

Capital Budget Request

Improve Kentland Facilities

Overview

Agency	Virginia Cooperative Extension and Agricultural Experiment Station (229)
Project Code	17830
Project Type	Improvements-Other
Biennium	2014-2016
Budget Round	Amended Bill
Request Origin	Previously Approved
Building Name	
Project Location	Roanoke Area
Facility/Campus	Other
Source of Request	Agency Request
Building Function	Educational and General Programs of the Cooperative Extension/Agricultural Experiment Station 100%
Infrastructure Element	Multi-Purpose
Contains significant technology costs? No	
Contains significant energy costs? No	

Agency Narrative

Agency Description

Background:

The state appropriated a preplanning authorization for this project in Chapter 806 (2013), item C39.05, H.2, state project code 229-17830. This authorization is anticipated to advance to detail planning as part of the pending 2014-2016 budget. This request is to supplement the planning authorization for project 229-17830 with full funding and to authorize the project to advance through the construction phase, including reimbursement of temporary nongeneral fund sources to plan the project and in accordance with the state's cost review process. The total project costs, inclusive of design, construction, and equipment are requested at \$7.6 million. The request for full funding at this phase is based on the generally small total project budget and the university's commitment to work collaboratively with the state on value engineering and cost controls.

The Improve Kentland Facilities capital project has been on the agency's plan since 2008 and is a high priority because it is essential for ongoing support to the Commonwealth's dairy industry. The program's existing research facilities are outdated, deteriorated, and no longer support the agency's on-going research investigations and extension work. This project calls for replacing six existing dairy science research facilities with a total scope of 27,300 gross square feet with three modern facilities with a total scope of 28,900 gross square feet that meet the needs of research that supports industry and government. The approximate sizes of the individual three new buildings include an 11,000 gross square foot metabolism research laboratory, a 7,700 gross square foot applied reproduction facility, and 10,200 gross square feet of animal demonstration, handling, and holding spaces.

Project Description:

The project includes new construction of three buildings to replace six deteriorated buildings. The three new buildings include an 11,000 gross square foot metabolism research laboratory, a 7,700 gross square foot applied reproduction facility, and 10,200 gross square feet of arena and animal holding spaces.

The total scope of the project request is 28,900 gross square feet that will replace 27,300 gross square feet of outdated facilities. The scope of the project is based on replacing the existing facilities for an established herd with equal capacity new facilities.

Justification

Program Description:

The dairy science research program includes activities like immunology work to develop novel therapies of chronic mastitis which is a serious infection of the bovine mammary gland resulting in an annual loss to the U.S. dairy industry of nearly \$2 billion and a global loss of \$10 billion.

The dairy science research operations include the bovine extension and research function, the applied reproduction program, and the metabolism research program. The complex allows for the study of the basic and applied science and technology, the interfacing of science and production agriculture, and the dissemination of new information on animal nutrition, physiology, lactation, genetics, reproduction, infectious disease, immunology, and the business of dairy enterprise management. Studies also include nutritional and management approaches to

minimizing environmental impacts of dairy farm operations; and the study of mechanisms involved in control of disease, prevention of mastitis, and the improvement of milk quality.

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.

Discovery:

Strengthen research activities with a focus on energy.

Strengthen research activities with a focus on materials.

Strengthen research activities with a focus on the environment.

Establish research strengths in the study of infectious disease.

Establish research strengths in the study of health, food, and nutrition.

Achieve research strength in the areas of innovative technologies and complex systems through the strategic integration and support of critical research areas.

Engagement:

Connect the university's discovery, learning, and engagement assets through partnerships with both the public and private sectors to advance the economic vitality of the commonwealth and the quality of life of its citizens.

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:

Effectively manage the university's space and land resources for learning, living, and work.

Enhance health, safety, and security operations to support the university's discovery, learning, and engagement endeavors.

Existing Facilities:

The 27,300 gross square feet (gsf) of existing agricultural support and research assets that support the dairy science program require replacement. The facilities include calf housing pens, calf handling facilities, heifer housing structures, animal handling buildings, and support and storage buildings. These facilities will be razed and replaced in a location that is optimal for the long-term operation of the program.

The building numbers, size, and year built are listed below. Because these are agriculture-type buildings they do not have conventional names.

GSF Year Constructed

Loafing Barn #481 2,880 1962

Loafing Barn #482 5,760 1962

Arena #475 7,709 1962

Bull Barn #484 2,607 1962

New Bull Barn #488-A 1,220 1983

New Bull Barn #488 7,087 1983

Funding Plan:

The program is 100 percent educational and general in the Cooperative Extension/Agricultural Experiment Station; thus, the funding plan calls for General Fund support for the entire \$7.6 million estimated project cost.

Alternatives Considered

The options considered and not selected include elimination of the herds, reduction in herd sizes, and deferring to a future biennium. The options that eliminate or reduce the herd size are not recommended because of the significant negative impact to the dairy science program's support to industry and government. The option of deferring the project to a future time is not recommended because the facilities are no longer in a position to adequately support the research program.

Costing Methodology

The construction costs are based on the efforts of an external cost consultant, which analyzed the program requirements and compared to current market building comparables within university settings. Soft cost estimates developed by university staff based on historical data costing analysis and trends over the past eight years. The project is anticipated to have moderate site conditions and will use an appropriate

construction delivery method for the size and complexity of the project. Project costs are estimated to the midpoint of construction using three percent escalation in accordance with the instructions for developing the Six Year Capital Outlay Plan.

Agency Funding Request

Phase	Year	Fund	Subsubject	Requested Amount
Construction	2016	0100 - General Fund	2322 - Construction, Buildings	\$7,600,000
Total				\$7,600,000

Project Costs

Cost Type	Total Project Costs	Requested Funding	DGS Rec
Acquisition Cost	\$0	\$0	\$0
Building & Built-in Equipment	\$5,970,000	\$5,970,000	\$0
Sitework & Utility Construction	\$0	\$0	\$0
Construction Cost Total	\$5,970,000	\$5,970,000	\$0
Design & related Services from Other Costs tab	\$771,000	\$771,000	\$0
Inspection & Testing Services from Other Costs tab	\$142,000	\$142,000	\$0
Project Management & Other Costs from Other Costs tab	\$388,000	\$388,000	\$0
Furnishings & Movable Equipment	\$90,000	\$90,000	\$0
Construction Contingency	\$239,000	\$239,000	\$0
Total Project Cost	\$7,600,000	\$7,600,000	\$0

Capacity

Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost		0	\$0
Construction Cost	GSF	28,900	\$207
Total Project Cost	GSF	28,900	\$263

Other Costs

Cost Type	Total Project Costs	Requested Funding	DGS Rec
Design & Related Service Items			
A/E Basic Services	\$597,000	\$597,000	
A/E Reimbursables	\$21,000	\$21,000	
Specialty Consultants (Food Service, Acoustics, etc.)	\$38,000	\$38,000	
CM Design Phase Services	\$29,000	\$29,000	
Subsurface Investigations (Geotech, Soil Borings)	\$12,000	\$12,000	
Land Survey	\$18,000	\$18,000	
Archeological Survey	\$0	\$0	
Hazmat Survey & Design	\$0	\$0	
Value Engineering Services	\$0	\$0	
Cost Estimating Services	\$3,000	\$3,000	
Other Design & Related Services	\$53,000	\$53,000	
Design & Related Services Total	\$771,000	\$771,000	
Inspection & Testing Service Items			
Project Inspection Services (inhouse or consultant)	\$90,000	\$90,000	
Project Testing Services (conc., steel, roofing, etc.)	\$52,000	\$52,000	
Inspection & Testing Services Total	\$142,000	\$142,000	
Project Management & Other Cost Items			
Project Management (inhouse or consultant)	\$69,000	\$69,000	

Work By Owner	\$9,000	\$9,000
BCOM Services	\$0	\$0
Advertisements	\$0	\$0
Printing & Reproduction	\$0	\$0
Moving & Relocation Expenses	\$17,000	\$17,000
Data & Voice Communications	\$87,000	\$87,000
Signage	\$11,000	\$11,000
Demolition	\$0	\$0
Hazardous Material Abatement	\$0	\$0
Utility Connection Fees	\$123,000	\$123,000
Utility Relocations	\$0	\$0
Commissioning	\$0	\$0
Miscellaneous Other Costs	\$72,000	\$72,000
Project Management & Other Costs Total	\$388,000	\$388,000

Operating and Maintenance Costs (Agency)

Cost Type	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
GF Dollars	\$0	\$37,200	\$38,000	\$39,500	\$40,600	\$42,000
NGF Dollars	\$0	\$0	\$0	\$0	\$0	\$0
GF Positions	0.00	0.50	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 Kentland Improvements.xls	640,000	Rob Mann	6/27/2014	CR-3 Improve Kentland Facilities

Workflow History

User Name	Claimed	Submitted	Step Name
Rob Mann	06/26/2014 01:49 PM	06/26/2014 01:49 PM	Enter Capital Budget Request
Rob Mann	06/26/2014 01:50 PM	06/26/2014 01:51 PM	Continue Drafting
Rob Mann	06/27/2014 03:00 PM	06/27/2014 03:18 PM	Continue Drafting
Rob Mann	06/27/2014 04:23 PM	06/27/2014 04:26 PM	Agency Review Step 1
Rob Mann	06/30/2014 11:15 AM	06/30/2014 11:15 AM	Ready for DPB Submission
Bob Broyden	06/30/2014 01:51 PM	06/30/2014 02:01 PM	Ready for DPB Submission
Bob Broyden	06/30/2014 02:13 PM	06/30/2014 02:13 PM	Ready for DPB Submission
Bob Broyden	06/30/2014 02:16 PM	06/30/2014 02:16 PM	Ready for DPB Submission
			DPB Review