

Fiscal Year 2009-10 Capital Construction Request

University of Colorado -- Boulder Systems Biotechnology Building

PROGRAM PLAN STATUS

2007-107

Approved Program Plan? Yes No Date Approved:

CCHE approved a program plan amendment on November 1, 2007, and approved a second program plan amendment on October 2, 2008.

PRIORITY NUMBERS

Prioritized By Priority
Dept/Inst NP of 4

PRIOR APPROPRIATION AND REQUEST INFORMATION

<u>Fund Source</u>	<u>Prior Approp.</u>	<u>FY 2009-10</u>	<u>FY 2010-11</u>	<u>Future Requests</u>	<u>Total Cost</u>
CF	\$12,888,973	\$120,121,152	\$0	\$0	\$133,010,125
FF	\$0	\$15,000,000	\$0	\$0	\$15,000,000
Total	\$12,888,973	\$135,121,152	\$0	\$0	\$148,010,125

ITEMIZED COST INFORMATION

<u>Cost Item</u>	<u>Prior Approp.</u>	<u>FY 2009-10</u>	<u>FY 2010-11</u>	<u>Future Requests</u>	<u>Total Cost</u>
Land Acquisition	\$0	\$0	\$0	\$0	\$0
Professional Services	\$12,263,239	\$4,681,373	\$0	\$0	\$16,944,612
Construction	\$0	\$117,638,077	\$0	\$0	\$117,638,077
Equipment	\$0	\$5,974,573	\$0	\$0	\$5,974,573
Miscellaneous	\$0	\$425,000	\$0	\$0	\$425,000
Contingency	\$625,734	\$6,402,129	\$0	\$0	\$7,027,863
Total	\$12,888,973	\$135,121,152	\$0	\$0	\$148,010,125

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU-Boulder) is requesting a combination of cash funds and federal funds spending authority for the second phase of a three-phase project to construct a 312,040-GSF Systems Biotechnology building on the southwest corner of its research campus. The research campus is located east of the main Boulder campus between 30th Street and Foothills Parkway. When completed, the building will house three major units of the university: (1) the Biochemistry Division of the Chemistry and Biochemistry Department; (2) the Chemical and Biological Engineering Department; and (3) the Colorado Initiative in Molecular Biotechnology (CIMB). The project will support the advancement and application of the university's interdisciplinary biotechnology program in order to achieve breakthrough contributions in the engineering of human tissue, new pharmaceuticals based on RNA enzymes, and a better understanding of the genetic basis for numerous diseases.

Project phasing. The project was originally submitted with an outyear request for state funds. Due to the limited availability of state funds for capital construction, CU-Boulder has rescoped the project to have three distinct, stand-alone phases. Phase I of the project completed project design and was cash-funded. This year's request for Phase II completes construction of a one-story auditorium and three of four wings of the building, including some shell space, and will be cash- and federally-funded. Phase III of the project will construct a fourth wing to house the Chemical and Biological Engineering Department and build out the shell space in the remainder of the facility. Phase III will be requested from state funds. According to CU-Boulder, the university will wait to seek Phase III funding until the state has recovered from the current economic recession.

Fiscal Year 2009-10 Capital Construction Request

University of Colorado -- Boulder

Systems Biotechnology Building

CU-Boulder says the new building will facilitate numerous enhancements for the university, including:

- cutting-edge research that places CU-Boulder at the forefront of systems biotechnology;
- interdisciplinary, hands-on education of graduate and undergraduate students, preparing them for the growing biotechnology workforce;
- technology transfer and economic development for Colorado's biotechnology industry; and
- creation of a flagship facility to anchor a new vision for expansion of CU-Boulder's campus.

The building will feature flexible labs supported by state-of-the-art technology, an auditorium for large conferences, seminar rooms, classrooms, computer labs, teaching labs, open meeting areas, a café, and conference rooms organized around an interior "main street" concept. The research and teaching laboratories and classrooms will facilitate interdisciplinary research, graduate and undergraduate training, and collaboration with corporate partners. The meeting and communication facilities will help bridge the distance between the research campus and the main campus, as well as foster relationships between the university and industry.

PROJECT JUSTIFICATION

The university says growth in the biochemistry, chemical/biological engineering, and systems biotechnology programs is driving the need for more space. In addition, the university believes it is important to align its goals with an emerging industry.

Department growth and space needs. In 2003-04, an external review team identified a need for more and improved space for the existing faculty and students in the Department of Chemical and Biological Engineering. CU-Boulder says existing space is inadequate in terms of volume and quality. Although total enrollment at CU-Boulder is not expected to increase, enrollment trends indicate growth in both the Chemical and Biological Engineering and Chemistry and Biochemistry departments, further exacerbating space needs. CIMB currently has 5 faculty members, and foresees bringing on 20 additional faculty members in the new building. Locating the new Systems Biotechnology building on the research campus will also direct future research and educational facilities to this campus as space on CU-Boulder's main campus becomes more constricted.

Alignment of goals with an emerging industry. According to CU-Boulder, the project will help the Front Range of Colorado become a national powerhouse in the emerging disciplines of genomics and molecular biotechnology. Colorado is home to over 380 bioscience companies and is one of the fastest growing states for the life sciences and biotechnology industries. Between 1998 and 2003, the number of biotechnology companies in the state grew by 35 percent, outpacing the national growth rate of 29 percent. Also, biotechnology research has been the leading contributor to CU-Boulder's technology transfer financial results, with 15 companies being created and 111 licenses granted for technologies. Bioscience-related departments accounted for 80 percent of CU-Boulder's royalty income between 1996 and 2005, with a total of \$23 million in royalty income.

CU-Boulder believes the facility will improve the university's position and national reputation as a premier research institution and will serve as a magnet, generating new research funding, attracting top-quality faculty, and drawing the nation's and the world's best students in engineering and science. The building will also bring programs together and offer undergraduate students the opportunity to work side-by-side with internationally recognized faculty and research teams. CU-Boulder says the linkage of basic sciences, engineering, clinical practice, and industry within the new building will lead to the development of additional technologies, drugs, and techniques for improving human lives.

PROGRAM INFORMATION

The university says faculty members from the Biochemistry Division of the Chemistry and Biochemistry Department have received a number of national and international awards, including a Nobel Prize. The division spans the fields of cellular and molecular biology to synthetic organic and biophysical chemistry. CU-Boulder estimates that, department-wide, the number of majors will increase 15.7 percent from FY 2007-08 to FY 2010-11.

CU-Boulder says the Chemical and Biological Engineering Department's graduate program has been ranked by U.S. News and World Report in the top 20 of public universities, and its faculty members have received a number of national awards. The university estimates that the number of department majors will increase 27.7 percent from FY

Fiscal Year 2009-10 Capital Construction Request

University of Colorado -- Boulder

Systems Biotechnology Building

2007-08 to FY 2010-11.

CIMB faculty members are primarily tenured in the departments of Chemistry and Biochemistry and Chemical and Biological Engineering, but CIMB also includes faculty from other departments engaged in the interdisciplinary research efforts of systems biotechnology. These departments include Molecular and Cellular Developmental Biology, Physics, Applied Mathematics, and Computer Science. As CIMB grows, it will hire researchers dedicated only to CIMB.

LEED CERTIFICATION INFORMATION

If state funding is requested for Phase III of the project, it will be requested below 25 percent of the project's total cost, the threshold for which LEED certification is required. However, the university plans to build the facility to the LEED gold standard, the second highest of four possible certification levels.

PROJECT STATUS

Phase I of the project, which designed the facility, is nearing completion. The entire FY 2008-09 appropriation has been expended.

SOURCE OF CASH FUNDS

The source of cash funds includes bonds, donations, and grants as detailed below:

Bonds. CU-Boulder plans to issue \$93 million in bonds to be repaid from indirect cost recoveries on new research performed in the building. The university says it expects to bond for a period of 25 years at a rate of 6.5 percent. It expects an average annual payment of about \$7.6 million and will begin repaying the bonds in June 2011.

Donations. The university has received about \$26 million in donations to date.

Federal grant. The university has applied for a \$15 million National Institutes of Health grant to build out research laboratories in the shelled space included in Phase II.

STAFF QUESTIONS AND ISSUES

All responses to staff questions were incorporated into the project write-up.

IMPACT ON OPERATING BUDGET

	1st Year	2nd Year	3rd Year	Total
Personnel Services	The project has no impact on state operating costs.			
Maintenance				
Utilities				
Supplies/Equipment				
Other				

Fiscal Year 2009-10 Capital Construction Request

University of Colorado -- Boulder *Systems Biotechnology Building*

PROJECT SCHEDULE

	Start Date	Completion Date
Physical Planning	July 2008	December 2009
Construction	October 2009	September 2011
Equipment	March 2011	September 2011
Occupancy	November 2011	