

NC STATE UNIVERSITY

Project Scope Statement

2019-05-21

Prepared by:
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Facilities Division

Project Manager:
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Design Team:

College of Veterinary Medicine (CVM) Teaching Animal Unit (TAU) Dairy Facility

NC State Project Number: 201920022

Project Description

This project demolishes the outdated dairy milking parlor and constructs a new 10,835 gross square foot dairy facility at the College of Veterinary Medicine's (CVM) on-site Teaching Animal Unit (TAU), which merges teaching and live-animal experiential training with commercial operations for the Doctorate of Veterinary Medicine (DVM) program. The new facility will have a more efficient, modern layout with:

- all-weather observation
- direct access to the pasture
- improved treatment stalls
- new equipment for milking, feed, water, and waste.

The project will extend utilities to the building and reorganize the adjacent pastures for controlled vehicular access to the building to comply with biosecurity requirements. Consideration must be given to relocating the existing calving shed and hutches to the east of the East Barn that will be displaced by the new construction.

Location

The site is located on approximately half of an acre at 318 Terry Curtin Drive, Raleigh, NC 27695 on the Centennial Biomedical Campus (CBC) portion of the West Campus Precinct.

Budget

The total project budget of \$4,800,000 includes all design fees, reimbursable expenses, construction and associated construction costs.

Planning Organizing Concepts

The project will follow the guiding principles and design guidelines set forth in the NC State University Physical Master Plan, *A Campus of Neighborhoods and Paths (2014)*.

http://www.ncsu.edu/facilities/files/MP_WebBook/index.html

The pastures east of CVM are designated as Hallowed Places (pp 41 – 42) and the East and West Barns are designated as Landmarks (p 40). These unique features of the campus have become irreplaceable because of their historical significance or because over generations they have become symbols of the university. In addition, two heritage trees are located to the south of the site and must be protected (Design and Construction Guidelines, Division 32 – Exterior Improvements, p 8). Changes affecting these features require extraordinary care to preserve, restore, or enhance their special character as experienced from outside and within the CVM campus. Design Harmony for blending the old with the new in which new development draws upon the context of surrounding architecture, scale, and materials (p14).

An electronic copy of the May 2017 CVM TAU Master Plan study by HH Architecture will be made available for reference.

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This project will be designed with the Principles of Universal Design to ensure that, to the greatest extent possible, the facility shall be usable by everyone regardless of their age, ability, or circumstance (p 15).

Site and Campus Design/Repair

The demolished building site will be prepared to return to pasture.

Sustainable Design

The project shall have a positive impact on the campus and surrounding community and actively advance NC State University's larger sustainability commitments by incorporating sustainable building and site design and construction throughout the life of the project.

This project will identify ways to incorporate sustainable building and site design into the project to comply with NC State's climate neutrality goals. Sustainability goals for the project include, but are not limited to: maximizing and improving natural areas of the site; maximizing space utilization; and including long-term efficient use of space and infrastructure by designing with flexibility for future use.

Per the City of Raleigh Master Plan (MP-4-06), no limits on quantity of impervious surfaces exist; however, all new impervious surfaces need to be treated. NC State University adheres to the State of North Carolina's and the City of Raleigh's requirements for Best Management Practice (BMP) treatment of new impervious surfaces. General locations of future BMP devices to account for new impervious surfaces associated with the Campus Master Plan have been mapped on the CBC Utility Masterplan document approved by the City of Raleigh. The intent for improvements associated with the entire TAU masterplan is to minimize any increase in impervious surfaces.

Utilities/Infrastructure/Building Systems

1. Steam: Not applicable
2. Chilled Water: Not applicable
3. Domestic water: All of the existing TAU barns and buildings are currently fed with a low pressure 2" PVC underground pipe. The new dairy facility will require a larger pipe if the facility requires sprinklering and /or new fire hydrants.
4. Sanitary Sewer: The existing sanitary sewer main going to the City was increased/replaced a few years ago to accommodate the campus master plan. The branch lines out to the new and existing facilities will need to be added/replaced.
5. Natural Gas: Most of the buildings in TAU are heated with natural gas from underground piping. The underground gas lines may need to be increased to accommodate a larger heating demand.
6. Electrical: All of the TAU buildings are fed from a single 208V, 400 AMP, 3-phase service that is about 30 years old. It is likely that the existing electrical service will need to be upgraded. Generator back-up service for power outages will need to be investigated.
7. Telecommunications: The new facility is likely to require more phones, instructional cameras and technology, wireless service, etc. It is also likely that some upgrades to the underground telecom infrastructure will be required.
8. Building Systems: Not applicable

Security

N/A

Transportation

Not applicable

Additional Resources

NC State Design and Construction Guidelines <https://facilities.ofa.ncsu.edu/guidelines-and-policies/>

Centennial Biomedical Campus Dam and Stormwater Improvement Study, NC State University, March 10, 2014

Stormwater Wetland at the College of Veterinary Medicine, 2011 Monitoring Report, Additional Monitoring, Year 2 of 2, NC State University, November 2011

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Master Plan for a Planned Development District, MP-4-06, Centennial Biomedical Campus, NC State University, Approved by Raleigh City Council September 5, 2007



View of Calving Barn and Hutch Area with Heritage Trees

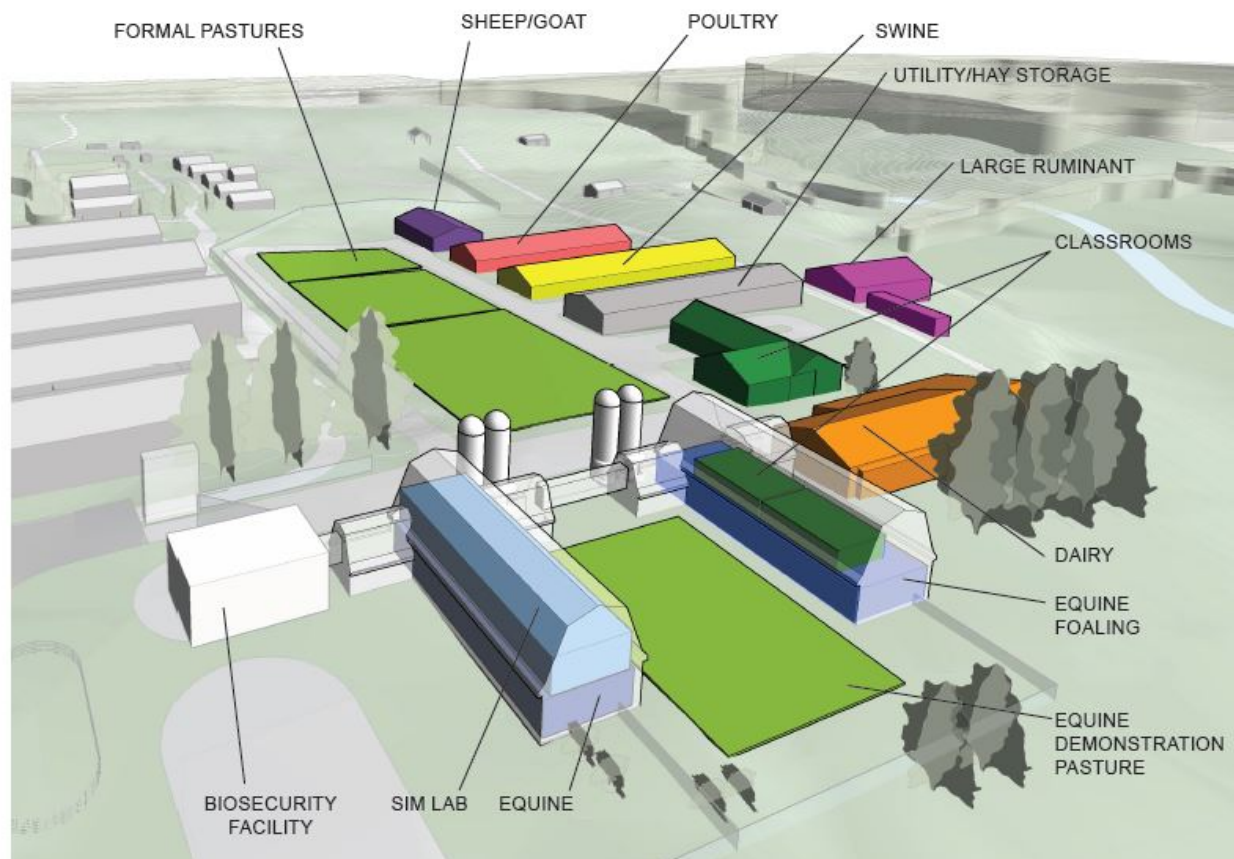
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Existing Layout of TAU



Preferred Layout (Cluster 8)



Preferred Layout Axonometric