Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder

Hellems Arts and Sciences Building Renovation and Mary Rippon Outdoor Theatre Renovation

PROGRAM PLAN STATUS

2004-120

Approved Program Plan Yes **Date Approved:** June 30, 2019

PRIORITY NUMBERS

Prioritized By	Priority	
CU Boulder	1 of 3	
CCHE	2 of 34	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATIONS AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Costs
CCF	$14,082,800	$10,868,038	$10,867,541	$0	$35,818,379
CF	$21,124,200	$16,302,057	$16,301,312	$0	$53,727,569
Total	$35,207,000	$27,170,095	$27,168,853	$0	$89,545,948

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$9,210,839	$1,727,874	$1,728,095	$0	$12,666,808
Construction	$20,989,446	$21,203,379	$21,203,400	$0	$63,396,225
Equipment	$1,522,576	$1,529,515	$1,529,641	$0	$4,581,732
Miscellaneous	$283,502	$239,319	$237,821	$0	$760,642
Contingency	$3,200,637	$2,470,008	$2,469,896	$0	$8,140,541
Total	$35,207,000	$27,170,095	$27,168,853	$0	$89,545,948

PROJECT STATUS

This is the eleventh request for funding. Originally a four-phase project, the first two phases were approved in last year's Long Bill. This is the first request for the penultimate phase of the project. Funding was first requested on behalf of the project for FY 2003-04, FY 2006-07, FY 2009-10 through FY 2011-12, and FY 2017-18 through FY 2019-20. The project has been listed on the university's five-year projection of need in the intervening years. Previous years' requests have been for a capital renewal project. A new program plan for the project published in May 2017 rescoped the project to combine the capital renewal elements with a number of program-driven renovations.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder

Hellems Arts and Sciences Building Renovation and Mary Rippon Outdoor Theatre Renovation

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU Boulder) is requesting a combination of state funds and cash funds spending authority for the second phase of a three-phase project to address concerns with various electrical and mechanical systems within the 95,065-GSF Hellems Arts and Sciences Building, and to renovate the building's interior to address programming needs. The university says the project will preserve and protect the 100-year-old building, which is structurally sound but requires modernization and interior reorganization to address life-safety and code issues and to more efficiently accommodate academic needs. The building assessment will include a materials test and an asbestos and environmental report. The scope of the project includes improvements to the adjacent Mary Rippon Outdoor Theatre. Design for the project is underway; this year's request will fund construction beginning in November 2023.

Deferred maintenance to be addressed by the project includes:

- replacing the exterior windows and rehabilitating exterior doors;
- installing a new HVAC system, including associated duct work, grills, shafts, and controls, and integrating a cooling system into the building to enhance year-round building use;
- replacing the electrical distribution system;
- fire-alarm additions and modifications, and upgrading associated safety features;
- upgrading electrical panels;
- replacing interior lighting fixtures;
- roofing improvements, including replacing roof underlaying; insulating the roof underside; restoring damaged gutters and downspouts; and testing, and possibly abating, hazardous materials;
- abating hazardous materials in surfaces and finishes in the building's interior;
- repointing and cleaning exterior masonry;
- foundation waterproofing;
- restoring exterior flagstone stairs;
- providing ADA-accessible restrooms with new fixtures;
- correcting stair enclosures for better life-safety accessibility and ADA compliance; and
- updating finishes throughout the building's interior.

Interior renovations to improve program delivery include resizing of office space to create additional classroom space, and reconfiguring the building's layout for operational and energy efficiency purposes. Upgrades to the Mary Rippon Outdoor Theatre will address functionality, safety, and ADA issues. Considering the age of the facility, both interior and exterior improvements will conform to the building's historical character.

Cost assumption. The cost assumption was determined through the program planning process. A 5.0 percent inflation factor is applied to the project cost based on the recent regional inflation index. Project costs were reconfirmed in January 2021. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

CU Boulder says the project upgrades a facility that is structurally sound in order to address repairs and renovations necessary for code and ADA compliance, energy efficiency, and program functionality. According to the university, upgrading the systems within the Hellems Arts and Sciences Building will significantly improve building operational deficiencies, reduce negative environmental impacts, save energy and utility costs, and contribute to occupant safety. In addition, the university says the upgrade will greatly enhance occupant comfort and program delivery.

A 2019 facility audit gave the Hellems Arts and Sciences Building a Facility Condition Index rating (FCI) of 26. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. Upon completion of the project, the building is expected to have an FCI in the range of 90 to 95. The audit cited major deficiencies in functionality, building integrity, building and fire code compliance, and hazardous materials contamination for asbestos. Minor deficiencies were reflected in appearance, access, energy systems, and exterior systems.

According to the university, programmatic reconfigurations will increase operational efficiency, with high-traffic classroom areas placed on the main level and center of the building accessibility, and office areas and graduate student suites outside the high-traffic areas. CU Boulder says failure to fund the project will continue to severely affect the quality of the education delivered to over 40 academic programs.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder

Hellems Arts and Sciences Building Renovation and Mary Rippon Outdoor Theatre Renovation

PROGRAM INFORMATION

The Hellems Arts and Sciences Building (Hellems) is a three-story building, with a full basement, containing classrooms, academic offices, and lecture halls. The central portion of the building was constructed in 1921, with two wings added in 1937. The building was designed by Charles Z. Klauder in the Tuscan Vernacular style, which the university says the campus is known for internationally, and comprises part of a national historic district.

The university conducts core curriculum coursework in Hellems, and the university says that about half of freshmen students took a course in the building in academic year 2018-19, and 86.0 percent of students receiving bachelor's degrees in 2017-18 took at least one course in Hellems at some point. Components of several departments are housed in the building, including English, History, Linguistics, and Philosophy, along with the ALTEC Language Lab and the College of Media, Communication, and Information. An additional 37 academic departments use the teaching spaces in the building.

The Mary Rippon Outdoor Theatre hosts the annual Shakespeare Festival, which is staged from Hellems.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2021	July 2022
Construction	October 2022	December 2025
Equipment		
Occupancy	January 2026	

SOURCE OF CASH FUNDS

The source of cash funds for the project is campus cash funds, primarily derived from various uncommitted, unrestricted net assets for program improvements.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the project to result in no new operating costs.

STAFF QUESTIONS AND ISSUES

None.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder
Guggenheim Geography Building Renovation

PROGRAM PLAN STATUS

2008-056

Approved Program Plan Yes **Date Approved:** June 30, 2019

PRIORITY NUMBERS

Prioritized By	Priority	
CU Boulder	2 of 3	
CCHE	11 of 34	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATIONS AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Costs
CCF	$0	$12,077,829	$0	$0	$12,077,829
CF	$0	$18,116,744	$0	$0	$18,116,744
Total	$0	$30,194,573	$0	$0	$30,194,573

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$4,771,870	$0	$0	$4,771,870
Construction	$0	$20,863,757	$0	$0	$20,863,757
Equipment	$0	$1,476,021	$0	$0	$1,476,021
Miscellaneous	$0	$317,970	$0	$0	$317,970
Contingency	$0	$2,764,955	$0	$0	$2,764,955
Total	$0	$30,194,573	$0	$0	$30,194,573

PROJECT STATUS

This is the fifth request for funding. Funding was first requested for FY 2018-19. Elements of the project have appeared on the University of Colorado at Boulder's (CU Boulder) five-year projection of need as a capital renewal project since 2006. A June 2017 program plan changed the scope of the project to include programmatic renovations.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder
Guggenheim Geography Building Renovation

PROJECT DESCRIPTION / SCOPE OF WORK

CU Boulder is requesting a combination of state funds and cash funds spending authority to renovate the 22,908-GSF Guggenheim Geography Building. The project combines $12.1 million in capital renewal system upgrades with $18.1 million in academic and programmatic improvements. The university says the project will revitalize an antiquated building with a low Facilities Condition Index (FCI) rating and facilitate greater operational and energy efficiency.

CU Boulder says the capital renewal elements of the project will address the following systems and issues in the Guggenheim Building:

- asbestos contamination;
- elevator motors;
- the electrical system, including the transformer, panel boards, and feeder;
- exterior windows, including skylights;
- fire-rated doors, fire alarm systems, fire-rated wall penetrations, and additional fire exits;
- the HVAC system, including installing air conditioning in the building;
- lighting systems;
- plumbing and the sanitary waste system;
- roofing, gutters, and soffits;
- telephone and data systems;
- utility distribution lines; and
- wood carpentry, including interior doors and associated hardware.

The project also performs programmatic renovations of the building's interior by resizing offices, reconfiguring the classrooms and offices to consolidate tenants, and upgrading corridors and the overall building layout to improve traffic patterns.

Cost assumption. The cost assumption was determined through the program planning process, which relied upon campus costs for the recently completed Ketchum Arts and Sciences Renovation project. The Ketchum project was similar to the Guggenheim project in that it revitalized an historic building with structural integrity that needed renewal of its basic building systems. The cost per GSF is $1,308. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to CU Boulder, the Guggenheim Building, which is more than 100 years old, has received minimal improvements over the years and requires an overhaul of its systems to address life-safety, code, deferred maintenance, and tenant comfort issues. Program-based renovations will consolidate the scattered Department of Geography, increase the operational efficiency of the building, and provide modern facilities in support of the social science programs housed in the building.

Building system improvements. The university explains that although the historic building has not received a wholesale renovation since its construction, the it remains structurally sound but is in need of upgrades to its basic systems. A professional audit performed in February 2014 gave the building an FCI of 43, and the university says that the FCI is now 37. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85. The project's capital renewal improvements will address various life-safety and code compliance issues. For instance, the only fire egress is a metal ladder extending down the south side of the three-story building; the project will mitigate this issue by developing fire-rated egress pathways that meet code, and will upgrade other fire-related systems to increase safety. The project also abates asbestos, improves ADA accessibility, and enhances room capacity. Installation of a cooling system in the building will improve occupant comfort. The systems improvements will also address deferred maintenance, energy efficiency, worn finishes, preservation of key historical elements, and the building's appearance.

Program-related improvements. The university says that the building's current layout is a legacy of its original construction, with classroom and lab spaces scattered around the building, intermingling with faculty offices. Office configurations create inefficient layouts on each floor, and the offices are much larger than current standards, resulting in multiple occupants being assigned to single offices. Narrow corridors access offices, and configurations have been further compromised by retrofits to accommodate more modern building systems and life-safety measures. Under the project, the building's interior will be reconfigured with an eye toward operational efficiency. Spaces will be consolidated by academic type, providing for greater efficiency and easier access for students to classroom and study space. Currently, the Department of Geography is housed in four different buildings across campus. The programmatic renovations will allow the department to centralize its operations.

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder
Guggenheim Geography Building Renovation

PROGRAM INFORMATION

Built in 1908, the Guggenheim Building first housed the School of Law, until the Department of Geography moved into the building in 1959. The department confers BA, MA, and PhD degrees, and conducts theoretical and applied work in human geography, environment and society geography, physical geography, and geographic information science. Although the Department of Geography is the primary occupant in the Guggenheim Building, 17 other departments each offered at least one course in the building in fall 2019. Overall, 3,082 undergraduate credit hours and 78 graduate credit hours were taught in the building in fall 2019. Additionally, the building provides office and support space for 84 faculty, staff, and graduate students.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2022	July 2023
Construction	October 2023	December 2024
Equipment	December 2024	January 2025
Occupancy	January 2025	February 2025

SOURCE OF CASH FUNDS

The sources of cash funds for the project are debt, capital reserves, and indirect cost recovery reserves.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the project to result in no new operating costs.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder
Macky Auditorium Renovation

PROGRAM PLAN STATUS

2023-008

Approved Program Plan Yes **Date Approved:** June 30, 2019

PRIORITY NUMBERS

Prioritized By	Priority	
CU Boulder	3 of 3	
CCHE	27 of 34	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATIONS AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Costs
CCF	$0	$8,349,469	$6,154,234	$6,154,358	$20,658,061
CF	$0	$12,524,204	$9,231,351	$9,231,538	$30,987,093
Total	$0	$20,873,673	$15,385,585	$15,385,896	$51,645,154

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$5,979,997	$872,244	$760,311	$7,612,552
Construction	$0	$13,446,983	$13,114,652	$9,143,163	$35,704,798
Equipment	$0	$0	$0	$3,049,252	$3,049,252
Miscellaneous	$0	$0	$0	$641,894	$641,894
Contingency	$0	$1,446,693	$1,398,689	$1,791,276	$4,636,658
Total	$0	$20,873,673	$15,385,585	$15,385,896	$51,645,154

PROJECT STATUS

This is the project's second request for funding. It was first requested for funding in FY 2020-21.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder
Macky Auditorium Renovation

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Boulder (CU Boulder) is requesting a combination of state funds and cash funds spending authority for the first part of a three-phase project to comprehensively renovate the 86,721-GSF Macky Auditorium. The university says the project will update an antiquated building to meet 21st century needs, address deferred maintenance, bring the building into code compliance, and increase space efficiency. This year's request for Phase I will design the project, while two subsequent phases will include pre-construction, construction, and commissioning.

The scope of the project's capital renewal elements include:

- exterior improvements, including window and exterior door rehabilitation or replacement, masonry repointing and cleaning, and flagstone stair repairs;
- foundation waterproofing and developing foundation drainage systems;
- improvements to fire egress pathways from the main performance venue;
- roofing improvements, including adding roofing insulation, replacing flat roof membranes, and repairing gutters and downspouts;
- site improvements for underground utilities and storm drainage;
- hazardous materials abatement or encapsulation;
- complete mechanical systems replacement, including installing new HVAC systems to provide ventilation and cooling;
- electrical system upgrades, including improvements to the switchgear, power distribution, fire alarm systems, and interior lighting;
- bathroom improvements for accessibility;
- selective replacement of finishes, including carpet, floor tile, woodwork, and paint; and
- restoring the grand stairways serving the performance venue.

Interior spaces will be reconfigured for more efficient office space utilization, accessibility, and modern teaching purposes. To facilitate this, interior construction involves selective demolition and replacement of walls. The university says interior and exterior historic elements are to be preserved and restored where possible.

Cost assumption. The cost assumption was determined through the program planning process, which relied upon campus costs for the recently completed Ketchum Arts and Sciences project. The Ketchum project was similar to the Macky Auditorium project in that it revitalized an historic building of approximately the same age that needed renewal of its basic systems. The cost per GSF is $596. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

According to the university, Macky Auditorium requires structural and exterior envelope stabilization and systems upgrades to prevent further degradation, bring the building into code compliance, address deferred maintenance, and improve program delivery. Macky Auditorium has a facility condition index (FCI) of 34. FCI is a measure of the cost of remedying building deficiencies compared to a build's current replacement value, and the state architect's target FCI for all buildings is 85. The building was constructed in 1922, and the university says the last significant renovation was in 1986; that renovation focused on building systems and interiors related to the main performance hall. The university says the building is generally structurally sound, but has a failing foundation drainage system and water intrusion that place the structure at risk. Mechanical systems are beyond their useful life. Elements of the building contain or may contain hazardous materials requiring abatement or encapsulation. Fire egress pathways are not up to code, and building exterior pathways are closed due to structural deficiencies. Movement of stage sets is inefficient and creates safety issues, and the building requires accessibility upgrades to meet code compliance for ADA. Other improvements will increase the energy efficiency of the building. For instance, the walls and roofing underside contain no insulation, and the windows are single-pane with wooden frames. Improved mechanical systems will also improve occupant comfort.

The university says reconfiguration of certain interior areas will provide improved access for students, align with modern academic pedagogy, and enable the use of space effectively and efficiently. Backstage support spaces are lacking and are poorly configured for supporting modern performances. The reconfiguration will also allow for installing HVAC systems suited for the building and its space, thus further increasing energy efficiency.

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Boulder
Macky Auditorium Renovation

PROGRAM INFORMATION

Built in 1922, the Macky Auditorium Concert Hall is a multi-disciplinary and largely self-funded unit of CU Boulder. The university says the 2,040-seat venue serves the campus and the region by entertaining, educating, and challenging audiences with high-quality local, national, and international performances and events. Macky is home to the CU College of Music's Band, Orchestra, Choral Studies, and Jazz programs; the American Music Research Center; the Center for the American West; the CU Presents artist series; and the Conference on World Affairs. Clients include the Boulder Philharmonic Orchestra, the Boulder Ballet, Colorado MahlerFest, the Greater Boulder Youth Orchestra, TEDx Boulder, the Unreasonable Institute, Amplitude Entertainment, AEG Live, and Live Nation. University student groups that use the venue include UCSU Program Council, the Distinguished Speakers Board, and the Cultural Events Board. Macky contains six classrooms used by the College of Music and the Film Studies, Germanic and Slavic Languages, and Theatre and Dance programs. In fall 2019, these programs taught 1,797 undergraduate credit hours and 162 graduate credit hours to 815 students. Macky also provides office and support space for 103 faculty, staff, and graduate students.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2022	July 2023
Construction	July 2023	May 2026
Equipment	May 2026	August 2026
Occupancy	August 2026	September 2026

SOURCE OF CASH FUNDS

The sources of cash funds for the project are debt and capital reserves.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects that the project will not impact operating costs.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Colorado Springs
Engineering Building Renovation

PROGRAM PLAN STATUS

2015-062

Approved Program Plan	Yes	Date Approved:	June 30, 2019

PRIORITY NUMBERS

Prioritized By	Priority	
UCCS	1 of 1	
CCHE	21 of 34	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATIONS AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Costs
CCF	$0	$15,687,153	$22,548,807	$0	$38,235,960
Total	$0	$15,687,153	$22,548,807	$0	$38,235,960

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$1,542,607	$1,588,898	$0	$3,131,505
Construction	$0	$11,026,301	$16,643,519	$0	$27,669,820
Equipment	$0	$1,393,934	$1,903,384	$0	$3,297,318
Miscellaneous	$0	$298,364	$368,482	$0	$666,846
Contingency	$0	$1,425,947	$2,044,524	$0	$3,470,471
Total	$0	$15,687,153	$22,548,807	$0	$38,235,960

PROJECT STATUS

This is the sixth request for funding. Funding on behalf of the project has been requested since FY 2016-17.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Colorado Springs
Engineering Building Renovation

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Colorado Springs (UCCS) is requesting state funds for the first phase of a two-phase project to renovate the 74,019-GSF Engineering and Applied Sciences (EAS) Building to address building deficiencies and to improve classroom and research areas. The project will also add 2,065 GSF to the second floor of the building. This year's request for Phase I makes improvements in the 20,000-GSF research and office wing of the building to improve energy efficiency, reallocate space to support additional research functions, and update finishes in existing research and teaching spaces. Phase II will continue renovations and construct the second-floor addition.

Specifically, Phase I of the project will reapportion and refurbish microelectronic and electromagnetic research labs on the first floor of the building to better meet current research needs while providing specialty space for new fields of research. New flex space will be developed to accommodate 30 to 40-seat classrooms, tutoring space, student study space, or future research classrooms, depending upon evolving needs. Phase I replaces existing first-floor lighting with more efficient LED fixtures, and installs a more efficient HVAC system with direct digital controls. New technologies such as projectors, lecterns, and window shades will tie into the building's automation system. Phase I also initiates corrections to health, life-safety, and code issues, such as automating doors to allow building lock-down during emergencies.

Phase II of the project constructs the second-floor addition by raising a portion of the roof in an existing two-story space to create an additional floor. The addition will provide two new classrooms, nine faculty offices, and room for informal student gathering and study. Phase II continues energy efficiency upgrades, including installation of new windows and a new roof membrane with additional insulation, along with code deficiency corrections.

Cost assumption. The cost assumption was determined through the program planning process. Costs are based upon four recently completed projects on the UCCS campus. The cost per GSF is $502. The project cost accounts for inflation. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

UCCS says that enrollment in engineering programs housed in the EAS Building more than doubled since fall 2008, growing from 762 students in 2008 to 1,944 students in fall 2018. The Mechanical and Aerospace Engineering Department has grown 10 percent per year for a decade. Growth is expected to continue. The university attributes program growth to multiple factors, including the creation of a Bachelor of Innovation program, which has attracted more students than projected; efforts to recruit and retain students and faculty; and the quality of the programming. In addition, the university says it is growing its externally funded research activities, with expectations that this funding will double in the next five to seven years, creating research space pressures. The university says that, in its current state, the EAS Building is insufficient to accommodate this growth, the building layout is not suitable for modern instruction, its systems and amenities are obsolete, and its classrooms show three decades of heavy use. Reconfiguring the building will allow it to more efficiently allocate its space, according to UCCS.

UCCS explains that the type of research conducted in the EAS Building has changed significantly in the last 34 years and that many of the research spaces, particularly the clean room and associated support spaces, are inadequate for the type of research now underway. The university contends that improved research spaces and building finishes will support growing enrollment in engineering programs and aid in the recruitment and retention of highly qualified faculty and students. It will also increase opportunities for external grant funding for research conducted in the building. The newly renovated building, with its specialty labs, will allow for the expansion of programs such as battery control research, nanotechnology, and research related to cyber security.

According to UCCS, the EAS Building has received minimal improvements since it was originally constructed in 1985 and it has the highest energy utilization index of all buildings on campus. The university reports that the Facilities Condition Index (FCI) of the building is 47. FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85.

Project alternatives. The university has considered building a 30,000-GSF academic building to serve first- and second-year students who use EAS, but says this would cost more and would not address any of the health, life-safety, code, energy efficiency, or deferred maintenance issues in EAS. The university has also considered constructing a small addition to EAS, and improving only the building's energy efficiency. UCCS says neither of these options would meet its goals, and would still leave the building in a poor condition.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado at Colorado Springs
Engineering Building Renovation

PROGRAM INFORMATION

UCCS and the electrical engineering undergraduate program were initiated in the mid-1960s based upon the need for trained professionals to support the newly formed Hewlett Packard Company. The EAS College has grown to offer four bachelor of science, four bachelor of innovation, three master of science, six master of engineering, and the doctor of philosophy in engineering degrees. The EAS Building houses two of the three academic departments in the College of EAS: Computer Science and Electrical and Computer Engineering. A third department, Mechanical and Aerospace Engineering, is located in a different building. The EAS Building also houses the Department of Mathematics, which is staffed by ten tenured or tenure-track faculty members, four instructors, and 20 lecturers. The east wing of the EAS Building has two large research laboratories, including a microelectronics lab and an electromagnetic lab. These labs were established in 1985, and since then two multi-million dollar companies have been created due to the work of Dr. Carlos Araujo: Ramtron Corporation and Symetrix Corporation. The labs attract funding from several federal agencies, and a number of small and large companies have contracted for use of the specialty labs.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2022	March 2024
Construction	March 2023	January 2025
Equipment	July 2024	January 2026
Occupancy	August 2024	January 2026

SOURCE OF CASH FUNDS

The project is not funded from cash sources.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects the energy efficiencies resulting from the project to save $49,000 in the first year of operation and $1.2 million over a 30-year period.

STAFF QUESTIONS AND ISSUES

None.

Fiscal Year 2022-23 Capital Construction Request

University of Colorado Denver

CU Denver Building Infrastructure Replacement and Renovation

PROGRAM PLAN STATUS

2022-009

Approved Program Plan Yes **Date Approved:** June 1, 2021

PRIORITY NUMBERS

Prioritized By	Priority	
CU Denver	1 of 2	
CCHE	10 of 34	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATIONS AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Costs
CCF	$0	$25,883,686	$0	$0	$25,883,686
CF	$0	$9,094,268	$0	$0	$9,094,268
Total	$0	$34,977,954	$0	$0	$34,977,954

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$5,357,394	$0	$0	$5,357,394
Construction	$0	$23,702,151	$0	$0	$23,702,151
Equipment	$0	$1,827,971	$0	$0	$1,827,971
Miscellaneous	$0	$910,624	$0	$0	$910,624
Contingency	$0	$3,179,814	$0	$0	$3,179,814
Total	$0	$34,977,954	$0	$0	$34,977,954

PROJECT STATUS

This project was requested for funding in FY 2021-22. This year's request expands the scope to include renovations.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado Denver

CU Denver Building Infrastructure Replacement and Renovation

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado Denver (CU Denver) is requesting a combination of state funds and cash funds spending authority to replace and upgrade mechanical and electrical infrastructure that has exceeded its useful life in the CU Denver Building. The project also renovates 30,605 GSF of existing space.

The project focuses on mechanical and infrastructure upgrades to maintain the building's use and on energy-related improvements to lessen the building's carbon footprint, including:

- replacing a chiller, associated pumps, and a heat exchanger;
- replacing the Xcel steam system with a natural gas boiler system;
- replacing the air handler;
- replacing lighting and panelboards;
- replacing the main and lower roofs of the main tower and the annex roof;
- replacing the existing Silent Knight fire alarm system;
- repairing and replacing sanitary piping risers;
- repairing a collapsed storm drain;
- replacing the majority of plaza drains and piping;
- replacing mechanical and electrical systems and making structural repairs in the parking garage;
- installing electric vehicle charging stations;
- updating annex ADA accessibility;
- standardizing signage and wayfinding across the building and site;
- upgrading to LED lighting; and
- installing a photovoltaic solar array.

The project's renovation work affects the College of Architecture and Planning (CAP) and the College of Arts and Media (CAM). It addresses spaces and usage needs, including:

- relocating and consolidating CAP fabrications operations;
- modifying CAM instructional labs;
- repurposing recording space for multiple programs;
- relocating Visual Arts from the Boulder Creek Building to allow the Community College of Denver to renovate the vacated space;
- expanding a CAP computer lab;
- updating CAP instructional spaces for modern pedagogy and technology;
- providing space for instruction in emerging technologies; and
- relocating other building uses.

The most recent Facilities Condition Audit rated the building's Facility Condition Index (FCI) at 67. The FCI is a measure of the cost of remedying building deficiencies compared to a building's current replacement value, and the state architect's target FCI for all buildings is 85.

Cost assumption. The cost assumption was determined by an engineering firm hired by the university, and accounts for inflation. The project meets the Art in Public Places and High Performance Certification Program requirements.

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University of Colorado Denver

CU Denver Building Infrastructure Replacement and Renovation

PROJECT JUSTIFICATION

The building was built in 1977 and most of the mechanical and electrical systems are original and in need of replacement. As the building was purchased by the university from the Auraria Foundation in 2006, it was not eligible for controlled maintenance funding until last year due to the statutory requirement that 15 years must elapse from the date of acquiring state property to the date of requesting funding. In that time, CU Denver has performed significant renovations and repairs costing over $7.4 million. The university states that this project prioritizes taking care of valuable existing State assets and critical infrastructure needs, and eliminates 85 percent of the building's total deferred maintenance.

According to the university, existing systems are inefficient and unreliable, and there is a significant risk of system failure. Because there is no sufficient, available space to house the programs currently located in the CU Denver Building, loss of use would have a devastating effect on these programs and their students. The project also addresses academic needs by alleviating enrollment pressures created by space limitations and replacing outdated technology.

Project Alternatives. According to CU Denver, the university is unable to provide enough internal funding to resolve the overwhelming volume of maintenance issues, though the campus will prioritize the building's deferred maintenance backlog above all other campus buildings. The university plans to submit several elements contained in this capital renewal request for possible controlled maintenance funding. If this project is funded, the university will withdraw all related controlled maintenance requests; if the capital renewal project does not receive funding this year and any related controlled maintenance requests receive funding, they will be removed from the subsequent capital renewal request.

PROGRAM INFORMATION

The CU Denver Building, located in Denver at 1250 14th Street, houses the College of Architecture and Planning, the College of Arts and Media, the CU system-wide Executive MBA program, and CU Denver CityCenter. The university served as building operator and master tenant for 11 years prior to the sale, and has been leasing space in the building since 1983.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2022	May 2023
Construction	May 2023	September 2024
Equipment	June 2024	September 2024
Occupancy	October 2024	November 2024

SOURCE OF CASH FUNDS

The source of cash funds is institutional reserves. This project is not funded from student fees.

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university estimates that the project will result in annual utility cost savings of about $155,000.

STAFF QUESTIONS AND ISSUES

None.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado Denver
CU Denver Engineering Building

PROGRAM PLAN STATUS

2015-061

Approved Program Plan Yes **Date Approved:** June 30, 2021

PRIORITY NUMBERS

Prioritized By	Priority	
CU Denver	2 of 2	
CCHE	30 of 34	
OSPB	Not Prioritized	Not recommended for funding.

PRIOR APPROPRIATIONS AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Costs
CCF	$0	$14,643,751	$34,753,949	$10,476,906	$59,874,606
CF	$0	$5,145,102	$12,210,847	$3,681,075	$21,037,024
Total	$0	$19,788,853	$46,964,796	$14,157,981	$80,911,630

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$10,006,430	$0	$800,000	$10,806,430
Construction	$0	$8,775,160	$44,399,818	$2,486,782	$55,661,760
Equipment	$0	$0	$0	$9,132,361	$9,132,361
Miscellaneous	$0	$64,936	$328,559	$1,010,649	$1,404,144
Contingency	$0	$942,327	$2,236,419	$728,189	$3,906,935
Total	$0	$19,788,853	$46,964,796	$14,157,981	$80,911,630

PROJECT STATUS

This is the seventh request for funding. The first formulation of this project was requested for funding in FY 2015-16. This is the first year that this scope has been requested.

Prepared by Legislative Council Staff

Fiscal Year 2022-23 Capital Construction Request

University of Colorado Denver
CU Denver Engineering Building

PROJECT DESCRIPTION / SCOPE OF WORK

The University of Colorado at Denver (CU Denver) is requesting a combination of state funds and cash funds spending authority for the first phase of a three-phase project that constructs a 94,200-GSF, three-story academic building adjacent to the Auraria Science Building on the Auraria Higher Education Center (AHEC) campus, and renovates 5,000 GSF in the nearby North Classroom Building. CU Denver says the project will allow for growth and consolidation of the College of Engineering, Design, and Computing (CEDC) in a new, state-of-the-art facility, and will address the needs of other institutions at AHEC via vacated space.

The new building will include instructional labs, high-bay labs for the testing of large-scale projects, computer labs, research labs, classrooms, academic offices, and support space for CEDC. Approximately 80 percent of the assignable area within the new building will be used for instructional purposes, while the remaining 20 percent will be used for academic support and service functions. The building also includes two outdoor terraces for social or instructional functions.

Cost assumption. The cost assumption was determined through the program planning process. The university's Facilities Projects Department used costs from recently completed projects for its estimates, inflated to the year of construction, along with industry data. The cost per GSF for both the renovation and new construction over the life of the project is $816. The project meets the Art in Public Places and High Performance Certification Program requirements.

PROJECT JUSTIFICATION

CEDC is currently dispersed across seven buildings and existing space is overcrowded and lagging behind technological and pedagogical standards, according to the university and a program study conducted by a third-party firm in 2015. Meanwhile, CEDC enrollment is growing and space usage rates currently meet or exceed Colorado Department of Higher Education guidelines. The project both expands and consolidates CEDC space to modernize instructional experiences for students and relieve usage pressure on classrooms and laboratories.

PROGRAM INFORMATION

CEDC at CU Denver offers undergraduate and graduate programs in bioengineering, civil engineering, electrical engineering, mechanical engineering, and computer science and engineering. Graduate programs include master of science, master of engineering, and doctor of philosophy degrees. CEDC also offers professional training and continuing education classes on engineering topics.

AHEC is comprised of three separate higher education institutions: the Community College of Denver, Metropolitan State University of Denver, and CU Denver, all of which share classroom space, parking, and general services on the campus. AHEC manages campus facilities and non-academic functions, including the library, the child care center, classroom and event scheduling, and campus police and security.

PROJECT SCHEDULE

	Start Date	Completion Date
Design	July 2022	October 2023
Construction	October 2023	March 2025
Equipment	March 2025	May 2025
Occupancy	May 2025	

SOURCE OF CASH FUNDS

The sources of cash funds for this project are university reserves, gifts, and donations.

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Fiscal Year 2022-23 Capital Construction Request

University of Colorado Denver
CU Denver Engineering Building

OPERATING BUDGET

Operating expenses are paid from institutional sources. The university expects operating costs to increase by $1,186,500 per year as a result of the new building's construction.

STAFF QUESTIONS AND ISSUES

All responses have been incorporated into the project write-up.