CapSix Database

Construct Classroom Building

project 1 of 1

Virginia Polytechnic Institute and State University (208)

General Information

Project Type: New Construction Project Code: Start Year: 2011

Agy Priority: 6 Location: Southwest Facility:

Building #: Building Name: Classroom Building

Building Function: Higher Education - Academic

Is this an Umbrella Project? No OR a higher education blanket project? No

Projected time to submit working drawings: 19 months

Projected time to occupy facility or complete project: 41 months

Projected time to award construction contract: 21 months

Included in the existing Six Year Capital Plan Yes

Contact Information

Name: Robert Broyden

Email: rbroyden@vt.edu

Phone: (540) 231-8782

Agency Narrative

Description

This project has been on the University's plan since 2005 and is included as a high priority to increase the quantity of high quality general assignment classrooms to address the significant unmet demand for class registrations and to meet student expectations of state-of-the-art instruction space. This project includes construction of an approximately 65,250 gross square foot building with 24 classrooms including auditoria and lecture rooms. The new building location site is on the north side campus in the core of instruction activity. The envisioned building will allow for flexible instruction arrangements and use of the classroom spaces. The University needs to accommodate an unmet general assignment scheduling demand of about 3,000 full time equivalent students. The target number of student stations for the building is approximately 2,600, which based on the normal 14 class-cycles per day provides about 35,300 seats for assignment weekly. This productivity level is approximately the amount needed to cover the shortfall of weekly student station hours needed to address general assignment scheduling demands for timely degree completion. The classrooms will include state-of-the-art technology, seating arrangements, and communications infrastructure to support leading pedagogy practices expected by the students.

The project scope is based on the current unmet demand for general assignment campus classrooms capable of supporting modern instruction. The structural building life expectancy is 50 years.

Justification

Program description:
The University recently completed a classroom utilization study prepared by a nationally recognized higher education planning consultant. The consultant's study concluded Virginia Tech's general assignment classrooms are on average scheduled at a 130 percent utilization rate, using a national 45-hour calculation standard which measures the

peak instruction times. This is the highest utilization the consultant has seen at any institution, which validates the University is scheduling classes very efficiently during the traditional classroom day.

As a result of this high utilization rate, the demand for higher capacity, technologically enabled classrooms is not being met and both students and faculty are dissatisfied with the available classroom environments. Overall, the University must provide its students and faculty more flexible learning environments to accommodate the expanding use of technology throughout the institution's curricula. Virginia Tech needs more classrooms that can be configured to support group work, that can physically support the use of laptop computers in the classroom, and that can accommodate the new instructional technologies now being implemented across the campus.

Renovations to modernize some of the existing inventory are a partial solution to meet student and faculty needs and some higher quality space is being developed through general renovation improvements. However, when renovations are implemented in existing classrooms, the number of seats in the rooms is decreased to make way for ADA requirements and technology, like electronic "smart walls," table space for laptop computers, and other instructional technologies. The paradox is, that as improvements are implemented, the number of seats are reduced, which adds pressure to the registration demand for more rooms. The University cannot therefore improve its existing classrooms to resolve the scheduling stress on the general classroom inventory. This unusual and unmatched high utilization of classrooms has led to the conclusion that new classroom space is needed as part of the solution.

The University has developed a three phase plan to improve the classroom inventory. The first phase is complete with major renovation improvements to 44 existing classrooms with funding from the 2002 General Obligation Bond program. The second phase is the construction of the proposed Classroom Building with 24 classrooms including a total of 2,600 student stations. The final phase will be major renovation improvements to another 17 existing classrooms. The outcome will be 85 high capacity, high quality classrooms that can help meet the expectation of students and faculty, and the registration demand.

The mission statement of Virginia Tech as a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community includes discovery and dissemination of new knowledge central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the University creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life.

The University's strategic plan includes three scholarship domains: Learning, Discovery, and Engagement; and three Foundational Strategies: Development of the Organization, Investment in the Campus Infrastructure, and Effective Resource Development, Allocation, and Management. This project supports several key domains and strategies of the strategic plan, and the specific goals of each area addressed by this project are listed below.

Learning: (1) Strengthen and integrate all aspects of the undergraduate academic experience, including the academic experience for transfer students; (2) Invest in departmental and university-level support for undergraduate education; (3) Enhance quality graduate and professional education; (4) Establish a graduate education portfolio reflective of a 21st century university; (5) Develop and integrate advanced technology and information systems applications that assist collaboration, reflection, assessment, and sharing among faculty members, students, and staff members; (6) Contribute to the holistic and transformative educational experiences of Virginia Tech undergraduate and graduate students; and (7) Improve the capital assets that underpin student learning and support programs.

Engagement: Engage students, at the undergraduate and graduate levels, in opportunities for service learning and experiential education that prepare them to serve a diverse and complex marketplace and society while building the capacity of communities.

Foundational Strategies: (1) Effectively manage the University's space and land resources for learning, living, and work; and (2) Enhance health, safety, and security operations to support the University's discovery, learning, and engagement endeavors.

Existing facilities:
The University has 170 general assignment classrooms in its inventory, scattered among 27 campus buildings. The inventory ranges from some modern, desirable classrooms to a large portion of out-dated and physically constrained classrooms. Some of the existing classrooms are excellent opportunities for major renovation improvements, some may be up-fit with minor non-capital renovation improvements, and some are no longer truly suitable for modern instruction and can not be adequately renovated for current teaching practices. These rooms are generally used for evening tutoring, recitations, and group assignment work.

Overall, the University does not have sufficient or adequate general assignment classrooms or support space for students seeking individual and group work space and group seminar space. The new problem-based curricula

requirements for students to work in teams to research and develop cross-disciplinary solutions have evolved since virtually all of the academic space has been constructed on the Virginia Tech campus. These informal work areas are not available in sufficient quantities on the University campus. The lack of this type of space is becoming a point of dissatisfaction among students and a recruitment deterrent. This project will include instructional space to address the most pressing of these student expectations.

Funding Plan:
The classroom building is 100 percent support for the Educational and General instruction program. Thus, proposed funding plan calls for $37.272 million of General Fund support.

Options Considered

The option considered and not selected is deferring the project to a future biennium. This project is selected for the as top priority for funding because of the significant demand for modern classrooms by students and faculty. Without the addition of a new classroom building, the University does not have the capacity to schedule a growing number of course offerings that are needed to meet the demands of our students. For fall 2010, the University will be looking to lease additional space for class sections. As a result, students are not satisfied with their classrooms and course offerings are limited, causing students to defer courses to future academic sessions and delaying credits needed to graduate.

Costing Methodology

The costs are based on internal estimates developed by University staff based on historical comparables of on-campus work including the Building Construction Laboratory project net of intensive laboratory spaces and an internal project costing analysis. The project is anticipated to have average site conditions and is planned to utilize the Construction Manager at Risk delivery method. Project costs are estimated to the mid-point of construction using three percent escalation in accordance with the instructions for developing the Six-Year Capital Outlay Plan.

Project Costs

1. Aquisition of Property:	$0
2. Acquisition of Plant	$0
3. Building and Built-in Equipment	$24,336,000
4. Sitework and Utilities	$2,433,000
5. Architectural and Engineering Fee	$2,559,000
6. Loose Furnishings and Equipment	$3,065,000
7. Contigencies	$1,071,000
8. Project Inspection	$616,000
9. Other Costs	$3,192,000
Total Cost	**$37,272,000**

The following items (10, 11, 12) are included in above costs

10. Estimated Total Planning Costs:	$3,034,000
11. Estimated New Construction Costs:	$28,123,000
12. Estimated Improvements Costs:	$0

Itemized "9. Other Costs"

1. Project Management In Capital Project Budget:	$540,000
2. Special Consultants (if not included in A & E fees):	
A. Scheduling Consultant	$0
B. HVAC Commissioning	$244,000
C. Furniture Design	$153,000

3. Asbestos and lead based paint survey and design:	4. Asbestos abatement: $0
5. Independent Cost Estimates:	$22,000
6. Value engineering	$0
7. Subsoil investigations:	$64,000
8. Construction testing services:	$243,000
9. Printing	$8,000
10. Advertisements	$3,000
11. Work by owner	$894,000
12. Signage	$22,000
13. Miscellaneous utility charges $0	14. Moving expenses
15. Miscellaneous other costs (itemize):	
A. Native Stone	$438,000
B. Review Process	$19,000
C. Other	$542,000
D. _____	$0

Operating and Maintenance Costs

	1st Year	2nd Year
1. Personal Services	$155,524	$266,612
2. Nonpersonal Services	$242,078	$414,990
3. Equipment	$50,000	$7,500
Total O and M	**$447,602**	**$689,102**
4. FTE Employees:	6.00	6.00
5. One Time Costs:	$42,500	$0
6. Cost Savings	$0	$0
7. FTE Savings	$0	$0

8. Planned start date of new O and M costs (if different than the beginning of the fiscal year) 2013-12-01 00:00:00.0

Funding Requests

F Year	GF	NGF	Tax Debt	9c Debt	9d Debt	Total Request
2011	$451,000	$0	$0	$0	$0	$451,000
						Funding Phase: Pre-Planning
2011	$1,097,000	$0	$0	$0	$0	$1,097,000
						Funding Phase: Detail Planning
2012	$35,724,000	$0	$0	$0	$0	$35,724,000
						Funding Phase: Construction

Prior Funding

no prior funding entered

1. Acquisition - Property 0 Sq. Ft. / Acres Cost per Sq. Ft. or Acre n/a

Project Scope

2. Acquisition - Plant	0	Sq. Ft.	Cost per Sq. Ft.	n/a
3. New Construction	65,250	Sq. Ft.	Cost per Sq. Ft.	$431
4. Improvements	0	Sq. Ft.	Cost per Sq. Ft.	n/a
5. Capacity	0	Beds/Units	Cost per bed/unit	n/a

Capital Lease

Name of Lessor:

Space Requirements:

Need for Leased Space:

Time Period

Proposed Effective Date of Lease: Proposed Duration: months

Include Periodic Renewal: No Renewal at option of: Renewal Extension Period: months

Lease payments that would be made during the six year capital planning period

Fund	Year1	Year2	Year3	Year4	Year5	Year6
subtotals	$0	$0	$0	$0	$0	$0

Total lease payments for six year period: $0

Total payments for the duration/terms of the lease:

Energy Component

Energy Component Description

Annual Energy Operating Costs by Energy Type and Fund Source

Energy Type	Fund Source	Cost
	Total	$0

Cost Estimate for Energy Component

Subcomponent	Cost
Materials Cost	$0
Labor Cost	$0
Engineering & Design Cost	$0
Total	$0

Annual Cost Savings for Energy Component

Fund	Savings
	$0
Total	$0

PID: 5547