Shepherd UNIVERSITY

Board of Governors

Meeting Agenda
March 12, 2019

Board Members

Eric Lewis, Chair
Gat Caperton, Vice Chair
Chad Robinson, Secretary

Ray Alvarez
David Avella
James Cherry
Henry Kayes, Jr.
Ramona Kissel, Classified Staff
Bob Marggraf
Tia McMillan
Danielle Stephenson, Student
J.B. Tuttle, Faculty

Mary J.C. Hendrix, President

SHEPHERD UNIVERSITY
BOARD OF GOVERNORS MEETING

1:00 p.m.
March 12, 2019
SPECIAL MEETING

President's Conference Room, Ikenberry Hall
Shepherdstown, WV

AGENDA

Regular Session

1.	Call to Order	Chair Eric Lewis
2.	Review and Approval of Snyder Hall and Byrd Science and Technology Center Improvements	
3.	Energy Loan Higher Education Policy Commission	
4.	New Business	Chair Lewis

Adjournment

Shepherd University Board of Governors
March 12, 2019
Agenda Item No. 2

REVIEW AND APPROVAL OF SNYDER HALL AND BYRD SCIENCE AND TECHNOLOGY CENTER IMPROVEMENTS

The Byrd Science and Technology Center was constructed as an addition to Snyder Hall in 1994-96. The all-electric HVAC systems in these two buildings are from a time when energy costs for electric were dramatically different, making these the most energy-inefficient buildings on campus. In January, a preliminary report was submitted by R.H. Lapp, a local mechanical contractor. They were asked to assess many of the buildings across campus and provide suggested upgrades, repairs or retrofits that could increase efficiency and lessen utility usage. It was through this assessment that buildings were identified and then prioritized in order for the University to see the greatest return on investment after completion of renovations.

As a result of the current configuration, the building is not designed to temper the incoming outside air, and consequently the University expends a tremendous amount of energy to maintain building temperature and perform the minimum number of required air exchanges for a laboratory setting. It is estimated that by performing the suggested upgrades and renovations, the potential annual savings, for just the heating season, could be around 1,105,000,000 BTU, or the equivalent of heating 300 homes. The University will also recognize additional savings for the cooling season.

If approved, the project would include:

- The installation of glycol coils installed in the exhaust duct that will comprise a heat recovery system to capture heat leaving the exhaust side of the system;
- Primary and secondary pumps for the heat recovery system;
- On-demand exhaust fans with variable speed controllers to allow additional energy recovery, eliminating the 100% exhaust now used; and
- Replacement of existing electric boilers with new, one million BTU, 94-96% efficient propane boilers, including associated piping, valves and associated equipment.

The above mentioned scope of work is estimated to be $796,000. Following approval, the proper steps will be taken to obtain a design and solicit bids for the work. This project amount would be fully incorporated into the proposed zero interest energy loan from the HEPC. This work is not dependent on the University schedule; however, if approved should be substantially completed prior to the next heating season.

The following resolution is recommended for adoption by the board:

> **RESOLVED**, That the Shepherd University Board of Governors approves the modifications to the FY2019 Capital Initiatives and approves the prospectus and project budget for the Snyder Hall and Byrd Science and Technology Center HVAC project and authorizes the University President to proceed with the project, all as described in this March 12, 2019 Agenda Item.

Shepherd University Board of Governors
March 12, 2019
Agenda Item No. 3 Revised

ENERGY LOAN HIGHER EDUCATION POLICY COMMISSION

In 2010, the West Virginia Higher Education Policy Commission (HEPC) initiated Title 133, Series 50, A Procedural Rule, *Energy and Water Savings Revolving Loan Fund Program*, allowing campuses in West Virginia the opportunity to obtain loan funds at zero percent interest for projects associated with energy savings and more efficient campus operations resulting from lower energy and utility costs. The loan fund is operated out of a one-time special revenue appropriation made at that time.

The revolving nature of this fund comes from the institution's payback, which is intended to be monies saved as a result of upgrades and renovations using energy efficient measures. This program allows institutions to avoid using our limited capital funds for these energy efficiency projects.

Preliminary discussions with HEPC staff indicate that Shepherd can receive a substantial loan from this program. Consideration was given to scheduling of prospective projects, scheduling of payments to the HEPC, and duration of the loan. Shepherd has elected to pursue $1,249,000.00 from the Commission, currently anticipating four separate projects to be financed. It is recommended that the loan request be for eight years. The loan amount is expected to be deposited into the University's account upon approval, and is expected to occur after July 1, 2019.

These projects will include:

- Byrd Science and Technology Center mechanical systems upgrade and renovation (see separate agenda item);
- Frank Arts Center, which will address installation of four new packaged heat pump rooftop units, and three rooftop energy recovery ventilators with internal enthalpy wheels, removal of existing insulation from the roof duct with new aluminum skin installed over 2" board insulation;
- Miller Hall, which will address removal of two outdated boilers, installation of a new 850,000 BTU propane boiler, including piping, insulation and isolation valves. This new boiler will be able to supply the entire building, and will be 94-96% efficient; and
- Additional Electric Meters.

The proposed loan amount of $1,249,000.00 is projected to fully cover these capital investments. The Frank Center and Miller Hall projects will each be substantially below $500,000 each. Upon approval, and with the exception of the Burkhart Hall project (for which bids have been received), the University would proceed to obtain designs and solicit bids prior to any work being performed. The accompanying Energy Loan Payback Analysis describes, in greater detail, the expenses, savings, rationale and anticipated payments.

The following resolution is recommended for adoption by the board:

> **RESOLVED**, That the Shepherd University Board of Governors approves the application to the HEPC for a loan pursuant to the *Energy and Water Savings Revolving Loan Fund Program*, and the expenditure of the loan proceeds in conformity with said loan, all as described in this March 12, 2019 Agenda Item.

Energy Loan Payback Analysis

Loan	$ 1,249,000	Snyder (1)	$ 796,000
		Miller (1)	$ 233,000
		Frank (1)	$ 160,000
		Electric Meters	$ 60,000

Project	Loan Pymt @ 5 Years	Loan Pymt @ 7 Years	Current Annual Utility Costs	Proposed Operational Savings (4)	Fuel Savings (5)	Contract Savings (6)	Notes
	$ 249,800	$ 178,429					
Snyder HVAC/Boilers			$ 443,000 (2)	$ 216,000	$ 60,000	$ 75,000	More efficient fuel and HVAC operation
Miller HVAC			$ 25,000 (3)	$ 8,000	$ 5,400 (6)	$ 9,500	More efficient fuel, eliminate abandoned systems
Frank Center			$ 168,000 (2)	$ 33,600	$ 4,200	$ 12,500	Equipment/efficiency upgrades, reduced maint.
				$ 257,600	$ 69,600	$ 84,500	
Total Loan Cost/Yr	$ 249,800	$ 178,429					
Total Renovation Savings/Year	$ (411,700)	$ (411,700)					
Net Cost Reductions	$ (161,900)	$ (233,271) (7)					

Notes:

(1) Estimated Costs for Mechanical Upgrades
(2) Primarily Electric
(3) Combination of 67% Electric and 33% Fuel Oil
(4) Minimum Potential Operational Cost Savings After Proposed Selected Upgrades
(5) Amount of Savings in Dollars from Changeover to Propane
(6) Significantly Reduce and/or Eleiminate Contract Labor
(7) Amount of Return to University to Repay Loan (Ex: For five-year loan, $387,000 potential savings - $238,000 payback = $149,000 in actual savings for five years, full $387,000 thereafter.

Additional Information:

- Optimal mechanical upgrades for Byrd/Snyder include an energy recovery loop to better condition outide and exhaust air, replacement of four electric boilers with more efficient, propane boilers.

- Estimated BTU savings during heating season only to be 1,000,000,000 +/- @ $32 per BTU, or $32,000.00

- Miller Hall beginning to approach capacity of electrical panels due to abandoned/inop split systems; window units installed. Mix of HVAC systems extremely inefficient and require excessive maintenance.

- Frank Center has outdated rooftop units, noise issues (especially in W.H. Shipley Recital Hall), inefficient and failing duct runs.