCBC Essex include:

- Reinforce variety of landscape settings, emphasizing the presence of woodlands and “fingers” of woodlands that extend into the campus core.
 - Maintain views between buildings to woodlands in the distance.
 - Utilize tree groves of similar species as transitions from natural woodlands into more cultivated open space areas.
 - Continue to keep trees in Parking Lot 1 limbed so that, while providing shade, they allow for open sightlines.
 - Replace dead trees with native and similar tree species in Parking Lot 1 to ensure tree canopy coverage.
- Provide low landscape screening at entrance area to minimize views and “first impressions” of parking and to help direct visitors to entrances. Utilize landscape in proposed circles to enhance the sense of arrival.
- Utilize planting designs in new quads that allow for flexible use of the space. Use landscape to define rather than fill the spaces.
- Maintain visual connections throughout the campus.
- Emphasize the use of large canopy trees that provide shade and scale while allowing for sightlines.
- Emphasize the use of special planting at key nodes and sanctuary areas with plantings that offer seasonal interest.
- Utilize campus design standards to unify the different areas of campus but allow for unique designs to highlight special nodes and spaces.
- Experiment with the use of portable chairs and umbrella tables to provide more flexibility to adapt campus spaces to individual needs and comforts.
- Improve the lighting of campus grounds for evening use and to enhance the sense of security.

Capital Projects

Recommended capital projects represent the largest amount of construction of all three campuses. The current needs are also the largest, suggesting that there needs to be an infusion of resources as early as possible for this campus. Projects are as follows:

Proposed Major Capital Projects 2016-2025 - Essex: Area and Budget Construction Costs										
Building Designation		No. of Spaces - Parking Garage or Lot	GSF Renovation	GSF New	Unit Cost: Renovation	Renovation Cost	Unit Cost: New Construction	New Construction Cost	Other - Lump Sum	Total
Proposed Projects: 0-5 Years 2016-2020										
HTEC	HTEC Renovation/Addition/Site (SoHP, Continuing Education, SAIT) - also includes reconfigured loop road and new parking lot		51,500	70,525		\$ -		\$ -	\$ 49,000,000	\$ 49,000,000
	Switchgear, campus feeder, bldg meter upgrade/replacement								\$ 1,000,000	\$ 1,000,000
CLLB	Exterior Skin Replacement & Build Clay Mixing Room			300			\$ 500	\$ 150,000	\$ 500,000	\$ 650,000
MASH	Veterinary Technology Facility(Renov Exist + Addition)		2,500	1,500	\$ 250	\$ 625,000	\$ 500	\$ 750,000		\$ 1,375,000
	Rehabilitate Lot 1 Parking Facility								\$ 2,750,000	\$ 2,750,000
WELL	Addition to Athletic & Wellness Center/Dance Studio Alterations		3,000	8,000	\$ 200	\$ 600,000	\$ 300	\$ 2,400,000		\$ 3,000,000
BESS	Renovation (BESS)		50,048		\$ 225	\$ 11,260,800				\$ 11,260,800
COMM	College Community Center Renovation/Addn (bookstore, food service)		6,000	22,000	\$ 250	\$ 1,500,000	\$ 350	\$ 7,700,000		\$ 9,200,000
	Total: 2016-2020		113,048	102,325		\$ 13,985,800		\$ 11,000,000	\$ 53,250,000	\$ 78,235,800
Proposed Projects: 6-10 Years 2021-2025										
	Roof Membrane Replacements (MASH,ADMN)								\$ 1,400,000	\$ 1,400,000
LIBR	Renovation/Addition (Library)		40,280	46,000	\$ 250	\$ 10,070,000	\$ 350	\$ 16,100,000		\$ 26,170,000
AHUM	In-Fill (AHUM Courtyard)			6,000			\$ 375	\$ 2,250,000		\$ 2,250,000
WELL	Renovation/Addition (Athletic & Wellness Center)		84,500		\$ 250	\$ 21,125,000				\$ 21,125,000
	East Parking Garage (near AHUM)	1068					\$ 25,000	\$ 26,700,000		\$ 26,700,000
	Classroom Building 1 - near AHUM Building			60,000			\$ 350	\$ 21,000,000		\$ 21,000,000
OPER	Renovation/Addition (Facilities Operations / Maintenance)		11,706	19,000	\$ 225	\$ 2,633,850	\$ 300	\$ 5,700,000		\$ 8,333,850
	Total: 2021-2025		136,486	131,000		\$ 33,828,850		\$ 71,750,000	\$ 1,400,000	\$ 106,978,850
Projects to be Implemented as Funds Become Available										
	Systemic Upgrades: sprinkler, HVAC, fire alarm, etc.								\$ 3,000,000	\$ 3,000,000
	Replace CCBC Natural Gas Piping								\$ 750,000	\$ 750,000
	Land Acquisition: Martin's Farm (cost to be determined)								\$ -	\$ -
COMM	College Community Center Renovation (student life, dining, conf/event)		44,000		\$ 250	\$ 11,000,000				\$ 11,000,000
	Classroom Building 2 (betw COMM & WELL; incl Middle College)			40,000			\$ 350	\$ 14,000,000		\$ 14,000,000
	West Parking Garage Phase 1	1000					\$ 25,000	\$ 25,000,000		\$ 25,000,000
	West Parking Garage Phase 2	434					\$ 25,000	\$ 10,850,000		\$ 10,850,000
	Performing Arts Center			75,000			\$ 450	\$ 33,750,000		\$ 33,750,000
	Classroom Building 3 (Lot 4)			60,000			\$ 350	\$ 21,000,000		\$ 21,000,000
	Total		44,000	175,000		\$ 11,000,000		\$ 104,600,000	\$ 3,750,000	\$ 119,350,000
	TOTAL - ALL PROJECTS		293,534	408,325		\$ 58,814,650		\$ 187,350,000	\$ 58,400,000	\$ 304,564,650
	This cost is the estimate for the new switchgear only and does not include feeder replacement (if req'd) nor cost of individual bldg meters									
	The cost of this renovation includes the cost to replace the roof membrane during renovation activity.									
	Costs are construction costs only and do not include design, FF&E, or other soft costs.									
	Costs are based on calendar 2015 costs and need to be adjusted for future changes to construction cost indices.									

Proposed Campus Development

INTRODUCTION

A series of development alternatives were presented to the College illustrating how the recommendations and capital projects described earlier could be accommodated on the site. Following review and discussion of the alternatives, a preferred approach was identified which includes a combination of elements from all of the alternatives. The future vision for CCBC Essex is described below and illustrated in *Exhibit 5.2, Development Plan*.

DESCRIPTION

The College's Capital Improvement Plan moves toward laying the groundwork for future program spaces through new construction and renovation. In addition to various smaller projects and systemic upgrades two major infrastructure projects are projected, they include electrical service and switchgear upgrade and replacement and building energy audits and implementation. At the time of this master plan report the CCBC is undergoing design development for the Health Careers and Technology Building addition (70,525 GSF) and renovation. After completion of Health Careers and Technology Building, the master plan projects 9 major building projects, the following major projects are projected through 2025: Central Utility Plant and utility service upgrades; 5,000-7,000 GSF Veterinary Technology facility addition (at Mathematics and Science Hall or at an off-site location); renovation to Business, Education, & Social Sciences Hall; renovation and 8,000 GSF addition to Wellness and Athletic Center; 22,000 GSF addition to College Community Center (bookstore and food service space); renovation and 46,000 GSF addition to Library; a new 60,000 GSF classroom building; a new 1,068 space parking garage (near AHUM) and renovation and 19,000 GSF addition to Operations Building. Major site improvements include the following: reconfiguration of College Drive South from Parking Lot 1 to Parking Lot 4; potential new access points from Rossville Boulevard to College Drive; and repair and repave areas of Parking Lot 1;

Projects which should be considered as funds become available include the following: a 40,000 GSF Middle College Building; a new 60,000 GSF classroom building; renovation to College Community Center (student life space, theater, dining and conference space); a 1,434 space parking garage (in two phases); and a new 75,000 GSF Performing Arts Center. The Performing Arts Center site, at the corner of Rossville Boulevard and Franklin Square Drive is preserved as a placeholder for this future development. A center in this location would benefit from the visibility along Rossville Boulevard as well as the proximity to the proposed parking resource. If the opportunity should occur acquisition of the Martin's Farm Property is encouraged to provide space for Continuing Education and Economic Development (CEED) uses.

Several of the existing buildings exhibit a relatively dark, dim, closed-in feeling in the public spaces. Some of these spaces are what remains from larger, more open spaces of the original design. Renovations should open and re-open these areas to create a more pleasant, welcoming sense of space. Indeed, new construction and additions should create similar areas as well.

Site and infrastructure improvements are required to support the proposed building program and to improve the aesthetics, functionality, and efficiency of the campus plant operations. Site utilities are generally satisfactory and will continue to meet campus demand for the foreseeable future.

Generally, new campus growth will be accommodated by expanding the campus core in two directions. An expansion to the west will create a new "West Quad" defined by existing and proposed academic buildings,

supported by the West Garage parking structure. An expansion to the east will include another major quad and event lawn defined by new and existing buildings and will also be supported by the East Garage parking structure.

Parking should be increased soon to meet demand created by enrollment increases and new building construction. Some reconfiguration and expansion of existing parking areas will partially satisfy the projected increase of demand, but structured parking will be needed to support the planned building projects. Additional parking reconfiguration for Parking Lot 1 as shown in Exhibit 5.2 will improve circulation patterns and minimize conflicts along College Drive North.

Taken together, all of the proposed projects will require storm water management measures, which can be addressed on a project-by-project basis complying with State of Maryland Department of the Environment requirements.

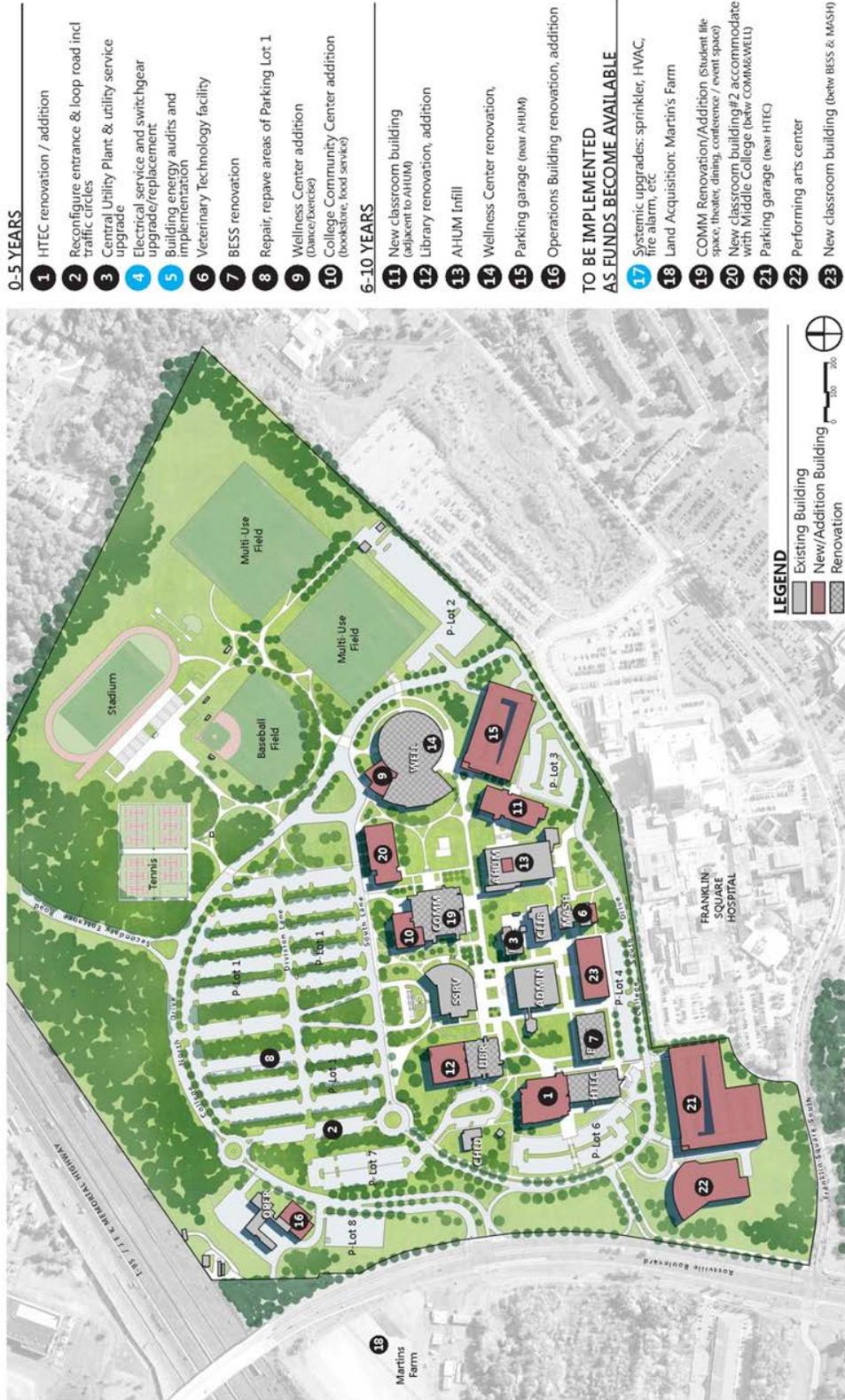
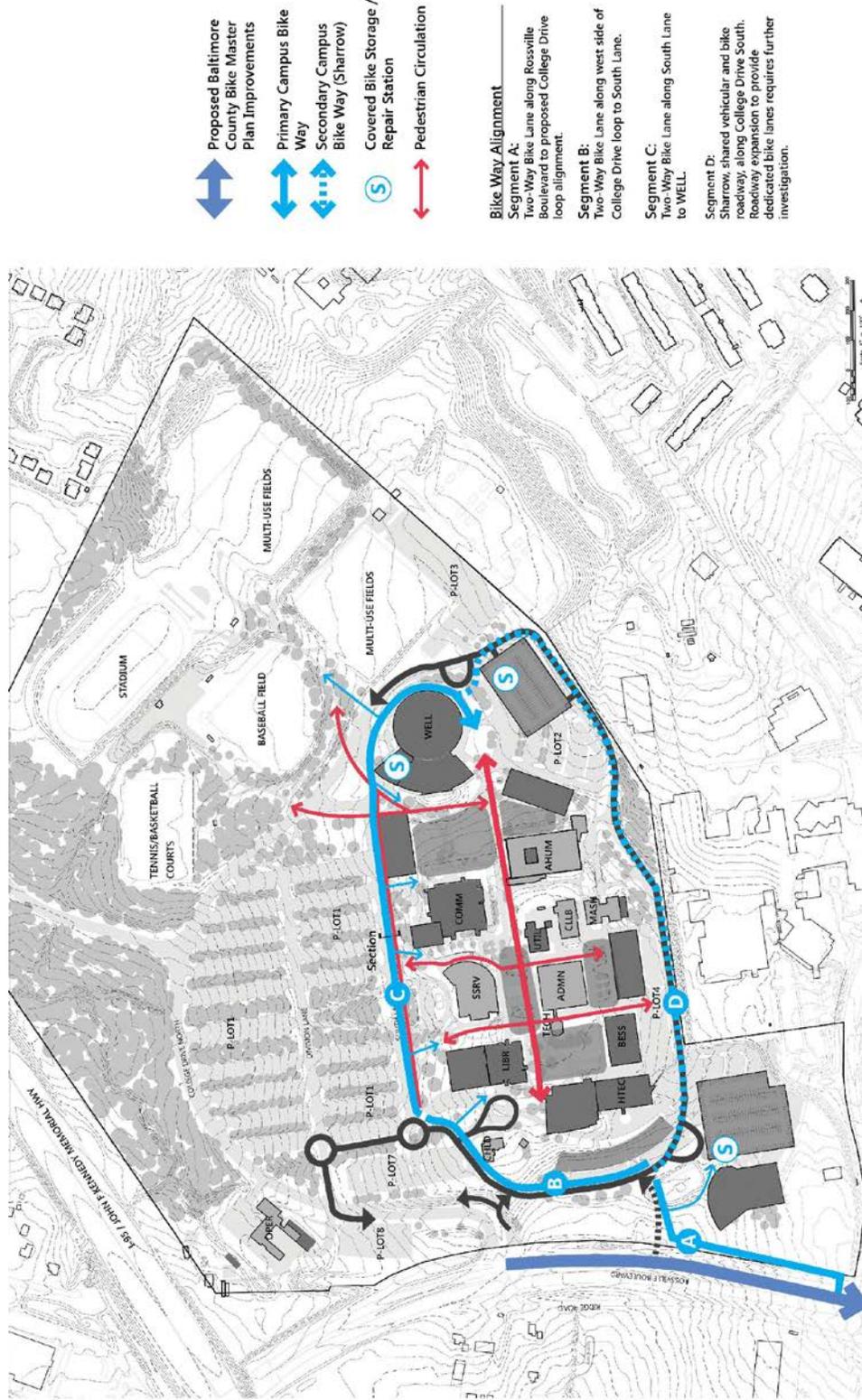


Exhibit 5.2 Campus Development Plan



- Proposed Baltimore County Bike Master Plan Improvements
- Primary Campus Bike Way
- Secondary Campus Bike Way (Sharrow)
- Pedestrian Circulation
- Covered Bike Storage / Repair Station

Bike Way Alignment

Segment A: Two-Way Bike Lane along Rosville Boulevard to proposed College Drive loop alignment.

Segment B: Two-Way Bike Lane along west side of College Drive loop to South Lane.

Segment C: Two-Way Bike Lane along South Lane to WELL.

Segment D: Sharrow, shared vehicular and bike roadway, along College Drive South, roadway expansion to provide dedicated bike lanes requires further investigation.

Exhibit 5.3 Pedestrian and Bike Improvements

Appendix

Proposed Major Capital Projects 2016-2025 – CCBC Essex Project Narratives – All Campuses

Proposed Capital Projects

Proposed Major Capital Projects 2016-2025 - Essex: Area and Budget Construction Costs										
Building Designation	No. of Spaces - Parking Garage or Lot	GSF Renovation	GSF New	Unit Cost Renovation	Renovation Cost	Unit Cost New Construction	New Construction Cost	Other - Lump Sum	Total	Total
Proposed Projects: 0-5 Years 2016-2020										
HTEC	HTEC Renovation/Addition/Site (SoHP, Continuing Education, SAIT) - also includes reconfigured loop road and new parking lot	51,500	70,525		\$ -		\$ -	\$ 49,000,000	\$ 49,000,000	\$ 49,000,000
CLLB	Switchgear, campus feeder, bldg meter upgrade/replacement		300			\$ 500	\$ 150,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
MASH	Exterior Skin Replacement & Build Clay Mixing Room	2,500	1,500	\$ 250	\$ 625,000	\$ 500	\$ 750,000	\$ 500,000	\$ 650,000	\$ 650,000
	Veterinary Technology Facility(Renov Exist + Addition)							\$ 2,750,000	\$ 1,375,000	\$ 1,375,000
	Rehabilitate Lot 1 Parking Facility								\$ 2,750,000	\$ 2,750,000
WELL	Addition to Athletic & Wellness Center/Dance Studio Alterations	3,000	8,000	\$ 200	\$ 600,000	\$ 300	\$ 2,400,000		\$ 3,000,000	\$ 3,000,000
BESS	Renovation (BESS)	50,048		\$ 225	\$ 11,260,800				\$ 11,260,800	\$ 11,260,800
COMM	College Community Center Renovation/Addn (bookstore, food service)	6,000	22,000	\$ 250	\$ 1,500,000	\$ 350	\$ 7,700,000		\$ 9,200,000	\$ 9,200,000
	Total: 2016-2020	113,048	102,325		\$ 13,965,800		\$ 11,000,000	\$ 53,250,000	\$ 78,235,800	\$ 78,235,800
Proposed Projects: 6-10 Years 2021-2025										
	Roof Membrane Replacements (MASH,ADMIN)							\$ 1,400,000	\$ 1,400,000	\$ 1,400,000
LIBR	Renovation/Addition (Library)	40,280	46,000	\$ 250	\$ 10,070,000	\$ 350	\$ 16,100,000		\$ 26,170,000	\$ 26,170,000
AHUM	In-Fill (AHUM Courtyard)		6,000			\$ 375	\$ 2,250,000		\$ 2,250,000	\$ 2,250,000
WELL	Renovation/Addition (Athletic & Wellness Center)	84,500		\$ 250	\$ 21,125,000				\$ 21,125,000	\$ 21,125,000
	East Parking Garage (near AHUM)					\$ 25,000	\$ 26,700,000		\$ 26,700,000	\$ 26,700,000
	Classroom Building 1 - near AHUM Building		60,000			\$ 350	\$ 21,000,000		\$ 21,000,000	\$ 21,000,000
OPER	Renovation/Addition (Facilities Operations / Maintenance)	11,706	19,000	\$ 225	\$ 2,633,850	\$ 300	\$ 5,700,000		\$ 8,333,850	\$ 8,333,850
	Total: 2021-2025	136,466	131,000		\$ 33,828,850		\$ 71,750,000	\$ 1,400,000	\$ 106,978,850	\$ 106,978,850
Projects to be Implemented as Funds Become Available										
	Systemic Upgrades: sprinkler, HVAC, fire alarm, etc.							\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
	Replace CCBC Natural Gas Piping							\$ 750,000	\$ 750,000	\$ 750,000
	Land Acquisition: Martin's Farm (cost to be determined)							\$ -	\$ -	\$ -
COMM	College Community Center Renovation (student life, dining, conf/evnt)	44,000		\$ 250	\$ 11,000,000				\$ 11,000,000	\$ 11,000,000
	Classroom Building 2 (betw COMM & WELL; incl Middle College)		40,000			\$ 350	\$ 14,000,000		\$ 14,000,000	\$ 14,000,000
	West Parking Garage Phase 1		1000			\$ 25,000	\$ 25,000,000		\$ 25,000,000	\$ 25,000,000
	West Parking Garage Phase 2		434			\$ 25,000	\$ 10,850,000		\$ 10,850,000	\$ 10,850,000
	Performing Arts Center		75,000			\$ 450	\$ 33,750,000		\$ 33,750,000	\$ 33,750,000
	Classroom Building 3 (Lot 4)		60,000			\$ 350	\$ 21,000,000		\$ 21,000,000	\$ 21,000,000
	Total	44,000	175,000		\$ 11,000,000		\$ 104,600,000	\$ 3,750,000	\$ 119,350,000	\$ 119,350,000
	TOTAL - ALL PROJECTS	293,534	408,325		\$ 58,814,650		\$ 187,350,000	\$ 58,400,000	\$ 304,564,650	\$ 304,564,650
	This cost is the estimate for the new switchgear only and does not include feeder replacement (if req'd) nor cost of individual bldg meters									
	The cost of this renovation includes the cost to replace the roof membrane during renovation activity.									
	Costs are construction costs only and do not include design, FF&E, or other soft costs.									
	Costs are based on calendar 2015 costs and need to be adjusted for future changes to construction cost indices.									

Project Narratives

All Campuses

CCBC Catonsville

2016-2020

Renovation of Hilton Center

\$ 6,252,260

This project has funding appropriated and is already designed and poised to enter the construction period in early 2016. The Hilton Mansion is on the National Register of Historic Buildings and is slated to undergo a comprehensive interior/exterior renovation. An elevator will be added and restrooms renovated to facilitate making the building ADA compliant. Several partitions defining small rooms on upper floors will be demolished to create medium sized instructional spaces. Sprinkler system is to be added and the fire alarm system will be updated. Much of the surface mounted wireways are to be buried in the ceilings/walls. Asbestos-containing plaster ceilings are to be removed and replaced with suitable materials. New high velocity, small bore ductwork type HVAC system is to be installed to avoid the need for water based piping to many unit ventilators. Exterior work includes stucco rehabilitation (3,000 s.f. of the surface area estimated), column repair or replacement, balustrade replacement, lighting, piping for storm water, electric ductbank and demolition of the breezeway connecting the Hilton Center to the Business Education and Social Science Building.

Switchgear, campus feeder, building meter upgrade/replacement

\$ 1,000,000

This project envisions a complete analysis and refurbishment to the 13,200 volt site electric entrance and distribution system. The end result of this endeavor will include the metering of each campus building to determine load and monitor energy use on an ongoing basis. The campus feeders will be analyzed and evaluated for replacement in existing ductbanks. The existing entrance switchgear (original to the college and exterior pad-mounted cabinets) will be replaced nearby, sized to match master plan needs, and housed in a weather-protective shed. Project is to be designed and constructed to minimize campus downtime. This is considered to be a mission-critical project due to the age and condition of the existing gear and the lack of available replacement parts. A custom part manufacturing process is required with follow-up independent certification of those parts and the resulting assembly to conform to UL label standards. The cost estimate in the report does not include feeder replacement. Minor buildings such as Farmhouse, Tudor House and Stone Cottage are not included in the metering cost.

Roof Membrane Replacement

\$ 180,000

This Children's Development Center roof replacement has been programmed and approved for funding in the FY 2018 budget cycle in Baltimore County. This building was constructed in 1992 with a typical BUR membrane. It has blistered over the years (several noted in a 2007 roof report) with repairs having been made. CCBC anticipates that this small roof project will be combined with others at Dundalk during this cycle to ensure competitive pricing.

Facilities Maintenance Operations Renovation /Addition **\$ 4,003,000**

The existing building is long overdue for renovation to improve functionality and reliability for a modern facility maintenance operation. This building had been approved for renovating in 1998 but had been postponed to provide much needed funds for an academic building at that time. The goal is to bring the local facility administrative team to the same location as the maintenance staff. This will also include grounds & receiving in addition to building maintenance and custodial leadership staffs. There is a woeful lack of warehouse space for replacement items, attic stock, and a master supply of consumable products that are purchased and delivered periodically and on-demand. An automatic fire suppression system is to be installed as well as a fire alarm system update. HVAC and dust collection systems are to be replaced as well.

Student Services Building Partial Renovation / Addition (lower level / advising) **\$ 12,000,000**

The last several years the college has embarked on limited focus renovations to the following areas: Enrollment Services, Financial Aid, Bursar, and Admissions (One-Stop Center) and the Testing Center. These areas are almost exclusively on the 2nd floor. This project completes renovating other areas on this floor (Advising/Counseling, Career Development, and other varying student support services) while concentrating on the 1st floor functions such as: Dining, Food Servery, Kitchen, Bookstore, Multi-Cultural Affairs, student lab, and multi-purpose room. The dining area will, at a minimum, require subdivision into more comfortable and smaller group sizes while still maintaining capacity. This will likely become so much a challenge as to require an addition to the dining area.

Historic Area Safety/Wall Restoration (ruins) **\$ 1,000,000**

The intent of this project is to create an asset from what now appears to be an isolated and unsafe line of stone that is on the same linear axis as the stone wall and arch that provides much of the character for this campus. The concept is to recreate an extension of the existing wall along the ruin site using as much of the existing material as possible and extending it through the foundation ruins of an old structure. This terminus area (near the rear of the Tudor House and Stone Cottage) should be developed into an outdoor gathering area for the college community. It should be well landscaped with choices of sunny seating areas, small scale group seating areas and some sheltered seating areas. Sheltered areas should remain bright with only light shade, such as that produced by a pergola, in the hot summer months. Some degree of rain protection would be preferred as well. This should be coordinated with the Student Services Center renovation project as that may require additional seating areas for dining services.

Jack Manley Wellness & Athletic Center Renovation **\$25,496,250**

This facility built in 1970/71 is showing its age in numerous ways. Most importantly though are the concealed systems or 'bones' of the building. The HVAC, plumbing, and electrical systems are most in need of attention. The building has received numerous infusions of capital renewal funds to maintain or improve elements such as main arena flooring, roof replacement (2x), vertical transportation additions, restroom renovations, pool area finishes facelift and structural repairs, locker room refurbishment, and classroom infills into unused locker room areas. The Central Utility Plant project has extended underground hot and chilled water piping to within 10 feet of the building. This building was designed and still operates on a steam boiler plant and all HVAC air handlers are equipped with

2021-2025

Renovation/Addition to Transportation Technology Building

\$ 3,200,000

This 3,000 sf expansion portion of the project provides additional bays for automotive related instructional purposes and its dedicated classroom to safeguard proprietary information used in the program. All manufacturers insist on having dedicated spaces for such instruction. The renovation area is predominantly the 2nd floor of the existing building which is used to provide training and counseling to individuals with a goal to facilitate their entry into the ranks of the gainfully employed. The existing rooms were intended for classrooms or computer labs and are only partially suitable for the current uses. Support spaces in the building, especially the restrooms, are undersized for the number of clientele currently served. This facility was constructed in 1986 and it will be approaching 40 years old when this project is begun.

Roof Membrane Replacements (HUMN, SSRV, HTEC, OPER)

\$ 2,000,000

The CCBC roof replacement schedule indicates that certain building roofs or major portions of them will need to be replaced during this time interval. Humanities Hall, adjacent to the new Mathematics and Science Hall, is covered with a single-ply system that ponds water to a significant degree. Ideally this work would be undertaken when the building itself is renovated. This renovation is shown in the 'As Funds Become Available' category. Another roofing project involves the original bounds of the 1972 portion of the Student Services Center which now is a Sarnafil PVC single-ply membrane dating to 1996. This roof's condition should be monitored closely as it may be prudent to undertake this work in conjunction with the partial renovation to the Student Services Center planned for 2016-2020. The High Technology Education Center infill addition was occupied in 1998 and consists of a multi-ply BUR system. This roof segment should also be monitored closely with a goal of extending its useful life to coincide with the proposed High Technology Education Center renovation project which is shown in the 'As Funds Become Available' category. The Facilities Operations Building is covered with a multi-ply BUR that was installed in 1999. Depending on exposure and the micro-climate around this building, the membrane life could differ from the projected 25 years. It also should be monitored closely, but most likely will not be in sufficiently bad shape to need replacement when the building itself is renovated in the 2016-2020 cycle. If that renovation project is delayed, then the roof replacement potentially could be tackled at the same time which will most likely provide some efficiencies of cost and time.

Turf Field and Athletic Comfort Station

\$ 1,750,000

This heavily used athletic field is illuminated for night games. The next step toward improving the facility is to simultaneously correct field drainage issues related to cross-slope and to improve the playing surface to a type commensurate with the frequency of play on the field. Unfortunately the best seasons to restore the natural turf are spring and falls which are some of the most heavily scheduled time periods for field play. Also, the athletic complex (baseball, track, tennis, soccer, lacrosse, football, etc.) is not served by an appropriate comfort station. The Wellness & Athletic Center which is the closest open building when most games are played is too far away to comfortably accommodate the patrons. The other option is to extensively use portable toilets. This is not conducive to meeting athlete or patron expectations when participating or spectating at higher education athletic contests. With the development of residential subdivisions nearby and also being down-grade from this proposed facility, CCBC believes that providing gravity based sanitary sewer service to this complex is in the affordable realm.

Barn Renovation

\$ 3,350,250

This facility provides for student gathering, recreation and entertainment space, the latter of which is also used by the entire college community and often the community at large. The spaces in the lower level of the facility could be improved by reconfiguring the partitions. The upper level is a small and intimate performance space and is also used for celebrations and public meetings or conferences. The theatrical lighting, controls, and sound systems need to be upgraded. The HVAC in the building should be redesigned in accordance with current ASHRAE guidelines for ventilation and energy efficiency. This structure is currently not on any landmark preservation list. The windows and doors should be considered for replacement and site concrete/stairs/railings on the NW exposure should be replaced as they are in a deteriorated condition and have been patched to be relatively safe and functional.

Lot 3 (North) Parking Garage

\$23,100,000

This proposed initial parking garage at Catonsville is planned to be built on the current site of Lot 3 and is slated to provide 924 parking spaces. The current Lot 3 capacity is 209 spaces. This will then create an increase of about 700 parking spaces without requiring major land clearing, mass grading, storm drain construction, or installation of sediment and erosion control measures. As the existing lot runoff was not managed when initially constructed, this project will still entail installation of water quality and quantity control measures. The capacity of this garage on the North end of campus would balance the quantity of parking (910 spaces) currently located in Lots 6, 7, and 8 on the South edge of campus. Thus it will greatly improve the balance of parking on campus and provides much needed capacity improvements to the Center for the Arts and Mathematics & Science Hall buildings. At 700 net spaces, it only partially satisfies the current computed need for parking which is a deficit of about 925 spaces.

Classroom Building 1 – West of Library

\$21,000,000

This proposed classroom building of 60,000 sf is to be built on a site between the Library and College Services Center. Its location will be in proximity to South parking lots 6, 7 & 8. The size of this building will 'pave the way' for the college to relocate functions currently located in Business Education and Social Science and Continuing Education buildings and allows for additional instructional space to be built as well. This building will help to define the western edge of the 'historic quad' that will have come into new prominence with the Historic Area Restoration proposed for 2016-2020.

To be Implemented as Funds Become Available

Systemic Upgrades: Sprinkler, HVAC, Fire alarm, etc. \$ 3,000,000

These improvements are generally funded from a miscellaneous capital renovation/ renewal allocation. Projects are necessitated by changes to spaces that require issuance of a building or alterations permit in some cases. In others it may be caused by changes in pressure/flow characteristics of water supply (old high pressure main vs. newer high flow rate/low pressure main), failure of HVAC equipment or system, and addition or replacement of fire alarm components/accessories due to space changes. Minor replacements are handled by operating budget and maintenance staff. This category would also include site systemic work such as pavement rehabilitation work or site utility restoration work.

Replace CCBC Natural Gas Piping \$ 750,000

The natural gas mains on campus beyond the main service entrance and public utility meter are owned and operated by CCBC. Many of these pipes are steel wrapped in yellow plastic to resist corrosion but are of an age (almost all older than 40 years) where leaks are more and more likely. The presence of a gas smell on campus usually causes evacuation of one or more buildings until the source and strength of the natural gas presence is determined. This can interrupt classes for several hours at a time. To be proactive about this, CCBC should replace all old gas mains on campus on a scheduled basis when student populations are at a minimum.

Middle College (renovation option – location to be determined) \$ 9,281,250

The college and BCPS staffs have met to begin discussions on this topic. The preliminary information is that space of about 28,000 NASF is required to deliver this program to high school students on a community college campus. This translates to a gross size of 41,250 sf. It is unlikely that CCBC can find an existing candidate building to renovate for this purpose, but if one is found this is the estimated cost to perform that renovation.

Center for the Arts Renovation \$12,276,000

This is one of the latest of the original ‘first wave’ of building construction to have taken place on this campus. The building was completed in 1978. It will likely be 50 years old before funding is garnered to support the renovation of this building. In the meantime the college has spent considerable time and resources to keep the building in good repair and attractive. The largest failing of this building is the HVAC system. Another significant shortcoming is the lack of vertical transportation to the lowest level. Many of the HVAC system elements are in difficult to access spaces and this really makes repairing them or replacing them quite difficult. There have been many HVAC leaks in the building and there will likely be many more until this building is renovated. The college has reworked the front outdoor plaza, created ramps to access the theater upper seating bowl, performed ADA improvements to restrooms, replaced the roof membrane, upgraded the theatre lighting system, improved the lighting and ceiling system in the main level meeting room, and added an annex for ceramics kilns and storage. The boilers chillers have been

removed and this building is served from the Central Utility Plant. This renovation should be comprehensive and rejuvenate the spaces for all of the students and faculty.

Humanities Hall Renovation/Addition

\$10,476,000

This building, built in 1972, is the current 'home' for the School of Liberal Arts (SOLA) on this campus. It is a 2-story building with most of the classrooms located off 3 sides of a race-track corridor system. Support spaces are located on the interior of the same corridor system. The SW segment of corridor on both floors contains the faculty office suites. These are small and crowded office areas and insufficient in quantity to house the entirety of SOLA faculty space needs. The college has replaced the unit ventilators once in the late 1980s. They are overdue for another replacement in this renovation, however the design team for this project should investigate use of another system to heat and cool these perimeter rooms as the UVs are too noisy, require staff to enter the classrooms for maintenance and filter changes, and are generally far less reliable than central equipment. The original BUR roof was replaced in 1995 with a PVC single-ply membrane, however the college could not improve rooftop drainage at the time due to budget issues. Despite this poor drainage the membrane has lasted 20 years. It will need replacement well before this project comes to fruition. The corridor area finishes and restrooms were renovated, the central air handling units replaced, 2-story TV studio had a steel floor inserted to build classrooms atop one another all in the mid-2000s. Finishes in faculty offices were also rejuvenated during this time period. The addition component of this project is anticipated to be on the SW edge of the building and house faculty offices (4,900 sf), 2 meeting/seminar rooms (600 sf), office support space (400 sf), and building support space (150 sf). The meeting/seminar rooms are for the accelerated learning programs (English focused.) The SOLA faculty is spread throughout the campus and needs a more unified presence on campus so that students in need of help can more readily make contact with them.

Health Careers and Technology Center Renovation

\$20,786,000

This 2nd largest academic building on campus was constructed in two stages, the first being occupied in 1973 and the second in 1998. Very little was done to the original building in the 1998 construction effort; some restrooms were made more ADA compliant and the automatic sprinkler zoning was reworked to comply with county fire marshal requirements. The perimeter spaces in this building are heated and cooled with unit ventilators (UVs) the oldest of which were replaced in 2005. The original building's ceiling tiles were asbestos containing building materials (ACBM) and were removed and replaced ca. 1989. The main AHU and pumps in the Stage 1 (1973) penthouse may need replacing prior to this project being funded. The most difficult part of this renovation project will be to devise a work scenario that neither interrupts instruction nor the computer center during normal business hours.

Classroom Building 2 (replacement for BESS and CNED)

\$21,700,000

These are 2 modest sized buildings between the Library and the Hilton Center. Their scale is such that neither will dwarf the Hilton Center nor the historic quad buildings. Depending on actual footprint size, one of these buildings could house a Middle College with bus drop-off and pick-up being via Lot 8. The program expansion building would then be sited closer to the stone wall with the iconic campus archway.

Lot 7 (West) Parking Garage

\$32,750,000

This parking structure is planned to be the largest at this CCBC campus, having 1,310 spaces. It will consume a large portion of current Lot 7, which fortunately does not have any solar arrays installed in it. All of the existing parking will not be consumed but CCBC does plan to lose 200 of the 272 spaces due to locating this garage here. That will mean this project will produce a net gain of 1,035 spaces when completed. This figure closely aligns with the 10-year projection of need for parking. It will be important to produce aesthetic looking facades on the West and South exposures of this garage. Most likely the laydown area for large construction components will be the unused part of Lot 7, but smaller components and site trailers could be situated in Lot 8 beneath some of the solar canopies. Similar to the North Garage on existing Lot 3 this garage can be built without requiring major land clearing, mass grading, storm drain construction, or installation of major sediment and erosion control measures. Similarly to the other garage, the existing lot 7 storm water runoff was not managed when it was built; this project will still entail installation of storm water quality and quantity control measures.

CCBC Dundalk

2016-2020

Renovate Operations Building and create Replacement for Maintenance \$ 1,965,200

CCBC intends to create a metal style building for housing the maintenance, shipping/receiving, and warehouse functions on this campus. New construction of approximately 5,000 s.f. is anticipated and the planned location is on the former outdoor basketball court. This will leave two tennis courts for the college community to use. By redeveloping over impervious area CCBC hopes to mitigate the cost of new SWM features. Wet utilities are nearby as are power and communication ductbanks. The existing facility contains 2 bays with overhead door and lift capability. A 3rd bay is easily possible given the architecture of the front elevation of the existing building. That will comport well for the intent to create a central CCBC vehicle maintenance facility in the current Facilities Operations Building. Both of these spaces should be outfitted with automatic fire suppression systems and fire alarm system updates. There are no natural gas lines serving either of these areas.

Renovate Student Services Center (2nd floor including link) \$ 2,575,000

Recently the 1st floor of this building was renovated for the Enrollment Services functions. This renovation included installation of a fire sprinkler system, update to fire alarm system, revamping the HVAC distribution, along with spatial changes and finishes renewal work. The HVAC improvements were done anticipating that the actual air handling units would be replaced soon after that project. The current AHUs are constant volume whereas the new 1st floor distribution is designed as variable volume. The ideal will be to replace the AHUs with variable speed capability to minimize the actual volume of air moved by the system. That will necessitate the changeover of air distribution on the 2nd floor to have a compatible operating system. Ceilings need to be removed to perform the HVAC work. This makes it an ideal time to install sprinklers, updated fire alarms, new lighting and ceiling systems as they all require existing ceiling demolition to be performed. It would also make sense to study and make the floor plan on this floor more efficient at the same time for additional cost considerations. There will be no more cost effective time to do that work in the future. There are several duplicate circulation paths on the 2nd floor and so we believe that a more efficient use of space can be attained as well. With all of this work occurring on the 2nd floor it will also make most sense to coordinate this with the roof membrane replacement work that will be due at about the same time.

Roof Membrane Replacements (STAT, WELL (flat)) \$ 850,000

This roof membrane replacement project has been programmed and approved for funding in the FY 2018 budget cycle in Baltimore County. These buildings were constructed in 1990 and 1978, respectively. The membrane on Roy N. Staten Building is an original BUR membrane while the Wellness & Athletic Center flat roof membrane was installed in 1990 and is EPDM type. Both will be at or over their expected useful service life by 2018-19. A concern that needs to be monitored is the condition of the terne-coated batten seam steel roof panels over the main arena arch and the pool building with similar materials and arch shape. Those have begun to experience some leaks

especially with wind-driven rain. Some foil-covered butyl tape was used to repair lap seams and battens over the years. A similar effort may need to be done in concert with the flat roof work. CCBC anticipates that these roof projects will be combined with the Children's Development Center at Catonsville to achieve the overall best pricing for the college.

Extend Lot 4 for Additional Parking

\$ 392,000

Parking is in high demand at this facility during the fall semester and particularly in the evenings with an influx of part-time students with day jobs. With the soon-to-begin renovation/addition to the Wellness & Athletic Center and its attendant need for laydown and staging area, it will be important to construct this parking expansion to even maintain the status quo during that construction endeavor. This project contemplates adding parking on the open upper field above the stadium and adjoining existing Lot 4. Included in this scope should be LED lighting, landscaping, and creative SWM features. An additional emergency telephone is most likely also to be required.

Wellness & Athletic Center Renovation and Addition

\$15,830,425

Much of this existing facility dates from its original construction in 1978 and thus will be at or very near to 40 years old at the time of this project. This building has original HVAC, power/lighting panelboards, and lighting fixtures. All of these systems need to be updated along with fire alarm and automatic sprinkler systems. All finishes should be replaced except for concrete and brick. Exterior redwood siding has been well-maintained but continues to present new problems almost annually and so should also be replaced with a more maintenance-free and insulating product. Restrooms and locker rooms need updating and the pool area needs to have a dehumidification system installed. Exterior glazing and storefront/hollow metal should be replaced with more energy efficient units as well. The existing role play rooms' roof should be replaced with this project if it has not already been replaced before this project begins. The addition is for additional role play room types. The circuit center/fitness room should be modernized with appropriate flooring and hydration station. Consider the addition of daylighting and automatic lighting controls to minimize the need for artificial lighting in most areas.

2021-2025

New Parking Lot; Reconfigure Secondary Road around New South Quad **\$ 2,500,000**

This project is required to support the development of new buildings that form the South Quad. The current intersection to the South Lawn Loop Road is too close to the Sollers Point Road entrance and many new students and visitors and delivery vehicles miss the turn. This redevelopment moves the turning movements farther into the campus and builds a parking area south of the Children's Development Center which will be capable of supporting the parking needs of 2 new buildings on the South Quad.

Classroom Building (at New South Quad) **\$12,250,000**

This new classroom building of 35,000 sf is planned to help develop a quad south of the Student Services Center, east of the Central Utility Plant (screened by a developed garden currently) and north of this new building. This will help to alleviate faculty office and classroom pressures. New pedagogy especially in writing has caused the college to adapt some spaces but cannot develop class/labs to the extent that the new pedagogy dictates. This will also allow CCBC to develop more classrooms suitable for use in the accelerated developmental education model which is suited to small (<20) class sizes. Many of those classes are now held in rooms with capacities of 30 or more students. This building will get intensive use when the college renovates Math and Science Hall on this campus.

To be Implemented as Funds Become Available

Systemic Upgrades: sprinkler, HVAC, fire alarm, etc. **\$ 3,000,000**

These improvements are generally funded from a miscellaneous capital renovation/ renewal allocation. Projects are necessitated by changes to spaces that require issuance of a building or alterations permit in some cases. In others it may be caused by changes in pressure/flow characteristics of the public water supply (general capacity degradation), failure of HVAC equipment or system, and addition or replacement of fire alarm components/accessories due to space changes. Minor replacements are handled by operating budget and maintenance staff.

Mathematics and Science Hall Renovation w/HVAC Upgrades **\$ 6,031,750**

This building was partially renovated in 2004. The scope of that renovation included demolishing the auditorium and creating flat floor classrooms and a lab, renovating science labs, adding sprinklers, upgrading fire alarm system and electric panels. The office areas and spaces on the first floor have not been renovated and this building also has multiple parallel circulation paths that make the overall layout less efficient than it could be. Internal building ramp systems may preclude that effort at gaining efficiency. The HVAC system was not replaced in 2004 due to budget limitations. With funding in the 2028 time frame this building will then be over 50 years old and in dire need of major mechanical system upgrades.

Career Building Renovation **\$ 7,037,775**

This building was constructed in 1983 and has not had any major renovation work done. Some smaller spaces have experienced change in use type alterations, the upper level restrooms have been made ADA compliant and corridor finishes on the upper level have been refreshed around 2009. The former wet photo labs on the lower level were converted to Horticulture spaces, the student success center on the upper level was relocated and the space repurposed into classrooms. The building is showing signs of structural movement and is being monitored with the assistance of structural engineers. The building was originally built using only local funds.

Classroom Building 2 (at New South Quad) **\$12,250,000**

This proposed 35,000 sf building is an architectural companion to the first South Quad Building. The programming for this building should take into consideration the array of academic and/or technical education needs of business and industry located on the former steel manufacturing facility property.

CCBC Essex

2016-2020

Health Careers Technology Center Renovation/Addition & Site Work **\$49,000,000**

The design for this project was begun in 2015. Construction is to be performed in stages to minimize adverse impacts to the campus community and also the need for costly surge space. An early stage is to perform site and utility work. Site work includes relocating the loop road outside of the Children's Development Center and alleviates some confusing intersections by adding small roundabouts. One goal is to preserve as much parking as possible both during and after this work is done. Utility work involves removing conflicts in the addition footprint and renewing service of heating and chilled water lines between this renovation/addition site and the central utility plant. Consideration should be given to installing new and larger piping along this feeder loop to avoid the need for building and maintaining a parallel system to the existing one. The new addition should then be built in the cleared footprint followed by relocation of functions out of the existing building. The next stage then is the renovation of the existing building and the relocation of all SoHP functions from the Administration building to this complex. Then the vacated space in Administration Building is to be lightly renovated to accommodate SAIT programs and staff. That group will then vacate the SoHP complex and move into Administration Building. Finally, space in SoHP complex vacated by SAIT can be tweaked to suit the SoHP uses. A more aggressive funding plan will enable this project to

Switchgear, campus feeder, building meter upgrade/replacement **\$ 1,000,000**

This project envisions a complete review and refurbishment to the 13,200 volt site electric entrance and distribution system. The end result of this endeavor will include the metering of each campus building to determine load and monitor energy use on an ongoing basis. The campus feeders will be analyzed and evaluated for replacement in existing ductbanks. The existing entrance switchgear (original to the college and exterior pad-mounted cabinets) will be replaced nearby, sized to match master plan needs, and housed in a weather-protective shed or inside the central utility plant. Project is to be designed and constructed to minimize campus downtime. This is considered to be a mission-critical project due to the age and condition of the existing gear and the lack of available replacement parts. The cost estimate in the report does not include feeder replacement as that is currently an unknown scope.

Exterior Skin Replacement & Clay Mixing Room Addition **\$ 650,000**

This project completes the renovation of a small pre-engineered metal building on the campus to a satisfactory level. Due to cost/time considerations these 2 elements of the building renovation were not performed in the same renovation cycle as the rest of the building. There was a push to relocate science functions out of the Mathematics & Science Hall and into temporary quarters for dry labs and into this building for wet labs prior to renovating Mathematics & Science Hall. Much work was done in the late fall/early winter time period when footings and exterior

concrete work is best avoided. The lead time on the metal panels selected for the building skin were not available on the limited schedule either. A heavy class/lab load the following spring/summer precluded moving forward with this work at that time. It has since been delayed waiting for renewed funding. The ceramics students are using pre-mixed clays which are more expensive for the program and limit the creativity and experience of the students.

Veterinary Technology Facility (Renovate Existing + Addition)

\$ 1,375,000

This project anticipates that the existing space in the lower level of Mathematics & Science Hall can be renovated to an acceptable degree and that a modest 1,500 sf addition can be made on the same level (in direction of Franklin Square Hospital.) The original construction documents had included a small greenhouse as an ADD Alternate that would have been built in this general area. There are no utility conflicts and only minimal sidewalk relocation work is required to build in this direction.

Rehabilitate Lot 1 Parking Facility

\$ 2,750,000

The majority of the parking spaces on campus are located in this lot. It was constructed in 2 phases with the upper section (south of Division Lane) being built in 1967 and the lower section (north of Division Lane) being built in the early 1970's. The original pavement sections are light duty and the native soils are generally moisture sensitive clays with high plasticity indices. The pavement has suffered alligator cracking and rutting in wheelpaths over the years and has been a constant source of potholes and patchwork since the 1970's. In fact, the drawings for the newer lot showed repair work already needed on the older section. The current plan for reconstruction includes the use of soil cement to improve subgrade soil strength and the installation of a properly designed pavement section based on the number and types of vehicular loading anticipated over a 20 year service life. There are an additional 9 bays of varying length to rehabilitate since the first one was done in 2015.

Addition to Wellness & Athletic Center/Dance Studio Renovations

\$ 3,000,000

The college has elected to move forward with seeking accreditation for the Dance Program which is to be anchored at CCBC Essex. This project will enable that goal to be reached in terms of facilities here at Essex. The first step is to construct an addition to the main level of building on the north side to house a new and improved Fitness and Exercise Center which will be easy to find and convenient to use. The Center will be built near a main entrance and convenient to both parking areas and locker rooms. The former location of the Fitness and Exercise Center can then be renovated into a state of the art Dance Studio of at least 2,400 sf. on the mezzanine level. That will complement the existing Dance Studio space on that same level of the building. The existing space will need some alterations to combine 2 studios into 1 large one of the targeted size. Both spaces for new Dance programs are currently air-conditioned. The new Fitness and Exercise Center will be heated and cooled from a new screened rooftop unit.

College Community Center is renovated. That project will greatly reduce the amount of space available for students to engage each other on campus and also for food service. This project will create some flexibility for the college to accommodate those needs. By adding some sort of clerestory enclosure over the courtyard and enclosing the east portion of the covered portico, CCBC will gain a significant amount of space that will be usable 12 months of the year. It is believed that the HVAC needs for this space can be served from the mechanical addition recently constructed on

the NW corner of the building. There is also the possibility that some type of active/passive solar method may be used on this HVAC system as a sustainability demonstration project.

Renovate Business, Education, and Social Science Hall (BESS)

\$11,260,800

As noted in the Master Plan this building is well organized with an efficient layout and use of space. It is however suffering from the effects of age being built in 1976. It is almost 50 years old during this planning period and has really had only maintenance type projects done to it over the years. It has had a new roof membrane installed and unit ventilators replaced along with some chilled water pipe insulation replaced and also some ceiling tiles changed out due to condensation and mold. A small generator was installed to provide power to life safety devices in the building. It needs a wholesale renovation at this time. The operable windows no longer operate well or close due to 'sprung' hinges. They are part of an assembly that includes intake louvers for the unit ventilators. Both of the AHUs in this building need to be replaced, but should be re-engineered to provide ASHRAE compliant fresh air and energy efficiency. The unit ventilators are service intensive and also quite noisy especially later in their service life. It would seem wise to coordinate the window/louver replacement and the AHU replacement together with an outcome that eliminates the need for UVs in this building. Also, the heating/cooling loops running past this building will have been upgraded with the Health Careers Technology Center Renovation/Addition project. If that project is developed such that the selected HVAC system is of the chilled beam type then it seems to make sense to migrate other buildings served by the same loop to also use chilled beam system. Since the recovery time for chilled beam is longer than for VAV systems then the loop serving the Health Careers Technology Center project would need to be active anyway even when other loops may not be.

College Community Center Renovation/Addition

\$20,200,000 *

This project is proposed to satisfy multiple deficiencies present with the current building. They are generally related to one of two facets: inadequate space of the type needed to accommodate demand and the outdated and inefficient HVAC systems. The main entry for the building is only accessible for those persons capable of negotiating stairs. One also needs to traverse several steps up from the main campus pedestrian route to reach the entry level bridge and then is confronted with another choice of either a half-flight of stairs up or down. It is very much a split level entrance. Dressing rooms for costuming are on the lowest level which currently requires the use of a motorized inclined lift along the route of the stairs. These require staff assistance. Space deficiencies include: food service kitchen, storage and office for manager; additional dining with subdivided seating groupings; improved servery flow and pay station; proper storage for bookstore (currently use a trailer); additional seating for the theater main stage; informal student gathering and study spaces; student club/government office space; meeting/conference space for faculty-staff. Almost all of the HVAC air handling units are original with perhaps some replacement coils and an attempt to conserve energy through use of vane control on selected AHUs. Lighting is often inadequate and can be improved in terms of lumen output as well as in terms of lamp/fixture efficacy. The sprinkler system should be replaced as it will be 50 years old or older at the time of this renovation. There are computed needs for food facility, lounge and meeting rooms which could be alleviated through this renovation/addition project. This project will likely be phased, depending on funding availability.

*\$20,200,000 = total cost for two possible phases (\$9,200,000 + \$11,000,000)

2021-2025

Roof Membrane Replacements (MASH, ADMN)

\$ 1,400,000

The CCBC roof replacement schedule indicates that certain building roofs or major portions of them will need to be replaced during this time interval. There are 2 such building roofs that fall into this category during 2021-2025 and they are: Mathematics & Science Hall and Administration. The Mathematics & Science Hall roof membrane is a single ply by Bond-Cote (purchased by JM.) It is most likely the first of the two to need replacement. This is a high cost roof due to its height above ground and the many obstructions on the roof. Due to the building height the coping is heavy gauge and the roof edge, as well as much of the mechanical equipment, is connected to a lightning protection system. This system resistance should be tested prior to design completion and once again after construction to ensure its continued viability. Much of this roof assembly is a PMR or protected membrane roof. Due to the vast number of penetrations and equipment stands requiring service (meaning roof traffic), this is probably a good choice once again. The Administration roof is a multi-ply BUR installed in 1998. The college is projecting the need for a replacement in 2023. This roof is only 3 stories above grade and has a modest number of penetrations. It should be monitored for problem conditions thoroughly in 2020 to inform the college of any need to accelerate the roof membrane replacement to coordinate with the light renovations to spaces on the top floor as a part of the Health Careers Technology Center Renovation/Addition Project.

Library Renovation/Addition

\$26,170,000

This building is undersized based on campus enrollment and space guidelines. Sorely lacking are group study rooms and the computer commons area is also too small. The back of the house processing and staff areas are also cramped and should be reorganized. This building dates from the late 1960s and has had major asbestos abatement performed. The HVAC distribution system was re-worked in 1990 but used rehab kits for the constant volume mixing boxes. The HVAC must be redesigned to comply with current ASHRAE guidelines for fresh air intake and energy efficiency. The addition should take advantage of the North elevation for daylighting and the green space beyond for views.

Arts and Humanities Hall Courtyard Infill

\$ 2,250,000

This project is proposed for dual reasons. The first is to harness some existing underutilized space at Arts & Humanities Hall and to create a haven for the SOLA and SAIT students to gather during their off-hours and to interact more often with faculty. The second is to create some space that can be used on a temporary basis when the

Renovation of the Wellness & Athletic Center

\$21,125,000

This project tackles the renovation of a building with tired finishes and 'bones' and a lack of air conditioning, dehumidification and ventilation. This building has multiple AHUs with most of them being the original 1971 units. That means this building will be about 50 years old at the time of renovation funding – probably 55 years old before it

is actually accomplished. The college has not ignored the maintenance and renewal of certain elements in this building. It has had roof membranes replaced twice, urethane flooring resurfaced several times and replaced once. The dance studios and classrooms beneath them have had air conditioning installed. The pool area has undergone lighting replacement, main drain replacement, ceramic tile replacement, exhaust fan replacement, exterior storefront wall replaced, filter and piping replaced. The building has had locker room improvements, asbestos abatement in the late 1980s, ADA inclined stair lift installed, a LULA elevator installed, and exterior masonry cleaned and selectively tuck-pointed. Even so, the building needs to be comprehensively renovated and the main arena air conditioned. Truly the 2 large AHUs serving the locker rooms, pool, and lower level classrooms and offices could fail at any time. They are definitely on their last few years of operability. Specifically lacking is any space for students to plan group activities or to wait for their friends before beginning exercise or team sport activities.

East Parking Garage (near Arts & Humanities Hall) \$26,700,000

This proposed 1,068 space garage located on Lot 2 in the East edge of campus near Franklin Square Hospital will go a long way toward providing more balance to the geographical distribution of parking on campus. Most parking is currently on the North (1,100), West (456) or South (442) sectors of the campus. The only permanent East lot has a capacity of 211. The plan of this garage should be developed to preserve the portion of Lot 2 reserved for faculty (90) and also fitted out with solar canopies. This garage would then produce a net increase in parking capacity of 1,000 spaces. This still does not totally alleviate the current deficit of 1,200 spaces and only satisfies half of the 10-year deficit of 2,000 spaces.

Classroom Building 1 – near Arts & Humanities Hall \$21,000,000

The college has a computed deficit in classroom, open laboratory and office space that can only be partially satisfied by constructing this building. As its location is near to the Arts & Humanities Hall and the Wellness & Athletic Center, CCBC anticipates programming the facility to suit the needs for additional instructional space tailored to those program areas.

Facilities Operations Building Addition/Renovation \$ 8,333,850

This facility, admittedly the best of the 3 CCBC Facilities Operations facilities, is still old and under-sized to meet the needs of the campus. There is a total lack of space for storing 'attic stock' and adequate spare parts and supplies for maintenance activities. The proposed 19,000 sf addition will come close to satisfying the computed need for Central Service and Shop/Storage functions at the end of the 10-year planning horizon. This project should include rehabilitative site work for paved areas and the concrete loading dock as well as Major HVAC equipment. All exterior doors should be replaced and appropriate security measures deployed. Some covered parking for fleet vehicles should be considered as most CCBC vehicles succumb to rust more than wear and tear due to high mileage.

To be Implemented as Funds Become Available

Systemic Upgrades: sprinkler, HVAC, fire alarm, etc. **\$ 3,000,000**

These improvements are generally funded from a miscellaneous capital renovation/ renewal allocation. Projects are necessitated by changes to spaces that require issuance of a building or alterations permit in some cases. In others it may be caused by changes in pressure/flow characteristics of public water supply (general degradation), failure of HVAC equipment or system, and addition or replacement of fire alarm components/accessories due to space changes. Minor replacements are handled by operating budget and maintenance staff.

Replace CCBC Natural Gas Piping **\$ 750,000**

The natural gas mains on campus beyond the main service entrance and public utility meter are owned and operated by CCBC. Many of these pipes are steel wrapped in yellow plastic to resist corrosion but are of an age (almost all older than 40 years) where leaks are more and more likely. The presence of a gas smell on campus usually causes evacuation of one or more buildings until the source and strength of the natural gas presence is determined. This can interrupt classes for several hours at a time. To be proactive about this, CCBC should replace all old gas mains on campus on a scheduled basis when student populations are at a minimum. It should be noted that natural gas is actually methane that has been odorized for safety detection and is approximately 80 times per molecule more damaging to the atmosphere than carbon dioxide.

Land Acquisition: Martin's Farm **Cost TBD**

This particular combination of properties is almost 14 acres. They are collectively bound by I-95 on the North, Rossville Boulevard on the East, I-695 on the West and other private property on the South. The only direct access is to Rossville Blvd or its precursor, Ridge Rd. This is perhaps the last opportunity that CCBC Essex will have to purchase property in reasonable proximity to the campus. This property is across Rossville Blvd from Lot 8 and the Facilities Operations building.

Classroom Building 2 (between COMM and WELL) **\$14,000,000**

This proposed 40,000 GSF project will be situated just off South Lane and forms a new north edge to this green space type quadrangle. The project could be advanced to a sooner time bracket and then used as surge space when renovating the Business Education and Social Science or Library buildings in the 2021-2025 period. With Classroom Building 1 nearer to Arts & Humanities Hall and the need for SOLA program space (Reading and English being the largest), this facility could be well-suited for SoMS and particularly Mathematics instruction and also to fulfill the need for lecture hall spaces of a variety of Science disciplines. Other space in this facility could be used for Health, Nutrition, and Recreation disciplines due to proximity to the Wellness & Athletics Center Building. There is a need for additional faculty space among WELL program areas and this or Classroom 1 Building could fulfill some or all of that need. If the Middle College becomes a reality, it could be located in this building.

West Parking Garage – Phase 1

\$25,000,000

Located in Parking Lot 5 this phase of the garage construction will be designed to produce a total of 1,000 spaces. This lot will lose most of its 340 spaces with this garage although a taller garage might allow for some of those to be preserved. Situating the garage more toward the North end of the lot would perhaps allow some the southern spaces covered with solar canopies to be preserved. These preserved spaces would feel isolated from the campus with the large garage lying between the spaces and all academic buildings. This lot was built ca. 1976 with storm water quantity management control installed. Some modification to this SWM facility is anticipated based on its age and measures to improve SW quality will need to be implemented. Building garages over existing parking lots seems to be the most cost effective strategy for this site for several reasons. One is that there is very little vacant land near the academic heart of the campus. Outlying space is either for athletic facility use or part of forest conservation area. The soil type on this campus makes construction of economical surface parking not very practical. Much clearing, grading, utilities, and deep paving sections are all costly and disruptive activities. A garage can be built relatively quickly of cast in place concrete.

West Parking Garage – Phase 2

\$10,850,000

Located in Parking Lot 5 this phase of the parking garage will be designed to produce an increase of 434 spaces. If these spaces are built atop the Phase 1 garage then there will be no net loss of parking due to construction. This phase of the work should be accomplished prior to building either the new Performing Arts Center or Classroom Building 3. The latter project will induce a loss of approximately 60-75 spaces.

Performing Arts Center

\$33,750,000

This large building project is principally proposed to provide a larger venue for a multitude of the performing arts. It has been noted that the current theatre at Essex is not large enough to attract big name talent and recoup expenses with ticket prices; they would just be too exorbitant for the community to patronize the performances. A larger theatre would help to resolve that pricing debacle. This facility should also contain a more intimate and experimental 'black box' style theatre that could be alternately used for some larger meetings or conferences that need space of this type. There is a lack of this type of space available in the surrounding locale and the college often gets inquiries for space such as this. Care will need to be exercised in siting this building as there is a dedicated Mace family burial plot in the vicinity. A clearer vehicular entry path for visitors should be developed as a part of this project if it has not been done already. Most patrons or users of this facility would be expected to park in the adjacent garage.

Classroom Building 3 (Lot 4)

\$21,000,000

This facility fills most of the open space on the South-Central edge of the campus and overlooks some of the Franklin Square Hospital campus. It would be bounded on the North by the Administration Building (with many SAIT programs), on the East by the Mathematics & Science Hall (home of SoMS), and on the West by the Business Education and Social Science (WESS programs, BCJL programs, and CNED staff and programs.) As this facility is near the fulfillment of maximum capacity of this campus to develop within the current property boundaries, this plan does not put forth a slate of potential occupants. Indeed, many program areas are likely to change before this project is ready for the programming stage.