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Standard Eight

Physical and Technological Resources

The University of Connecticut's physical resources consist of over 13.8 million ft^2 of building space located on the main and six regional campuses. A substantial physical transformation has occurred since the previous NEASC accreditation. The Strategic Plan for the University of Connecticut, ***Beyond 2000: Change***, was approved by the University Board of Trustees on January 17, 1995, and contained the following vision statement: "The University of Connecticut will be perceived and acknowledged as the outstanding public university in the nation - a world class university. It will be a community of scholars and a center for learning where individuals can develop their intellectual capabilities throughout their lives in an environment that promotes academic achievement and research excellence...."

The Governor and Legislature endorsed this goal and passed Public Act 95-230, the so-called "UCONN 2000" legislation, in June 1995 that provided $980 million to construct a physical environment that promotes academic achievement and research excellence. In 2002, the Legislature extended the program by passing the 21st Century UCONN program (referred to hereafter as UCONN 2000 Phase III), Public Act 2-3. Signed into law on August 26 2002, this program provides $1.3 billion for capital improvements through 2015. Some of the highlights of the program include 3.4 million ft^2 of new construction including 770,000 ft^2 of new laboratory space, 3,440 new dormitory beds and 875,000 ft^2 of new construction at Regional Campuses. As of October 2005, seventy-three projects distributed across all campuses and totaling $1,091,000,000 had been authorized to receive General Obligation Debt Service Commitment bond proceeds (Book 21; 8.1).

The Storrs and Regional Campuses

The main campus of the University is located in Storrs approximately 30 miles east of the state capital, Hartford. This campus is approximately 3,800 acres, including farm and forest lands. Unlike many urban campuses, UConn-Storrs owns and operates utilities that generate/provide water, electricity, district heating and cooling, and waste water treatment to its facilities. The main campus now encompasses 10.1 million ft^2 in 461 buildings. A summary of the space and structure statistics for the University of Connecticut System is provided in Table 1 (8.1, 8.3).

Table 1. Space and structure statistics at the University of Connecticut.

Campus	Acreage	Gross Square Footage	Number Bldgs/Boats
Storrs	3843	10,114,940.69	461/0
Hartford & W. Hartford	77	477,526.00	11/0
Stamford	8	605,700.29	2/0
Torrington	96	48,197.00	4/0
Waterbury	8	105,872.00	1/0
Avery Point	72	467,618.73	22/8
UC Health Center	162	2,140,000.00	42/0
TOTAL	**4266**	**13,983,302.71**	**542/8**

Avery Point: This ocean-side regional campus is located on 72 acres of a former estate at the mouth of the Thames River. The original great house, Branford House, was built in 1904, and was joined by U.S. Coast Guard structures during the 1940s. The University assumed control of the site in the 1960s. The Avery Point campus supports three four-year degree programs, two of which are related to the coastal and maritime aspects of the campus' marine mission. The Marine Sciences Program is located here. In 2001, a new Marine Science building opened, featuring state-of-the-art scientific facilities.

Torrington: The Torrington regional campus provides access to UConn's educational programs for residents of the state's northwest corner. It is co-located with the Litchfield County Cooperative Extension Office. Students enrolled at the Torrington campus can complete select bachelor's degree programs through the UCONN Tri-Campus system, a program that combines course offerings at UConn's Torrington, Greater Hartford and Waterbury locations.

Greater Hartford Campus: This campus is located in West Hartford, and is home to the School of Social Work and the Hartford County Cooperative Extension Service.

The Hartford Law School Campus: The University's Law School was established in 1921. Its Hartford campus is listed on the National Register of Historic Sites.

Waterbury: Located in the urban downtown setting of Waterbury, this campus serves commuter students from the Naugatuck Valley and from as far away as Bridgeport and New Haven.

Stamford: The Stamford Campus was founded in 1951, to provide education for GIs returning from the Korean War. It is currently located at One University Place, and boasts new facilities that roughly triple the size of the former campus. It is home to the Center for Judaic and Middle Eastern Studies, Connecticut Information and Technology Institute, and the Seaweed Marine Biotechnology Laboratory.

The University of Connecticut Health Center (UCHC) – Farmington: The UCHC is home to the UCONN Medical School, UCONN Dental School, and the John Dempsey Hospital. It is second only to the Storrs campus in size and scope.

It should be noted that the University of Connecticut also leases 39,081 square feet in downtown Hartford for the School of Business Graduate Learning Center and SS&C Financial Accelerator. Also, there are six (6) other County Extension Offices that are located in owned (O) or leased (L) facilities in the towns of Bethel (L), North Haven (O), Norwich (O), Haddam (O), Vernon (L) and Brooklyn (O).

Administrative Responsibility and Authority

The ultimate authority for approval of planning and expenditures for physical and technological resources resides with the Board of Trustees (BOT). The BOT meets with the University Central Administration in public meetings several times a year to review and approve construction and budgetary requests for capital projects. In 2006, the Chair of the BOT established a Building, Grounds and Environment Committee to augment Board oversight of the university's capital project program, plus university utility systems, such as water. The BOT also has a Joint Audit and Compliance Committee that has fiscal audit oversight of all capital expenditures, augmenting the role of the Financial Affairs Committee.

Overall, the University's capital projects' planning is guided by input from such planning documents as the Campus Master Plan and the UCONN 2000 Phases I, II and III Named Project List. It obtains university constituency feedback through the Capital Projects Planning Advisory Committee (CPPAC). Exhibit 8.1 contains a list of all CPPAC members and the charge to the Committee.

The President has charged the University Buildings & Grounds Committee (B&G), composed of selected senior administrators, two deans and two University Senate representatives, with responsibility for policy and decision-making relative to the physical infrastructure at the Storrs and Regional campuses. Exhibit 8.2 is a list of the composition of the B&G committee. (8.4, 8.6) At UCHC, a related shared governance model exists that is analogous to the Storrs-based B&G. This responsibility encompasses:

1. Prioritizing construction of new buildings, major renovation projects, and other major capital projects, including equipment, information technology and major software acquisitions;
2. Planning, prioritizing and monitoring the expenditure of UCONN 2000 funds and capital funds from other sources for UCONN 2000 named projects, in a manner that best supports the academic mission and ensures proper financial reporting to the President, Board of Trustees and external entities;
3. Establishing and implementing plans to utilize the UCONN 2000 Deferred Maintenance funds in a way that addresses the highest priority deferred maintenance needs of the Storrs and Regional campuses; and
4. Establishing and maintaining mechanisms to receive, consider, and incorporate into campus plans input from advisory groups relative to environment, facilities and utility master planning, landscaping, signage and other elements that contribute to the aesthetic quality of the University experience (8.4, 8.6).

A spreadsheet depicting all named UCONN 2000 projects (Phase I-IV) is contained in Appendix 6.5. Exhibit 8.3 contains a compendium of University websites regarding aspects of the building program.

The Chief Operating Officer (COO) of the University is responsible for the administrative functions relevant to the general Physical Plant. The COO has oversight of these offices related to capital projects: Architectural and Engineering Services, Facilities Operations, the administrative aspects of the Office of Construction Assurance, and Capital Project and Contract Administration. Physical resources associated with student housing are administered by the Department of Residential Life. Technological resources associated with Undergraduate Education are administered by the Institute for Teaching and Learning. The administrative responsibility and authority for these entities report through the Provost.

During late 2004 through early 2006, deficiencies in the UCONN 2000 building program processes were identified, arising from the discovery of faulty construction in some projects. The University acknowledged these problems and undertook a number of corrective actions to remediate the construction problems and refine administrative processes to prevent reoccurrence of these types of issues. President Austin presented a plan to the Board of Trustees and the Connecticut General Assembly in 2005 that has now been implemented to correct problems and improve processes.

Because the primary source of capital projects money at the University of Connecticut is from State of Connecticut funds, state government officials took an active interest in ensuring that the issues were addressed and would not recur. Ultimately, the state General Assembly passed legislation (Appendix 8.1) that called for increased inspection and oversight of UCONN 2000 capital projects and established a legislatively-appointed state Construction Management Oversight Committee. Public Act 06-14, "An Act Concerning Construction Oversight at the University of Connecticut and the Prequalification of Substantive Contractors," *inter alia,* requires the following:

- Selection and appointment by the Board of Trustees of independent auditors to annually conduct an audit of any project of UCONN 2000;
- Establishment of a Construction Management Oversight Committee consisting of four members appointed jointly by the Governor, the Speaker of the House of Representatives, the Majority and Minority Leaders of the Senate, and three members appointed by the Board of Trustee (list of members of Construction Oversight Committee available in Resource Room);
- Establishment of a Construction Assurance Office by the Board of Trustees.

All of these provisions have been met.

The University's Academic Plan Operating Principles for Facilities and Physical Planning

The Academic Plan is intended to assure that the State of Connecticut's major investment in University facilities will achieve the maximum return for the entire range of University missions. Accordingly, the Plan sets out principles for facilities and physical planning across all University campuses. Guidelines are provided for structures that best serve academic programs for maintenance efficiencies, and for consolidation of activities in fewer buildings. The plan also supplies a management model that ensures responsive, flexible use of classrooms. Within the Academic Plan, the four major aspects of the Operating Principles for Facilities and Physical Planning are:

- To recommend principles for establishing priorities for the UCONN 2000 building program consistent with the Academic Plan,
- To create principles for research, laboratory, performance, and scholarship space,
- To create a model for classroom planning as a portion of UCONN 2000 Building programs, and
- To create a process for establishing and to some extent standardizing internet and telephony needs, and to develop a process for building these systems into the UCONN 2000 building program. (8.4, 8.6)

The goal of University academic planning in general has been to plan for and provide the physical and technological resources required to fulfill its teaching, research and outreach missions. Since the previous NEASC accreditation

review, more than 100 classrooms have been renovated to accommodate electronic access and multimedia presentation platforms, i.e., Hi-Tech Classrooms. (8.2)

Primary responsibility for ensuring that classroom resources are sufficient to support modern teaching practices lies with the Institute for Teaching and Learning (ITL). The ITL is comprised of ten units and sub-units including Instructional Design & Development, Instructional Resource Center, Teaching Assistant Programs, University Center for Instructional Media & Technology, Learning Resource Center, Early College Experience, Quantitative Learning Center, and the University Writing Center. Some of these ITL units provide services required for distance learning, hi-tech classroom management, video services, graphics and photographic production, WebCT training, instructional design services, faculty development opportunities, and teaching assistant orientation and programs. Other units provide direct support to students for computer technology, writing and quantitative aspects of their learning, as well as curriculum development support through the instructional design process. Maintenance of Hi-Tech classrooms is provided by personnel in ITL. For further discussion of the ITL, see Chapter 7. (8.2, 8.4)

Safety and Compliance

Construction of new facilities at the University of Connecticut is guided by applicable law as embodied in such laws and regulations as: the Connecticut State Building Code (adopted 1999 with subsequent amendments); the Connecticut State Fire Safety Code (adopted 1999 and based on NFPA 101, 1997 with amendments); and the guidelines of the U.S. Access Board to satisfy federal legislation of the Americans with Disabilities Act of 1990 and the Architectural Barriers Act of 1968, as augmented by University of Connecticut Accessibility Standards published by UConn's Center for Students with Disabilities (8.3). Adherence to relevant law in threshold buildings is assured by the offices of the State Building Inspector and the State Fire Marshal. In non-threshold projects, adherence to relevant codes is monitored and ensured by the University's Building Inspection Office, a part of the University's Division of Public Safety; this Office also provides oversight for renovations. In addition, guidance is provided by the University's Office of Environmental Health and Safety ("EHS", also part of Public Safety) with their "Construction & Renovation Guidelines" (currently awaiting review by the Building Inspection Office), and the Center for Students with Disabilities. Security issues fall into two general categories. One is intended to protect the public from hazards inherent in the legitimate activities of the building's occupants and programs, and the other is intended to protect the building's occupants, programs and property from theft, vandalism, and other criminal activity. The first type of security is developed with guidance from EHS; the UCONN Police Department (PD) is primarily responsible for the second category. Security systems maintenance is typically the responsibility of the occupying department and with some elements in the domain of Facilities Operations. Programs work with EHS and the UCONN Police Department as needed to identify any changes in security systems that might be necessary. The Office for Environmental Policy is charged with ensuring that the University implements best practices and continually monitor, report on and improve its environmental performance. It works with various constituencies to design, construct and maintain University buildings, infrastructure and grounds in a manner that ensures environmental sustainability and protects public health and safety. (8.3)

Maintenance

Maintenance of the physical plant is generally provided by the University's Facilities Operations group. In addition to performing routine Planned Maintenance on building safety systems, they routinely inspect for and correct safety and security problems. The Building Inspector's Office, Fire Department and EHS also each conduct routine inspections of facilities. Violations and problems are brought to the attention of the unit responsible for corrective action, typically Facilities Operations or an occupying department. Maintenance of student housing is the responsibility of the Department of Residential Life, while that of the University technology infrastructure is provided by University Information Technology Services (UITS). Additionally, the Academic Renovations Unit of Biological Central Services provides some selected small renovations funded in approximately equal measure from capital money specifically allocated for deferred maintenance through the Provost's office, and from individual schools/colleges/departments. Deferred maintenance is continually evaluated by the B&G Committee. A listing and prioritization of projects for DM funds provided through UCONN 2000 is developed through communication with Facilities Operations, and academic reporting lines through the Deans/Directors to the Provost. (8.1, 8.4)

Policies and Procedures

The University's policies are maintained within an electronic database (Policy e-library) that is accessible from its main web page. The Policy e-library was implemented in January 2003. In addition, UITS maintains a policy web page that links directly to policies that involve technology and security.

All major departments have policy editors who are responsible for generating new policies within their specific area. Once a policy has been drafted and vetted through the appropriate internal approval process, it is recommended to the Reviewer (Office of Audit, Compliance and Ethics) to ensure that the policy is compliant with federal and state laws, and that it is consistent with already established University policies. In addition, the Reviewer determines if the policy is department-, college- or University- based; in the latter case, the policy is considered by the senior administration and potentially the Board of Trustees for final approval.

Electronic Data Management and Security
The University's Information Technology Services Department (UITS) has developed several policies and procedures to protect the reliability, integrity, and security of the data that are housed on its systems. These policies were implemented, in part, to address issues of security and individual privacy resulting from federal and state legislation such as the Family Rights and Privacy Act (FERPA), the Health Insurance Portability and Accountability Act (HIPAA), the Electronic Communications Privacy Act (ECPA), the Gramm-Leach-Bliley Act (GLB), the Children's Online Privacy Protection Act (COPPA), the Freedom of Information Act (FOIA), and the Connecticut Personal Data Act. A Council of Data Stewards (CDS) is appointed by the University President and is responsible for recommending policies, and establishing procedures and guidelines, for university-wide management of University data and for ensuring consistency of policies, procedures and guidelines across all areas. The Assistant Vice President for Security, Policy and Quality Assurance is also a member of the CDS. (8.5)

Information Technology Audits
The University's Office of Audit, Compliance and Ethics (OACE) employs an IT Audit Manager and Senior Auditor to address areas related to information systems. To that end, the IT Audit Manager works closely with management and personnel from the UITS and the Health Center's Information Technology Department to define the IT audit universe for the University and Health Center, and identify areas of potential risk or exposure to UCONN systems. Based on this information a risk assessment is conducted to identify audits to be included in the yearly IT audit plan. To augment the competencies of the existing IT audit staff, the University contracts with external auditing services, as needed. In addition, the Auditors of Public Accounts for the State of Connecticut include IT areas in their annual audit plan. (8.5)

Confidentiality and Privacy
In order to protect the confidentiality and privacy of students and employees of the University of Connecticut and to ensure that steps are taken concerning the collection, use and disclosure of Social Security numbers, the Central Administration authorized the creation of the Policy on the Use of the Social Security Number at the University of Connecticut, which was disseminated in September 2005. Over the past two years, the University has worked with independent consultants and the Connecticut State Department of Information Technology to ensure compliance with HIPAA legislation and a plan for remediation has been developed.

Appraisal

The evaluation of physical and technological resources occurs continually at all levels of the University, and this section focuses on five central evaluators of these resources. (8.6)

Campus Master Plan
The Campus Master Plan provides an "Analysis of Existing Conditions" relative to (1) Buildings and Facilities, (2) Open Space, (3) Pedestrian and Vehicular Circulation and (4) Parking. Appendices 8.2 and 8.3 contain the three Campus Master Plan reports for the Storrs Campus and Regional campuses. In the original Master Plan, adopted by the Board of Trustees in 1997, planning recommendations were presented for the six "Campus Neighborhoods" under each of the first three categories. The updated Storrs core campus Master Plan, adopted in 2006, contains recommendations for further construction using UCONN 2000 funding, as well as anticipated needs beyond 2015. As construction under UCONN 2000 has progressed on the Storrs campus, parking and service vehicle access concerns have been raised, especially as the campus has evolved to promote an environment that is pedestrian-friendly in its core, as called for in the Master Plan. While the construction of parking garages has alleviated much of the parking burden, it is recognized that careful planning is required for the future so that parking is as convenient as possible. In academic year 2006-07, planning consultants have been engaged to analyze and make recommendations about the best means for service vehicles to be able to access all buildings, with a minimum of conflict with pedestrians and continued adherence to the concept of a pedestrian campus. As planning for the location of one of the largest of the last major building projects in UCONN 2000, the Arjona-Monteith replacement building, comes to fruition in 2006-07, resolution of the problem of vehicular access to this building and the Library is an important and unresolved issue.

Building and Maintenance Evaluation
UCONN 2000 represents a 20-year, $2.3 billion investment by the State of Connecticut in upgrading the University's

physical and technological infrastructure. An update and evaluation of UCONN 2000 building projects and finances is prepared semi-annually for the State Governor and Legislature. The procedures for planning and evaluating UCONN 2000 have evolved over time, with the current structure being that summarized by Philip Austin before the Finance, Revenue and Bonding Committee of the State of Connecticut General Assembly in April 2005. See Exhibit 8.4 for the statement. The multifaceted plan that President Austin outlined to the General Assembly included restructuring and expanding the Joint Audit and Compliance Committee, restructuring the management of building construction, creating the Office of Fire Marshal and Building Inspector, revising project budgeting and reporting, and enhancing contract approval and administration. This plan is based on the recommendations to the Board of Trustees of the University Chief Operating Officer for correcting construction program issues (Exhibit 8.5). See also the description of new building program processes and construction process flow chart (Exhibit 8.6). New software has been acquired (FAMIS) that will permit Facilities Operations to track maintenance needs and schedule their completion more efficiently, and for Architectural and Engineering Services to better manage space and capital projects.

The University's COO recently instituted a BEST (Breakthroughs, Excellence, and Success through Teamwork) initiative between the UCHC and the Storrs campus that seeks to improve services provided to students, patients, faculty, and staff, primarily within the departments that report to the COO and the UCHC Hospital Director. This goal is accomplished through process improvement teams charged with tackling specific problems that can be analyzed in ways that allow the team to identify solutions to inefficiencies. The BEST approach was recently used to reduce the time to respond to minor maintenance work orders at Storrs. See Appendix 2.7 for relevant reports.

Deferred Maintenance

Deferred maintenance (DM) projects are also supported with funds from UCONN 2000. The B&G Committee establishes a priority listing of deferred maintenance needs through consultation with the various constituencies reporting through the Provost and the COO, as well as input from the Health Center. B&G evaluates projects in light of the academic and student services missions of the University in terms of their cost effectiveness, health and safety considerations, and regulatory requirements. In 2006, the University hired an outside contractor to provide guidance on how best to identify and prioritize deferred maintenance projects. The contractor's report is due in 2007 and it will be used to prioritize future B&G deferred recommendations to the Board of Trustees. The University of Connecticut Board of Trustees gives final approval to the deferred maintenance budget suggested by the B&G. This budget will also be reviewed by the legislative-appointed Construction Oversight Committee.

Technological Resources

Many of the University's technological resources are managed by UITS. This is overseen by the Information Technology (IT) Steering Committee which is comprised of representatives from all major technology users at the University, including the Provost's office, various academic colleges, the library system, professional schools, various administrative units, and regional campuses. The charge to UITS, as a whole, and the steering committee in particular, is to develop and invest in technologies that support the University's tripartite mission. See Chapter Seven for further discussion of the functions of UITS.

University Center for Instructional Media and Technology

The former University Center for Instructional Media and Technology (UCIMT) is now an integral part of the Institute for Teaching and Learning (ITL) which now provides a variety of practical technological services, including classroom technology, distance learning and teleconferencing via Interactive Compressed Video (ICV), graphics and photographic services. In addition, UCIMT provides support in the area of digitization and video design services. These technology services are utilized extensively by faculty, staff and students for both education and research activities.

Projection

The University has completed master plans for the campuses and their constituent units. Requirements for new facilities, plant adaptations, renovations and deferred maintenance have been programmed and prioritized. The *UCONN 2000 Phase III and IV* (21st Century UCONN) plan calls for an investment of over 1.3 billion dollars over the next ten years (2005-2015) in order to provide the infrastructure necessary to operate a world class university. (8.3)

The University will face challenges in the near term, as it refines its processes to comply with the many layers of UCONN 2000 oversight and reporting that have been added since late 2004. Most of the staff hiring and oversight/advisory committee appointments have been made, and the mechanisms for interaction among the various committees, the Board of Trustees and the General Assembly should be in place by mid-2007.

Despite the progress, challenges remain that must be addressed for the University to reach its future goal as one of the top public research institutions. Even the huge amount of capital dollars slated to be spent in the four phases of

UCONN 2000 cannot address all documented facilities needs. The University of Connecticut will have to be vigilant and make tough prioritization decisions in order to obtain the very best return on the state's investment. (8.1, 8.3)

During the next ten years, the University must refine and implement a plan that is realistic and addresses the needs of the University, without exceeding the fiscal limits of the UCONN 2000 program. The University must replace or augment the available classroom space to meet the needs of increased student enrollment, while ensuring that students enjoy a positive educational experience and a safe environment. It isplanned that all new classrooms to be built within the 21st UCONN program will be either fully high technology or 'tech ready,' the latter designation indicating an ability for any instructor to access digital projection and sound amplification through the use of a laptop computer or tape/DVD player. It is also planned to equip all current generally scheduled classrooms to at least the 'tech ready' level. See Appendix 8.4 for a list of the current high-tech classrooms at the University.

In addition, the University must ensure that its faculty has state of the art research facilities, equipment and technology, including the Library, to carry out their work and provide adequate operating funds to ensure appropriate maintenance of its buildings and physical and technological infrastructure. Funding for facilities that support research are a priority, as the University's Academic Plan has a goal of increasing external research funding.

A revised ten year (2005-2015) construction program, with a realistic timeline for the entire program of construction and renovation, was presented to the Board of Trustees in mid- 2006. (See Appendix 6.5) This plan includes research and teaching facilities that are needed to accommodate the needs of faculty, staff, and students in many different schools and colleges at Storrs, and at the regional campuses, Law School and Health Center.

In order to accomplish 21st Century UCONN goals (UCONN 2000 Phases III and IV), a practical, well-researched set of cost data for all the projects is essential, especially given the impact of inflation during the past several years and public interest in the University's construction program. The 2006 plan has been developed with this cost data in mind and will be monitored continually. (8.4)

INSTITUTIONAL EFFECTIVENESS

The University of Connecticut has been given a great responsibility by the State of Connecticut, in the form of the exceptional $2.3 billion UCONN 2000 capital projects construction program. The University has done its best to be a responsible steward of this great gift. When problems have arisen, the institution has addressed them, learned from them and improved its processes to prevent future occurrences. Over the next ten years, the University will strive to meet the ambitious plans it has prepared for transforming its physical and technological infrastructure.