

Capital Budget Request

Construct Animal Production and Livestock Facilities Phase II

Overview

Agency	Virginia Cooperative Extension and Agricultural Experiment Station (229)
Project Code	none
Project Type	New Construction
Biennium	2018-2020
Budget Round	Initial Bill
Request Origin	Previously Submitted
Project Location	Roanoke Area
Facility/Campus	Other
Source of Request	Agency Request
Infrastructure Element	Laboratory / Classroom
Contains significant technology costs? No	
Contains significant energy costs? No	
Project will be used by other than a state or local governmental entity? No	

Agency Narrative

Agency Description

Executive Summary:

Virginia agriculture industry represents a significant portion of commerce for the Commonwealth. Virginia Tech's Cooperative Extension/Agriculture Experiment Station agency provides critical information to advance and protect these industries. The focus of this capital project request targets the facility needs of animal-based programming activities that sustain and advance the Commonwealth's valuable industries.

The Virginia Tech Cooperative Extension/Agriculture Experiment Station agency has 37 facilities that contain approximately 250,000 gross square feet of facilities that are deteriorated beyond repair and do not offer practical renovation or upgrade possibilities. The condition of the facilities adversely impacts operations and services provided by the program.

The Agency developed a two phase solution to systematically replace these facilities, and the state authorized and appropriated Phase One of the improvements in Chapter 759/2016, Item 1.B. The Phase One project covers 126,000 gross square feet with a total budget of \$22.136 million and is in the design phase with expected occupancy of the facilities in late 2019.

This request is for Phase Two of the improvements to complete the overall project. The Phase Two project scope includes 13 buildings that contain 97,000 gross square feet and a total project budget of \$24.3 million. The timing of funding the project in the FY2019 budget would provide for a seamless transition to Phase Two and would be optimal for the Agencies operations.

Project Summary:

Based on an extensive programmatic analysis conducted by the College of Agriculture and Life Sciences, the Department of Animal and Poultry Science's Sheep, Poultry, Equine and Beef/Cattle animal programs each identified buildings and facilities that are deteriorated and are beyond repair; facilities that cannot continue to efficiently serve animal program production, animal housing, on-going instruction and scientific research. Several other facilities, including a value-added animal processing center, require comprehensive renovation to serve animal-based programs.

The proposed solution would replace facilities at the Blacksburg campus and three nearby University animal research and Extension centers. The full extent of new and renovated facilities required to support the animal and livestock programs have been separated into two phases (Phase One and Phase Two) to efficiently plan, stage, and execute the transition of animal programs into new or renovated facilities. Relocation of animals is best managed with a two-phase University project.

Chapter 759/2016 appropriated the Construct Livestock and Poultry Research Facilities, Phase One project. The project is currently in the Schematic Design phase with plans to for facility occupancy late 2019. The Construct Livestock and Poultry Research Facilities, Phase II project is needed to complete the restoration of the University livestock and poultry research facilities.

This request is for the Phase Two project and includes approximately 97,000 gross square feet of various structures for Poultry, Sheep, Equine and Beef/Cattle animal programs. The specific items are listed below in the program description.

- Multi-use Facilities serving multiple animal programs will include a new Feed Mill with grain and commodity storage facility (16,400 GSF) and equipment storage and repair center (10,000). These facilities total 26,400 GSF.

- Beef/Cattle program: Facilities will include a new 6,250 GSF Calving Facility and a new 6,500 GSF Multi-purpose Research and Outreach Facility at Kentland Farm. These facilities total 12,750 GSF.

- Equine program: Facilities will include a new 2,700 GSF Storage Barn, a new 6,000 GSF Nutrition and Exercise facility, a new 2,150 GSF Stallion Barn and a new 14,000 GSF Research/Extension Program Barn. These facilities total 24,850 GSF.

- Animal Products Processing Center: Facilities will include repair and renovation of the currently outdated animal processing center. This facility (7,300 GSF) helps Virginia Tech fulfill its land-grant missions, specifically to create new knowledge about animals and their products so producers can make useful management decisions to increase profitability.

- Sheep program: Facilities will include a new 12,100 GSF Sheep Center Facility and a new 1,600 GSF Manure Composting Structure, each at the Heth Farm. This facility totals 13,700 GSF. The facilities will be constructed in close proximity to old Heth farmstead, just off Plantation Road. This site will require new access farm road, extension of water service, sanitary line and electric service from connections at Prices Fork Road.

- Poultry program - Breeding/Genetics: Facilities will include a new 2,000 GSF Hatchery facility, and a new 10,000 GSF Brooder House. These facilities total 12,000 GSF. The Breeding/Genetics facilities will be constructed on pastureland at the Turkey Run Farm in Montgomery County, requiring a new access farm road, extension of water service, sanitary line and electric service from connections at Glade Road.

The project scope, site development, and building configuration shall be consistent with the 2017 master plan update and include universal accessibility design principles as appropriate.

Justification

Program Description:

Virginia agriculture industry represents a significant portion of commerce for the Commonwealth. Virginia Tech's Cooperative Extension/Agriculture Experiment Station agency provides critical information to advance and protect these industries. The focus of this capital project request targets the facility needs of animal-based programming activities that sustain and advance the Commonwealth's valuable industries. Those sectors include sheep, poultry, swine, equine and beef/cattle, and the allied industries they drive. Of the overall Virginia agriculture industry, in gate receipts alone, these sectors reflect nearly \$3.6 billion annually according to a 2014 study by the National Agriculture Statistics Service. Additional state revenues created by huge allied industries account for some \$40M annually for the Commonwealth and its citizenry.

The profitability, and therefore the long-term sustainability, of these industries depend directly on the capacity of Virginia Tech's Cooperative Extension/Agriculture Experiment Station to create and translate novel new technologies. At present, the agency has 37 facilities totaling approximately 250,000 gross square feet (GSF) that are approximately 40 to 50 years-old. These facilities have served the Commonwealth well past their useful life. Given the extraordinary age, condition, and buildup of deferred maintenance, maintenance and renovations are no longer viable options to sustain asset serviceability. The University, and state, has reaped nearly two service lives from these building assets. However, the conditions of most facilities are becoming a health concern for animals and humans alike.

The University strategic plan includes principal strategies that this important project will serve to accomplish, including:

- Creating meaningful industry and government partnerships to address complex problems by co-locating researchers and practitioners in "living laboratories."
- Increasing undergraduate involvement in meaningful research experiences and experiential learning through hands on, minds on environments.
- Emphasizing translational research and scholarship.
- Maintaining growth in research expenditures toward a target of \$680 million by 2018.
- Increasing the number of our programs recognized as among the best internationally.
- Establishing a distinctive and globally recognized profile.
- Building upon existing and emerging strengths.
- Increasing graduate enrollment toward a target of an additional 1,000 students.
- Increasing the number of post-doctoral positions in STEM-H research areas.

The project scope, site development, and building configuration shall be consistent with the 2017 master plan update and include universal accessibility design principles as appropriate.

Existing facilities:

Many of the current Department of Animal and Poultry Science facilities are deteriorated beyond repair and do not offer practical renovation or upgrade possibilities. Other facilities require major renovation to continue providing the animal industries in Virginia invaluable information. Without these facilities, education and development of the next generation of leaders in animal agriculture would not be possible. Moreover, failure to support and grow the growing animal industries across the commonwealth would negatively impact the financial stability of the

economy.

Included in both Phase One and Phase Two of the Capital request, are the replacement of the outdated 37 structures covering over 250,000 gross square feet. Phase One will encompass 126,000 gross square feet and Phase Two will encompass 97,000 gross square feet.

Funding Plan:

The program for this project is 100 percent Educational and General for the Cooperative Extension/Agricultural Experiment Station; thus, the funding plan calls for 100 percent General Fund support for this \$24.3 million project.

Options considered:

Options considered include renovation of other existing animal facilities to house animals and deferral of the project. Renovation of other existing facilities would be costly as facilities would require major reconfigurations to the specified animal breed and population. Deferral of this project to a future biennium is also not desired because of the urgent need for improvements and the on-going impact on the quality of instruction and research.

Alternatives Considered

Costing Methodology

The construction costs for this project are based on the design and cost estimating work underway for the Phase One project, which includes similar facilities, and include efforts of an external cost consultant. The soft cost estimates were 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 a Design, Bid Build construction delivery method for the size and complexity of the project. 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.

Agency Funding Request

Phase	Year	Fund	Subobject	Requested Amount
Full Funding	2019	01000 - General Fund	2322 - Construction, Buildings	\$24,300,000
Total				\$24,300,000

Project Costs

Cost Type	Total Project Costs	Requested Funding	DGS Rec
Acquisition Cost	\$0	\$0	
Building & Built-in Equipment	\$14,528,175	\$14,528,175	
Sitework & Utility Construction	\$0	\$0	
Construction Cost Total	\$14,528,175	\$14,528,175	
DESIGN & RELATED SERVICE ITEMS			
A/E Basic Services	\$1,534,045	\$1,534,045	
A/E Reimbursables	\$34,472	\$34,472	
Specialty Consultants (Food Service, Acoustics, etc.)	\$90,757	\$90,757	
CM Design Phase Services	\$0	\$0	
Subsurface Investigations (Geotech, Soil Borings)	\$45,979	\$45,979	
Land Survey	\$19,591	\$19,591	
Archeological Survey	\$0	\$0	
Hazmat Survey & Design	\$2,813	\$2,813	
Value Engineering Services	\$55,060	\$55,060	
Cost Estimating Services	\$18,460	\$18,460	
Other Design & Related Services	\$0	\$0	
Design & Related Services Total	\$1,801,177	\$1,801,177	
INSPECTION & TESTING SERVICE ITEMS			
Project Inspection Services (inhouse or consultant)	\$428,776	\$428,776	
Project Testing Services (conc., steel, roofing, etc.)	\$206,751	\$206,751	

Inspection & Testing Services Total	\$635,527	\$635,527
PROJECT MANAGEMENT & OTHER COST ITEMS		
Project Management (inhouse or consultant)	\$353,775	\$353,775
Work By Owner	\$1,531,159	\$1,531,159
BCOM Services	\$6,315	\$6,315
Advertisements	\$3,388	\$3,388
Printing & Reproduction	\$21,490	\$21,490
Moving & Relocation Expenses	\$35,073	\$35,073
A/V Cabling	\$0	\$0
IT Cabling	\$0	\$0
Telephone Cabling	\$0	\$0
A/V Equipment	\$0	\$0
IT Equipment	\$491,962	\$491,962
Telephone Equipment	\$0	\$0
Signage	\$13,965	\$13,965
Demolition	\$0	\$0
Hazardous Material Abatement	\$0	\$0
Utility Connection Fees	\$0	\$0
Utility Relocations	\$44,191	\$44,191
Commissioning	\$15,337	\$15,337
Miscellaneous Other Costs	\$246,696	\$246,696
Project Management & Other Costs Total	\$2,763,351	\$2,763,351
Furnishings & Movable Equipment	\$3,874,180	\$3,874,180
Construction Contingency	\$697,590	\$697,590
TOTAL PROJECT COST	\$24,300,000	\$24,300,000

Capacity

Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost		0	\$0
Construction Cost	GSF	97,000	\$150
Total Project Cost	GSF	97,000	\$251

Operating and Maintenance Costs (Agency)

Cost Type	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
GF Dollars	\$0	\$0	\$0	\$386,934	\$398,542	\$410,499
NGF Dollars	\$0	\$0	\$0	\$0	\$0	\$0
GF Positions	0.00	0.00	0.00	2.30	2.30	2.30
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 Project Planner-229-2 Animal Production Phase II.xlsx	419,181	Rob Mann	7/7/2017	CR-3 Form_Animal Production and Livestock Facility II
229_02 Animal Production and Livestock Facilities Phase 2	70,104	Rob	7/7/2017	Animal Production and Livestock Facilities Phase II

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Workflow History

User Name	Claimed	Submitted	Step Name	Submit Action
Jennifer Hundley	06/06/2017 10:51 AM	06/06/2017 10:51 AM	Enter Capital Budget Request	Continue Working
Jennifer Hundley	06/06/2017 10:51 AM	06/06/2017 10:51 AM	Continue Drafting	Continue Working
Rob Mann	07/07/2017 01:41 PM	07/07/2017 02:25 PM	Continue Drafting	Submit for Agency Review
Rob Mann	07/07/2017 02:25 PM	07/07/2017 02:25 PM	Agency Review Step 1	Ready for DPB Bulk Submit
Bob Broyden	07/07/2017 04:14 PM	07/07/2017 04:14 PM	Ready for DPB Submission	Continue Review
Bob Broyden	07/07/2017 04:35 PM	07/07/2017 04:35 PM	Ready for DPB Submission	Submit to DPB
			DPB Review	