

Capital Budget Request

Life, Health, Safety, Accessibility and Code Compliance Package	
Overview	
Agency	Virginia Polytechnic Institute and State University (208)
Project Code	none
Project Type	Improvements-Life Safety Code
Biennium	2020-2022
Budget Round	Initial Bill
Request Type	New Project
Project Location	Roanoke Area
Facility/Campus	Blacksburg Main Campus
Source of Request	Agency Request
Infrastructure Element	Accessibility
Contains O & M costs? No	
Contains significant technology costs? No	
Contains significant energy costs? No	
Possible that project will be used by other than a state or local governmental entity, or for research under sponsored programs (higher education)? No	
Agency Narrative	
<p>Agency Description</p> <p>Executive Summary:</p> <p>The university's health, safety, and accessibility initiative for the campus is an ongoing effort. The university has made important progress on these compliance items for its Education and General facilities with prior General Fund support. The focus of this request is accessibility improvements and life safety improvements that are beyond the scope of normal maintenance reserve and will not be addressed as part of other capital projects.</p> <p>The university has identified three high priority accessibility improvements that reduce barriers, slips, trips, and falls at particularly challenging pedestrian intersections in the core of the university's Blacksburg campus. These improvements facilities will establish a system of accessible Educational and General buildings and connecting pathways to ensure accessible service in the core academic enterprise.</p> <p>Program Description:</p> <p>Virginia Tech is a land grant-university with a three-part mission: instruction, research, and outreach. Under this mission, activities occurring on campus should take place in a healthy, safe, and accessible environment and should ensure compliance with all applicable federal and state requirements. The campus is a daily meeting place for students, faculty, staff, alumni, and an array of visitors. Ensuring the safety, health, and accessibility of the campus environment is critical to the long-term success of the university and its service to the commonwealth.</p> <p>Justification</p> <p>Project Description:</p> <p>The university has identified three high priority accessibility initiatives that better align campus with civil rights legislation and include improvements that reduce slips, trips, and falls at particularly challenging pedestrian intersections in the core of the university's busy North Academic District of the Blacksburg campus. These specific improvements to key Education and General facilities will establish a system of accessible buildings and connecting pathways to ensure accessible service in the core academic enterprise.</p> <p>Projects are described below in order of priority.</p> <p>The first improvement is the Innovation Plaza to Tech Square (Burchard Plaza) Connector. This connector will provide an accessible access route along the major pedestrian corridor that connects the western end of Turner Way to the New Classroom Building and nearby commuter</p>	

parking areas. Due to elevation changes exceeding thirty feet and limited space outside of existing building footprints and utility easements, an accessible solution involving exterior elevators may be required; however, the full spectrum of possible solutions will be evaluated as part of this project's design. Education and General Facilities that will be positively impacted as a result of this project include Hitt Hall Intelligent Infrastructure Building (in design), Derring Hall, Cowgill Hall, Burchard Hall, G. Burke Johnston Student Center, and Burruss Hall.

The second improvement is the Western Drillfield to Perry Street Connector (Partial Central Green Link North). This connector will provide an accessible access route along the major pedestrian corridor connecting the western Drillfield to Perry Street, directly south of the Perry Street Parking Garage. Education and General Facilities that will be positively impacted as a result of this project include Hitt Hall Intelligent Infrastructure Building (in design), the Multi-Modal Transportation Facility (in design), Derring Hall, Cowgill Hall, Burchard Hall, G. Burke Johnston Student Center, Burruss Hall, Pamplin Hall, Williams Hall, and the Perry Street Garage.

The third improvement is the Eastern Drillfield to Turner Way Connector (Partial East Green Link North). This connector is projected to provide an accessible access route along the major pedestrian corridor connecting the eastern Drillfield up to Turner Way, directly north of the Holden Hall and Norris Hall portal. The final length of this connector may terminate south of the Holden Hall and Norris Hall portal depending on project conditions at the time of construction. Education and General facilities that will be positively impacted as a result of this project include Holden Hall, Norris Hall, Patton Hall, and Randolph Hall.

The North Academic District sits directly behind the Drillfield and includes some of the university's most iconic buildings and most heavily trafficked pedestrian pathways. The district is the center of daytime activity and population density, making it the true campus center. However, it lacks sufficient accessible pedestrian pathways to accommodate all members of the campus community.

The Hitt Hall Intelligent Infrastructure Building will include a new dining facility to respond to the dining capacity needs in the district. The facility will reroute students, faculty, staff, and visitors from existing overcrowded dining facilities to this new destination on campus. The Multi-Modal Transit Facility will make the district the portal to campus for most of the commuting population. The new Randolph Hall facility will replace the existing facility with a structure that increases instructional and research space for the College of Engineering's top ranked undergraduate program. In addition to these facilities, several student support services will be relocated to the district in the near future as the area continues to develop according to the 2018 campus master plan. The overall level of activity is anticipated to increase significantly as each of these facilities are completed.

Funding Plan:

The scope of this project is entirely Educational and General facilities: thus, the funding plan calls for 100 percent General Fund support for this \$6.1 million project.

Options Considered:

Delaying this project to a future biennium is not a favorable option because of the backlog of current campus safety and accessibility projects. These projects are normally addressed ad hoc as operating finances permit. Without capital funding, the accumulation of a backlog of requests for improvements related to accessibility will grow. While delaying this project does not have a direct cost impact, it does result in a lack of accessible services and increase the odds of slips, trips, and falls which often result in litigation.

Methodology

Cost Explanation and Methodology:

A. Methods Used to Estimate Costs:

The costs are based on internal estimates developed by university staff based on historical comparables of on-campus work. The costing analysis utilized past and current compliance projects that provided accessibility improvements and upgrades around campus. The project is planned to utilize the traditional Design, Bid, Build delivery method. Project costs are estimated to a mid-point of construction in 2023 using four and a half percent escalation in accordance with the instructions for developing the Six-Year Capital Outlay Plan.

On a total project cost basis, inclusive of design and construction, the unit costs are \$174 per surface area square foot. The unit construction costs of the project are \$142 per surface area square foot.

B. The proposed costs include the following critical consideration to ensure the project fully meets the needs of the program and the university:

- 1) These projects represent improvements to pedestrian pathways in congested areas of campus. This will necessitate the installation of temporary routes to maintain pedestrian flow while implementing the new work. The contractor will be required to manage these additional communications.
- 2) These improvements to the public way will require an analysis of building egress to ensure that safe egress is maintained in the event of an emergency. The costs associated with the design efforts will be represented in the soft costs for the project.
- 3) Innovation Plaza to Tech Square (Burchard Plaza) Connector: This sub-project will validate that an exterior elevator is the best method to

provide an accessible pathway. We will need to extend power and data to the elevator location from Derring Hall and the Johnson Burke Student Center to support the elevator. The design will evaluate the existing buildings power capacity with the related design costs being represented in the soft costs for the project.

4) Extending power thru existing occupied buildings will require work to be performed at off hours thus increase the construction costs.

5) Derring Hall contains hazardous materials. Routing power thru Derring will incur additional costs related to abatement. The required inspection of the abatement will be carried in the soft costs as it will be performed by third party inspections.

Funding Request

Phase	Year	Subject	Fund	Amount
Full Funding	2021	2322 - Construction, Buildings	01000 - General Fund	\$6,100,000
Total				\$6,100,000

Project Costs

Cost Type	Requested Funding
Acquisition Cost	\$0
Building & Built-in Equipment	\$4,958,585
Sitework & Utility Construction	\$0
Construction Cost Total	\$4,958,585
DESIGN & RELATED SERVICE ITEMS	
A/E Basic Services	\$376,357
A/E Reimbursables	\$0
Specialty Consultants (Food Service, Acoustics, etc.)	\$0
CM Design Phase Services	\$0
Subsurface Investigations (Geotech, Soil Borings)	\$0
Land Survey	\$0
Archeological Survey	\$0
Hazmat Survey & Design	\$0
Value Engineering Services	\$0
Cost Estimating Services	\$0
Other Design & Related Services	\$7,933
Design & Related Services Total	\$384,290
INSPECTION & TESTING SERVICE ITEMS	
Project Inspection Services (inhouse or consultant)	\$75,866
Project Testing Services (conc., steel, roofing, etc.)	\$0
Inspection & Testing Services Total	\$75,866
PROJECT MANAGEMENT & OTHER COST ITEMS	
Project Management (inhouse or consultant)	\$118,955
Work By Owner	\$44,627
BCOM Services	\$0
Advertisements	\$992
Printing & Reproduction	\$0
Moving & Relocation Expenses	\$0
AV Cabling	\$0
IT Cabling	\$0
Telephone Cabling	\$0
AV Equipment	\$0
IT Equipment	\$29,752
Telephone Equipment	\$0
Signage	\$5,950

Demolition	\$0
Hazardous Material Abatement	\$0
Utility Connection Fees	\$0
Utility Relocations	\$101,651
Commissioning	\$0
Miscellaneous Other Costs	\$280,160
Project Management & Other Costs Total	\$582,087
Furnishings & Movable Equipment	\$0
Construction Contingency	\$99,172
TOTAL PROJECT COST	\$6,100,000

Size and Scope

Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost		0	\$0
Construction Cost	Surface Area sqft	35,000	\$142
Total Project Cost	Surface Area sqft	35,000	\$174

Supporting Documents

File Name	File Size	Uploaded By	Upload Date	Comment
Capital outlay Improvements for LS code compicance 20190708.pdf	534,707	Cassidy Limer	7/23/2019	
11 - CR-1e Project Planner-Life Health Safety Package-VIRGINIA TECH-State Version.xlsx	607,624	Cassidy Limer	7/29/2019	

Workflow History

User Name	Claimed	Submitted	Step Name	Submit Action
Cassidy Limer	07/19/2019 11:34 AM	07/19/2019 11:34 AM	Enter Capital Budget Request	Continue Working
Cassidy Limer	07/19/2019 11:34 AM	07/25/2019 04:27 PM	Continue Drafting	Submit for Agency Review
Rob Mann	07/25/2019 04:47 PM	07/25/2019 04:47 PM	Agency Review Step 1	Return for Further Data Entry
Cassidy Limer	07/26/2019 12:34 PM	07/26/2019 12:35 PM	Continue Drafting	Submit for Agency Review
Rob Mann	07/26/2019 02:12 PM	07/26/2019 02:16 PM	Agency Review Step 1	Ready for DPB Bulk Submit
Rob Mann	07/26/2019 02:16 PM	07/26/2019 02:16 PM	Ready for DPB Submission	Submit to DPB
Anne Smith	07/26/2019 03:43 PM	07/26/2019 03:43 PM	DPB Review	Return to Previous Submitter
Rob Mann	07/29/2019 10:07 AM	07/29/2019 10:07 AM	Agency Review Step 1	Return for Further Data Entry
Cassidy Limer	07/29/2019 02:08 PM	07/29/2019 02:27 PM	Continue Drafting	Continue Working
Cassidy Limer	07/29/2019 03:41 PM	07/29/2019 03:42 PM	Continue Drafting	Continue Working
Jennifer Hundley	07/30/2019 10:39 AM	07/30/2019 10:41 AM	Continue Drafting	Submit for Agency Review
Rob Mann	07/30/2019 12:31 PM	07/30/2019 12:31 PM	Agency Review Step 1	Return for Further Data Entry
Cassidy Limer	07/30/2019 04:44 PM	07/30/2019 04:44 PM	Continue Drafting	Submit for Agency Review
Rob Mann	07/31/2019 10:33 AM	07/31/2019 10:35 AM	Agency Review Step 1	Ready for DPB Bulk Submit
Rob Mann	07/31/2019 03:44 PM	07/31/2019 03:44 PM	Ready for DPB Submission	Submit to DPB
			DPB Review	