

**NORTH DAKOTA STATE UNIVERSITY**  
**June 17, 2010**

**902.3 – Requested Action:**

Ratify the Chancellor's interim action permitting NDSU Forest Service to seek Budget Section approval for an increase in authorization for the North Dakota Forest Service to construct a **Greenhouse** at the **Towner State Nursery** by \$91,000 from \$300,000 to \$391,000 from income carryover. Furthermore, SBHE approval to proceed with the project, contingent on Budget Section approval.

**Background Information:**

Authorization to proceed with construction was received at the September 17, 2009, SBHE meeting in the amount of \$300,000. At the time, the Forest Service had not received the architectural consultant's "opinion of probable construction costs." Based on architectural designs, civil engineering and soil testing information there were unforeseen costs for site assessment (soil testing and grading), general contractor fees, contingency fees and installation of electrical and mechanical systems. Specific drivers of the increase cost include: higher than expected architectural fees (\$2,000), labor expenses associated with demolition and disposal (\$8,000), increased construction costs (\$65,000) for concrete, mechanical and electrical costs), institutional work (\$6,000 for self performed work), and contingency fees (\$10,000). Original cost amounts have been illustrated in the table, with additional cost added where necessary. As of June 1, 2010, the North Dakota Forest Service has expended \$29,967.00 on design and preplanning costs, architect services and engineering services. Construction bids will be received on June 7, 2010.

**Project Description:**

The NDSU North Dakota Forest Service owns and operates the 160-acre Towner State Nursery. The nursery specializes in the production of bare root and container seedlings to meet the conservation tree planting needs of the state. Approximately 1 million bare root seedlings are produced in fields and container seedlings are produced within a greenhouse. Towner Nursery produces 60,000 container seedlings annually. The demand for container seedlings is increasing.

The project replaces the existing greenhouse at Towner State Nursery. The new structure would be 42 feet wide and 120 feet long allowing expanded production and eliminating present groundwater contamination with fertilizers injected in the irrigation water. New construction would include containment and recycling systems to eliminate fertilizer passing into the groundwater. A larger greenhouse would expand container tree production by 30,000 trees per year, provide space to develop growing procedures for new tree species, and allow space to investigate ways to improve current crops. The new structure would include a more economical heating system and fork lift access to mechanize transport of greenhouse containers.

**Consistency with Campus Facility Master Plan and Budget:**

The greenhouse project is identified as the number one priority capital project in the 2008 North Dakota Forest Service Facility Master Plan.

**SBHE and/or Legislative History:**

The SBHE authorized permission to proceed with this project on September 17, 2009. The Forest Service received a \$300,000 state general fund appropriation in 2009-2011 for the greenhouse project.

**Estimated Total Purchased or Donated Costs:**

The total cost of the greenhouse project based on the "opinions of probable construction costs" provided by the architectural consultant is estimated at \$391,000. The SBHE authorized \$300,000 for the construction of this

project. An additional \$91,000 is needed to ensure project completion. The following costs are included within the \$391,000 request: Design and preplanning costs, architect and engineer fees, permits, and site preparation or development, demolition and disposal, foundation and building construction or renovation, infrastructure and utilities, mechanical and electrical, equipment, third party costs, contingencies, value of work completed by institution staff and billed to the project. The table below reflects the breakdown of total costs.

Description	Original SBHE Authorization \$300,000	Additional Request for \$91,000	Total Costs
<b>Planning, Permits and Insurance</b> (design and preplanning costs, architect and engineer fees, permits, insurance, commissioning)	\$30,000	\$2,000	\$32,000
<b>Land/Building Preparation and Purchase or Donated Costs</b> (site survey and soil testing)	\$5,000	\$0	\$5,000
<b>Demolition and Disposal</b>	\$	\$8,000	\$8,000
<b>Construction</b> (foundation and building construction, infrastructure and utilities, mechanical and electrical)	\$255,000	\$65,000	\$320,000
<b>Furniture and Equipment</b> (fixed or movable appliances, furniture and equipment)	\$10,000	\$0	\$10,000
<b>Other third party costs</b>	\$0	\$0	\$0
<b>Institutional work</b> (value of work completed by institution staff and billed to the project)	\$0	\$6,000	\$6,000
<b>Contingency</b>	\$0	\$10,000	\$10,000
<b>Hazardous Material Abatement</b>	\$0	\$0	\$0
<b>Other</b> (please describe)	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$300,000</b>	<b>\$91,000</b>	<b>\$391,000</b>

*No other work, other than that specified within this request, is required for the completion of the project nor is other work planned to supplement this project using funding or authority not included within this request.*

#### **Future Operating/Improvement Costs and Funding Sources:**

The new greenhouse will generate significant savings by reducing annual labor costs and energy costs by approximately ten percent. The new greenhouse will be accessible with forklifts which would significantly reduce the need for part-time labor. In addition, work conducted in the greenhouse can be strenuous, creating workforce compensation liability issues. Forklift accessibility in the new greenhouse would greatly reduce liability issues. The new greenhouse will have 16 mm polycarbonate cladding in comparison to 8 mm thick polycarbonate cladding of the existing greenhouse. The increased thickness of the cladding will result in considerable energy savings. Funds for operating a greenhouse at Towner State Nursery are included in the NDFS 2009-2011 operations budget.

#### **Source and Availability of Funds:**

NDFS 2009-2011 State Appropriated Capital Projects	\$300,000
NDFS Income Carryover from 2007-2009 Biennium	\$ 91,000

#### **Estimated Project Timeline and Completion Date**

Project Start Date: September 2009  
Project Completion Date: February 2011