

AES CAPITAL PROJECT BUDGET REQUEST FORM

Location: Hettinger Research Extension Center

Title of project: Smart Lambing Barn

Project type based on percentage of cost as per Master Plan section 3.

33 % Program and Research Driven
Needs

33 % Deferred Maintenance Priority
Repairs

34 % Life/Safety/Security Priority
Needs

Master Plan Alignment

The proposed Smart Lambing barn is part of the transition to making all of the Research facilities at the Hettinger Research Extension Center (HREC) capable of conducting modern research, especially in the field of precision agriculture for the small ruminant industry. Recent construction at the HREC has included a Smart Feedlot and Livestock Handling Facility, and incorporation of a private Digital Mesh Network. The proposed Lambing Barn completes the “life-cycle” of conducting precision agriculture research at all phases of production.

The current facility was built approximately 45 years ago and does not contain adequate lighting, ventilation, livestock handling space, and infrastructure for conducting precision agriculture research. One of the larger concerns is the ventilation and lighting conditions as they affect human and animal health, specifically due to ammonia. The office space is not large enough to accommodate the traditional facilities needed for a lambing barn,

let-alone additional computing and server space for conducting modern research. Due to the low roof height, many equipment limitations exists, including needing specialized smaller equipment for pen cleaning and feed delivery.

The re-use of the old facility is not an option due to space limitations in the HREC farm yard, in addition to the human health concerns of continuing to use the facility. The roof is too low to be used for equipment storage, and the placement of the current office would not allow for lateral expansion to increase the width of garage doors to accommodate modern farm equipment.

Summary: Lack of funding for this facility will continue to affect animal health and the health and safety of the HREC farm and research staff. The HREC currently is limited in the precision agriculture research that can be conducted in this facility due to lack of space for IT infrastructure.

Scope of Work

The HREC Smart Lambing Barn is a proposed 13,300 square foot (70' x 190') stud frame constructed barn and office as a replacement for the current lambing barn. The square footage is approximately the same as the current facility, and would be capable of lambing approximately 500 head of small ruminants per season. The HREC lambs 500 head of sheep twice per year in the current facility. The proposed budget includes all costs associated with demolition of the old facility, site preparation for the facility, and construction costs including general, electrical, mechanical, and IT.

The HREC currently has \$500,000 in our deferred maintenance requests to address health and safety problems for this facility. However, after recent construction projects, \$500,000 will likely not address all of the problems with the current lambing barn, and would not accomplish the goal of making this facility a modern barn capable of hosting precision agriculture research during lambing.

If approved and funded, the HREC would plan on bidding the project in the fall/winter of 2027, tearing down the current facility in the spring of 2028 after lambing, initiating construction immediately, and having the project completed by the fall of 2028 for the fall lambing season.

Future Operating Costs:

As this building is a replacement of the old building, including upgrading all insulation and infrastructure, we estimate that operating costs will be less than in the past. Currently during the winter the garage doors are left open to remove ammonia. The proposed facility will be insulated and have a modern ventilation system, allowing the doors to be closed during lambing.

