CapitalBudgetRequest

Renovate Derring Hall, Phase I

Overview

Agency	Virginia Polytechnic Institute and State University (208)
Project Code	none
Project Type	Improvements-Other
Biennium	2014-2016
Budget Round	Amended Bill
Request Origin	Previously Submitted
Building Name	
Project Location	Roanoke Area
Facility/Campus	Blacksburg Main Campus
Source of Request	Agency Request
Building Function	Higher Education Instruction and Instructional Research -- 100% E&G
Infrastructure Element	Laboratory / Classroom
Contains significant technology costs? No	
Contains significant energy costs? No	

Agency Narrative

Agency Description

This project has been on the university's plan since 1997. Derring Hall was constructed in 1969, and the building has not had any major improvements or renovations since the original construction was completed. The building's total size is approximately 208,000 gross square feet and houses general assignment classrooms, instructional laboratories and components of the biology, geological sciences, and physics programs.

Because of the large size of the building and limited solutions to house existing occupants, the university has developed a strategy of renovating the building in phases. This project reflects the first phase and proposes to fully renovate the interior and exterior of approximately 118,130 gross square feet. The envisioned improvements include upgraded HVAC systems, upgraded electrical systems, rehabilitated and improved plumbing systems, improvements to meet accessibility and life safety codes, and to improve the programmatic function of the building for several academic programs that are selected to relocate to Derring.

Justification

Program Description:
Derring currently houses general assignment classrooms, instructional laboratories and components of the biology, geological sciences, and physics programs. As science programs are relocated to new, modern laboratory facilities, the university schedules major renovations of their vacated space as a cost and space effective solution to address the needs of programs with lower building systems requirements. For Derring Hall, the university is in the process of relocating portions of biology with implementation of the Integrated Life Sciences Building in the Corporate Research Center and the Life Sciences I laboratory and vivarium. The Nanoscience and Geoscience Laboratory, a capital project proposal of higher priority ranking, is the final precursor necessary to vacate the portions of Derring Hall to make way for this renovation.

The programs identified to occupy the areas improved by this renovation project are programs that support the Top Jobs 21 goal of ensuring an educated workforce through instructional excellence, affordable access, and cost efficient operation. The renovated space will provide a solution to consolidate the faculty and instructional activities physically of dispersed programs (including leases) for departments like the Center for Public Administration and Policy, Landscape Architecture, Economics, Hospitality and Tourism Management, and the School of the Visual Arts. A renovated Derring Hall is an excellent solution to accommodate the needs of these programs because the building may be efficiently modernized within the existing structural constraints to meet their instructional requirements.

The university's strategic plan includes the principal strategies of:
• Increasing undergraduate involvement in meaningful research experiences and experiential learning (hands on minds on).
• Continuing to investigate, develop, and utilize current and emerging technologies to enhance traditional classrooms, provide mobile access, and expand high-quality distance learning opportunities.
• Identifying opportunities during construction and renovation to create flexible classroom spaces that fully support e-learning components.
• Pursuing quality-of-life initiatives in support of the university as a vibrant, dynamic, and sustainable workplace.

• Supporting a sustainable workplace.

Existing Facilities:
Derring Hall is an approximately 208,000 gross square foot building constructed in 1969 with no major improvements or renovations since the original construction was completed. The building has become outdated and deterioration is progressing beyond the scope of normal operations and maintenance reserve repairs. The building is in the Facility Inventory Condition and Assessment System with a facility condition index of 23 percent; thus, the proposed phase one renovation will include a complete repair of the exterior envelop associated with the interior and mechanical improvements.

The increased use of modern scientific equipment, ranging from computers to specialized laboratory equipment, is exceeding the capabilities of the existing mechanical, electrical, plumbing, and environmental control systems. The existing physical and structural constraints of the building, such as low floor-to-ceiling heights, make the building better suited to classroom and instructional laboratory uses rather than current wet laboratories requiring extensive HVAC systems and related support. These structural constraints make renovating the building more suitable for housing programs in the College of Architecture and the College of Business.

This project requests authorization to renovate a major portion of Derring Hall and address the need for upgraded HVAC systems, upgraded electrical systems, rehabilitated and improved plumbing systems, and overall renovations intended to meet accessibility and life safety codes, and to improve the programmatic function of the building. These building renovations will extend the useful life of the facility as an academic building supporting instruction.

Funding Plan:
The scope of this project is entirely for Educational and General instructional programs; thus, the funding plan calls for 100 percent General Fund support.

Alternatives Considered

Other options considered, but not selected, include new construction or delaying the project to a later biennium. Renovating Derring Hall is the selected option because it is the most effective choice for meeting program needs, does not add new space to campus, and is less costly than new construction for these programs. The project is listed as a high priority for this biennium because of the timing availability of Derring Hall for renovations and because addressing the program space needs of the College of Architecture and the College of Business is a high priority. The university has several departments that are disjointed because sufficient contiguous space to house the operations are not available. The dispersed arrangement of these units causes operational inefficiencies and impedes program objectives. Deferring the project prolongs a significant negative impact on the instructional programs.

Costing Methodology

Virginia Tech's project cost estimate is derived from a database of on-campus construction costs of comparable project types. Virginia Tech building construction reflects the high level of quality, durability and tradition that makes Virginia Tech a distinctive and memorable place for students. Our estimates also include the cost of technology, specialized instruction, and energy efficiency goals of the institution.

Mechanical equipment and building automation systems will be designed to maximize energy efficiency and minimize operations and maintenance costs. Mechanical equipment will be located inside and screened from view to maximize student use of the campus landscape. Electrical systems will support current academic technologies and increased student use of individual technology equipment. Effective use of exterior and interior glazing will enhance energy efficiency lighting fixtures for an improved academic experience. Design priorities will include flexibility to maximize the long-term programmatic functionality of the building.

Virginia Tech produces the most STEM-H graduates of any university in the Commonwealth. Our role as the leading producer of STEM-H degrees relies upon a system of classrooms, instructional laboratories that support technology driven instruction in engineering, physical sciences, life sciences, and advanced mathematics. All buildings must have high-capacity wireless networks to support multiple devices (laptop computer, tablet computer, smartphone) used simultaneously by students to retrieve information and to communicate within the classroom and to connect digitally with instructional sites around campus and around the world. The use of electronic equipment in the classroom by student participants also requires dedicated power outlets corresponding to the seat/station count and power outlets in common areas. Raised floor systems are needed to accommodate these and future developments in technology and classroom configuration. Specialized degrees in engineering and physical sciences require specialized equipment specific to those fields and sometimes shielded or vibration protected areas in which to operate this equipment. The university operates its own communications network using primarily internet connectivity which requires accessible, climate controlled server rooms in lieu of the traditional phone closet. Because the communications infrastructure is installed by our own university operated auxiliary it is carried as a project (soft) cost outside of the normal construction budget.

This project will require utility improvements from the central plant.

Agency Funding Request

Phase	Year	Fund	Subobject	Requested Amount
Full Funding	2016	0100 - General Fund	2322 - Construction, Buildings	$55,800,000
			Total	$55,800,000

Project Costs

Cost Type	Total Project Costs	Requested Funding	DGS Rec
Acquisition Cost	$0	$0	$0
Building & Built-in Equipment	$35,848,000	$35,848,000	$0
Sitework & Utility Construction	$1,792,000	$1,792,000	$0
Construction Cost Total	$37,640,000	$37,640,000	$0
Design & related Services from Other Costs tab	$5,734,000	$5,734,000	$0
Inspection & Testing Services from Other Costs tab	$1,130,000	$1,130,000	$0
Project Management & Other Costs from Other Costs tab	$3,059,000	$3,059,000	$0
Furnishings & Movable Equipment	$6,731,000	$6,731,000	$0
Construction Contingency	$1,506,000	$1,506,000	$0
Total Project Cost	$55,800,000	$55,800,000	$0

Capacity

Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost		0	$0
Construction Cost	GSF	118,130	$319
Total Project Cost	GSF	118,130	$472

Other Costs

Cost Type	Total Project Costs	RequestedFunding	DGS Rec
Design & Related Service Items			
A/E Basic Services	$4,929,000	$4,929,000	
A/E Reimbursables	$0	$0	
Specialty Consultants (Food Service, Acoustics, etc.)	$0	$0	
CM Design Phase Services	$471,000	$471,000	
Subsurface Investigations (Geotech, Soil Borings)	$4,000	$4,000	
Land Survey	$0	$0	
Archeological Survey	$0	$0	
Hazmat Survey & Design	$0	$0	
Value Engineering Services	$0	$0	
Cost Estimating Services	$29,000	$29,000	
Other Design & Related Services	$301,000	$301,000	
Design & Related Services Total	$5,734,000	$5,734,000	
Inspection & Testing Service Items			
Project Inspection Services (inhouse or consultant)	$998,000	$998,000	
Project Testing Services (conc., steel, roofing, etc.)	$132,000	$132,000	
Inspection & Testing Services Total	$1,130,000	$1,130,000	
Project Management & Other Cost Items			
Project Management (inhouse or consultant)	$746,000	$746,000	
Work By Owner	$56,000	$56,000	
BCOM Services	$0	$0	
Advertisements	$0	$0	
Printing & Reproduction	$0	$0	
Moving & Relocation Expenses	$99,000	$99,000	
Data & Voice Communications	$878,000	$878,000	
Signage	$40,000	$40,000	
Demolition	$0	$0	

Hazardous Material Abatement	$0	$0	
Utility Connection Fees	$358,000	$358,000	
Utility Relocations	$0	$0	
Commissioning	$359,000	$359,000	
Miscellaneous Other Costs	$523,000	$523,000	
Project Management & Other Costs Total	$3,059,000	$3,059,000	

Operating and Maintenance Costs (Agency)

Cost Type	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
GF Dollars	$0	$0	$390,298	$402,007	$414,067	$426,489
NGF Dollars	$0	$0	$0	$0	$0	$0
GF Positions	0.00	0.00	0.50	0.50	0.50	0.50
NGF Positions	0.00	0.00	0.00	0.00	0.00	0.00
GF Transfer	$0	$0	$0	$0	$0	$0
GF Revenue	$0	$0	$0	$0	$0	$0
Layoffs	0	0	0	0	0	0

Planned start date of new O&M costs (if different than the beginning of the fiscal year):---

Supporting Documents

File Name	File Size	Uploaded By	Upload Date	Comment
CR-3 Derring Hall Renovation.xls	638,976	Rob Mann	6/27/2014	CR-3 Derring Hall Renovation

Workflow History

User Name	Claimed	Submitted	Step Name
Rob Mann	06/26/2014 01:43 PM	06/26/2014 01:43 PM	Enter Capital Budget Request
Rob Mann	06/26/2014 01:43 PM	06/26/2014 01:45 PM	Continue Drafting
Rob Mann	06/27/2014 01:58 PM	06/27/2014 02:16 PM	Continue Drafting
Rob Mann	06/27/2014 03:24 PM	06/27/2014 03:26 PM	Agency Review Step 1
Rob Mann	06/27/2014 04:12 PM	06/27/2014 04:13 PM	Ready for DPB Submission
Bob Broyden	06/30/2014 03:10 PM	06/30/2014 03:12 PM	Ready for DPB Submission
Bob Broyden	06/30/2014 03:55 PM	06/30/2014 03:55 PM	Ready for DPB Submission
			DPB Review