

Capital Budget Request

Replace North Chiller Plant Equipment	
Overview	
Agency	Virginia Polytechnic Institute and State University (208)
Project Code	none
Project Type	Improvements-Infrastructure Repairs
Biennium	2022-2024
Budget Round	Amended Bill
Bill Version	Regular Session
Request Type	New Project
Project Location	Roanoke Area
Facility/Campus	Campus Infrastructure
Source of Request	Agency Request
Infrastructure Element	Chiller
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>Virginia Tech places a high priority on facility maintenance and mitigating deferred maintenance. The university's commitment is demonstrated by fully embracing the state's FICAS system for facility monitoring, aggressively addressing repairs, exceeding the 85 percent E&G Maintenance Reserve spending requirement every biennium since the introduction of the performance requirement, establishing a nongeneral fund Maintenance Reserve program in 1996 for its auxiliary enterprises, and allocating funds to address routine maintenance funding.</p> <p>The state's General Fund Maintenance Reserve program has been the lynchpin for the university to address deferred maintenance for its E&G facilities. However, several facilities have deferred maintenance needs that exceed the limits of the Maintenance Reserve program.</p> <p>The Capital Budget Request Instructions released in July 2022 include a new capital priority for "funding requests to address a significant maintenance reserve-type issue at an existing facility", and this request is to replace two chillers in the campus' North Chiller Plant.</p> <p>Project Description:</p> <p>The North Chiller Plant is the largest central chiller plant on campus and provides central cooling to over 40 buildings. Chillers #3 and #4 in the North Plant were installed in 1994 and are now the oldest chillers on campus and are reaching the end of their expected life. These chillers are critical to the operation of campus and represent approximately 20 percent of the total utility chiller capacity.</p> <p>The university's routine maintenance program and Maintenance Reserve projects are no longer sufficient to address the repair needs of these chillers.</p> <p>Replacement of the chillers is necessary to maintain the current level of service and reliability of the central cooling utility.</p> <p>This project request is to remove both of the old, existing chillers and replace them with new chillers.</p>	

Justification

Program Description:

Please see the Project Description section above.

Funding Plan:

The scope of this project supports the Educational and General mission of the campus; thus, the funding plan calls for 100 percent General Fund support for this project.

Options Considered:

Deferring the project was considered but not selected because failure of the two chillers would result in significant disruption of service to students, staff, and faculty.

Implementing the significant repairs through Maintenance Reserve is not an option because the project cost is beyond the \$2 million threshold.

Methodology

The project cost in 2022 dollars is \$5.1 million. The project costs are estimated to a mid-point of construction in 2024 using the current CR-1 Project Planning form (as of July 2022).

The 2022 project cost amount is based on internal estimates developed by university staff using historical comparables of on-campus work. The costing analysis utilized past and current projects that concerned chiller repairs and installation. The project is planned to utilize the traditional Design, Bid, Build delivery method.

Funding Request

Phase	Year	Subobject	Fund	Amount
Full Funding	2024	2322 - Construction, Buildings	01000 - General Fund	\$6,645,000
Total				\$6,645,000

Project Costs

Cost Type	Requested Funding
Acquisition Cost	\$0
Building & Built-in Equipment	\$6,000,000
Sitework & Utility Construction	\$0
Construction Cost Total	\$6,000,000
DESIGN & RELATED SERVICE ITEMS	
A/E Basic Services	\$229,000
A/E Reimbursables	\$1,000
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	\$6,000
Design & Related Services Total	\$236,000
INSPECTION & TESTING SERVICE ITEMS	
Project Inspection Services (inhouse or consultant)	\$27,000

Project Testing Services (conc., steel, roofing, etc.)	\$10,000
Inspection & Testing Services Total	\$37,000
PROJECT MANAGEMENT & OTHER COST ITEMS	
Project Management (inhouse or consultant)	\$24,000
Work By Owner	\$2,000
BCOM Services	\$0
Advertisements	\$0
Printing & Reproduction	\$0
Moving & Relocation Expenses	\$0
AV Cabling	\$0
IT Cabling	\$0
Telephone Cabling	\$0
AV Equipment	\$0
IT Equipment	\$0
Telephone Equipment	\$0
Signage	\$0
Demolition	\$0
Hazardous Material Abatement	\$0
Utility Connection Fees	\$0
Utility Relocations	\$0
Commissioning	\$13,000
Miscellaneous Other Costs	\$33,000
Project Management & Other Costs Total	\$72,000
Furnishings & Movable Equipment	\$0
Construction Contingency	\$300,000
TOTAL PROJECT COST	\$6,645,000

Size and Scope

Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost		0	\$0
Construction Cost		0	\$0
Total Project Cost		0	\$0

Supporting Documents

File Name	File Size	Uploaded By	Upload Date	Comment
CR-1 North Chiller Plant Equipment Replacement 8.4.22.xlsx	594,061	Matthew Digman	8/5/2022	

Workflow History

User Name	Claimed	Submitted	Step Name	Submit Action
Matthew Digman	08/03/2022 11:24 AM	08/03/2022 11:24 AM	Enter Capital Budget Request	Continue Working
Matthew Digman	08/03/2022 11:24 AM	08/03/2022 11:25 AM	Continue Drafting	Continue Working
Matthew Digman	08/04/2022 03:10 PM	08/04/2022 03:22 PM	Continue Drafting	Continue Working
Jennifer Hundley	08/04/2022 06:02 PM	08/04/2022 06:11 PM	Continue Drafting	Continue Working
Jennifer Hundley	08/04/2022 06:34 PM	08/04/2022 06:35 PM	Continue Drafting	Continue Working
Matthew Digman	08/05/2022 09:03 AM	08/05/2022 09:06 AM	Continue Drafting	Continue Working
Matthew Digman	08/05/2022 10:12 AM	08/05/2022 10:12 AM	Continue Drafting	Continue Working
Matthew Digman	08/05/2022 10:12 AM	08/05/2022 10:13 AM	Continue Drafting	Continue Working
Matthew Digman	08/05/2022 11:13 AM	08/05/2022 11:15 AM	Continue Drafting	Continue Working

Rob Mann	08/05/2022 11:55 AM	08/05/2022 11:58 AM	Continue Drafting	Submit for Agency Review
Rob Mann	08/05/2022 12:00 PM	08/05/2022 12:01 PM	Agency Review Step 1	Ready for DPB Bulk Submit
Rob Mann	08/05/2022 12:04 PM	08/05/2022 12:04 PM	Ready for DPB Submission	Submit to DPB
			DPB Review	