

SOUTH DAKOTA BOARD OF REGENTS

Committee on Budget and Finance

AGENDA ITEM: III – D

DATE: October 8-9, 2014

SUBJECT: SDSU Plant Science Research Support Facility – Preliminary Facility Statement

South Dakota State University requests approval of its Preliminary Facility Statement to construct a Plant Science Research Support Facility. This facility will serve crop production and plant science research with additional space for seed processing and storage.

Current research projects require full time dedicated space within the existing seedhouse. The following research projects utilize space and equipment within the facility for receiving, seed processing, and sample analysis: Crop Performance Testing, Oats Breeding, Oilseeds Breeding, Spring Wheat Breeding, and Winter Wheat Breeding. Other projects that utilize the facility on a limited basis are soil fertility, forages, soil and water quality, soils, weed science, entomology, and plant pathology. All of these research examples are supported through the Seedhouse.

The new research support facility will replace the existing Seedhouse. A modernized facility is required for drying and storing seed stocks and to properly process the numerous varieties, hybrids, and genetically enhanced seed materials utilized by producers throughout the region. Cold storage is also needed for pure seed stock of hybrids, experimental lines and varieties developed by the South Dakota Agricultural Experiment Station.

As part of the 2008 SDSU Campus Master Plan Update, this facility will replace the existing Seedhouse. The anticipated construction site is to the north of the Animal Science Complex and adjacent to the Foundation Seed Stock grain and storage facility. The existing Seedhouse will be retained, repurposed and modernized to meet University needs for classroom and class/lab space.

(Continued)

RECOMMENDED ACTION OF THE EXECUTIVE DIRECTOR

Approve SDSU’s Preliminary Facility Statement to plan construction of a Plant Science Research Support Facility. Project approval will allow SDSU to move forward with its Facility Program Plan. Potential funding for this project includes a grant from the Foundation Seed Stock Division, university Facility and Administration (indirect) resources and private resources. If funding can be confirmed, and would be available upon passage of legislation, this facility will need to be added to the 2016 Legislative Package for approval. The Board President should appoint a Building Committee representative to oversee the planning of this project.

SDSU Plant Science Research Support Facility
Preliminary Facility Statement
October 8-9, 2014
Page 2 of 2

Potential funding for this project includes a grant from the Foundation Seed Stock Division, university Facility and Administration (indirect) resources and private resources.

Additional details of the project can be found in SDSU's attached Preliminary Facility Statement.

PRELIMINARY FACILITY STATEMENT

PLANT SCIENCE RESEARCH SUPPORT FACILITY

SOUTH DAKOTA STATE UNIVERSITY

SDSU requests approval of this Preliminary Facility Statement to plan a Plant Science Research Support Facility. We request that legislation be prepared for consideration at the December BOR meeting and possible inclusion with other capital improvements that will be submitted by the BOR in the 2015 legislative session.

1. GENERAL PROGRAMMATIC NEEDS TO BE ADDRESSED:

This project will provide a modern seed processing and storage facility for crop production and plant science research. The facility will aid in producing agronomically superior varieties of seed and propagating materials, plus field and crop testing verification and research conducted by the Plant Science Department. In addition, storage of pure seed stock is provided as a reserve of original genetic materials that can be used for future hybrid and varietal development for comparative research.

South Dakota State University has a long history of testing and development of hybrid seeds for row crops and small grain crops in the north central region of the United States. Breeder seed developed through the University and supplied to the University from private industry is grown, inspected, and harvested through the Foundation Seed Stock Division. The seed produced, stored, and distributed provides the raw materials for varietal research and development. Public research, private seed development, and production are able to maintain a close working relationship due to this work. The seed and grain processing and storage facilities are integral to this effort and important research development facilities.

Current research projects requiring full time dedicated space within the existing seedhouse include the following. All utilize space and equipment within the facility for receiving, seed processing, and sample analysis.

- 1) Crop Performance Testing: The Crop Performance Testing project performs yield trials for multiple crops at locations around the state.
- 2) Oats Breeding: The oats breeding project develops improved oat varieties intended for commercial release.
- 3) Oilseeds Breeding: The oilseeds breeding program develops improved sunflower and specialty oilseed crop varieties as well as performing research on these crops. The oilseeds program typically requires extensive use of the drying equipment.
- 4) Spring Wheat Breeding: The spring wheat breeding project develops improved spring wheat varieties intended for commercial release.

- 5) **Winter Wheat Breeding:** The winter wheat breeding project develops improved winter wheat varieties intended for commercial release.

There are several other projects that use the current facility on a more limited basis. Projects in soil fertility, forages, soil and water quality, soils, weed science, entomology, and plant pathology utilize portions and specific equipment or utilize the facilities seasonally.

These are examples of research supported through the Seedhouse. The facilities have supported research efforts with soybeans, corn, and alfalfa. All crops and grains produced within South Dakota can benefit from work conducted in this support facility.

2. ANALYSIS OF THE STUDENT BODY OR CONSTITUENTS TO BE SERVED:

The seed produced and distributed through the research and crop development efforts of SDSU provides row crops and small grain crops that benefit South Dakota agriculture and the citizens of this state.

This new facility will create a need for additional staff for maintenance and operation. Approximately one-half to one FTE will be needed for additional maintenance and custodial operations will be required.

3. ADDITIONAL SERVICES TO BE OFFERED:

No additional services would be offered. This research support facility will replace the existing Seedhouse. Modernized facilities are required for drying and storing seed stocks, and to properly process the numerous varieties, hybrids, and genetically enhanced seed materials utilized by producers throughout the region. Cold storage capabilities are needed for pure seed stock of hybrids, experimental lines and varieties developed by the South Dakota Agricultural Experiment Station. Storage capabilities of the numerous hybrids and pure seed stock are required

4. COMPLIANCE WITH CAMPUS MASTER PLAN:

This project is consistent with the planning goals of the 2008 Campus Master Plan Update. This work will locate the new seed storage, sorting, and handling facilities adjacent to the existing conditioning facilities. This new research support facility will replace the existing Seedhouse.

5. ANALYSIS OF NEEDS ASSESSMENT BASED ON THE FACILITIES UTILIZATION REPORT:

Not applicable.

6. LOCATION:

The site would be north of the Animal Science Complex. SDSU anticipates it will be in immediate proximity to the North Headhouse constructed in 2013 and adjacent to the Foundation Seed Stock grain and storage facilities along with the Plant Science Storage Shed and Machine Shop.

7. REALLOCATION OF OLD SPACE, IF ANY:

The existing Seedhouse will be retained, repurposed, and modernized to meet University needs for classroom and class/lab facilities. The renovation of the existing Seedhouse and West Headhouse, coupled with an addition will comprise the new Visual Arts Facility that is included with the 2012 BOR Capital Improvement plans.

8. PROPOSED FUNDING SOURCE/SOURCES:

Potential funding sources could include a grant from the Foundation Seed Stock Division, university Facility and Administration (indirect) resources and private resources.

9. BUDGET FOR DEVELOPMENT OF A FACILITY PROGRAM PLAN:

We estimate architectural programming and preliminary design services will cost approximately \$5,000. These services will be provided from design and planning efforts of the University and SDSU Facilities and Services. This will provide adequate information to determine the scope of the project, develop a preliminary design for the building, and estimate the project costs.