University of Alabama System Board Rule 415 (2/2005) Board Submittal Checklist Criteria

<u>* Board Submittal Checklist</u> <u>Capital Project – Scope and Budget Revision and Stage IV Submittals</u> (Scope and Budget Revision and Construction Contract Award)

Campus:The University of AlabamaProject Name:Central Campus Thermal Energy ConnectionsMeeting Date:February 2 – 3, 2017

1. Completed Board Submittal Checklist

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- 2. Transmittal Letter to Chancellor from Campus President requesting the project be placed on the agendas for the forthcoming Physical Properties Committee and Board of Trustees (or Executive Committee) meetings
- 3. Resolution requesting approval of Construction Contract Award, Revised Construction Budget, and Revised Project Budget
 - 4. Campus correspondence/photographs providing supplemental project information
 - 5. Executive Summary of Proposed Capital Project with final Contract Construction Budget and Revised Project Budget (include all proposed project funding for movable equipment and furnishings) /2
 - 6. Revised Project Summary
 - 7. Revised Project Planning Report /2
 - 8. Tabulation of competitive bids certified by Project Architect/Construction Manager
 - 9. Recommendations for Contract Award by Architect/Construction Manager
 - 10. Campus map(s) showing location of project site
 - 11. Final Business Plan (if applicable) /3

*Project is a Contract Award Approval Not to Exceed

Prepared by: Approved b

/1 Reference Tab 3I - Board Rule 415 Instructional Guide /2 Reference Tab 3E - Board Rule 415 Instructional Guide

/3 Reference Tab 3V - Board Rule 415 Instructional Guide

 Basic documents required for this Board Submittal Package. Include other supporting materials, correspondence, etc., as may be required to fully describe or illustrate project being submitted for approval to Physical Properties Committee and Board of Trustees.



MEMO

December 21, 2016

To: Stuart R. Bell

From:

Lynda Gilbert Alle

Subject:Board Item – Action: Scope and Budget Revision and Stage IV, Not to Exceed
Contract Awards: Central Campus Thermal Energy Connections

On September 23, 2016, The Board of Trustees of The University of Alabama ("Board") approved the Stage I submittal for the Central Campus Thermal Energy Connections project ("Project"), which is comprised of two packages: 1) Package A – Campus Thermal Energy Expansion will consist of the replacement of existing steam service and aged chilled water generation systems with connections to the Central Thermal Energy System at Rodgers Library, Nott Hall, Gallalee Hall, Mary Harmon Bryant Hall, Smith Hall and Lloyd Hall; and 2) Package B – Steam Replacement and Heating System Upgrade will consist of the replacement of the existing steam heating systems serving Bruno Library, Carmichael Hall, Bidgood Hall, Alston Hall, Bibb Graves Hall and McLure Library with local heating hot water systems. The piping configuration of these local heating hot water systems will be configured to allow for connection to the future B. B. Comer Central Energy Plant upon its completion.

At this time, The University is requesting approval to increase the total project scope and budget of Package A by \$10,974,000 to include a new central energy plant to support the new Tutwiler development.

Additionally, the University has negotiated a design fee of 5.8% of the cost of construction for Package A and Equipment with Burns and McDonnell of Raleigh, North Carolina and 6.8% of the cost of construction for Package B – Steam Replacement and Heating System upgrade with HHB Engineers, P.C. or Prattville, Alabama. These proposed fees are consistent with the Alabama Building Commission fee for this type of project and reflect an overall savings as they have agreed that the 25% major renovation factor is not applicable due to their knowledge of the Project. In addition, the fees are comparable to the cost of engineering services for similar recent projects, specifically the Central Campus Thermal Piping Extension. The University is requesting acceptance of the negotiated engineering fees associated with this Project.

The University is now requesting approval for a scope and budget revision from \$10,000,000 to \$20,974,000 to provide for the negotiated engineering fees and the provision of the central plant to support the new Tutwiler Development.

Furthermore, the University is requesting approval to award the contracts for this Project to the lowest responsible bidders, as long as the bids do not cause the Project to exceed the total Project

Central Campus Thermal Energy Connections December 21, 2016 Page 2

budget. If the lowest responsible bids cause the Project to exceed the total Project budget, the University will bring the contracts and the revised budget for the Project before the Board of Trustees for approval. The University will also provide reports regarding the status of the Project's contracts to the Office of the Chancellor.

This Project will be funded from the 2017 Bond Issue in the amount of \$20,974,000.

This Project location and program have been reviewed and are consistent with the Campus Master Plan, University Design Standards and the principles contained therein.

I have attached an Executive Summary, Resolution, Project Planning Report, Project Summary and Location Map for your review. Subject to your approval, I recommend this item be forwarded to the Chancellor for inclusion as an Action Item on the agenda for the Physical Properties Committee at the Board of Trustees meeting scheduled for February 2 - 3, 2017.

LG/ccj

Attachments

pc w/atchmts:

Michael Rodgers Michael Lanier Tim Leopard Tom Love Shanwei Chen Steven Mercado

RESOLUTION

CENTRAL CAMPUS THERMAL ENERGY CONNECTIONS

WHEREAS, pursuant to Board Rule 415, on September 23, 2016, The Board of Trustees of The University of Alabama ("Board") approved a Stage I submittal for the Central Campus Thermal Energy Connections project ("Project") and authorized The University of Alabama ("University") to proceed with the connection of additional buildings according to the University's Master Plan for thermal energy distribution; and

WHEREAS, on September 23, 2016, in order to align with shutdowns at seasonally appropriate times in different geographic areas of campus and to address the varying nature of construction, the Board approved the separation of construction into two packages: Package A – Campus Thermal Energy Expansion and Package B - Steam Replacement and Heating System Upgrades; and

WHEREAS, Package A – Campus Thermal Energy Expansion will consist of the replacement of existing steam service and aged chilled water generation systems with connections to the Central Thermal Energy System at Rodgers Library, Nott Hall, Gallalee Hall, Mary Harmon Bryant Hall, Smith Hall, and Lloyd Hall and the addition of a central plant, which will be located in the proposed Tutwiler deck, to support the new Tutwiler Development; and

WHEREAS, Package B – Steam Replacement and Heating System Upgrade will consist of the replacement of the existing steam heating systems serving Bruno Library, Carmichael Hall, Bidgood Hall, Alston Hall, Bibb Graves Hall and McLure Library with a local heating hot water system; and

WHEREAS, on September 23, 2016, in an effort to deliver the Project by April 2019, and based on the firm's previous programming experience and preliminary design work on the Project, the Board approved the waiver of the Consultant Selection process and authorized the University to proceed with design utilizing the services of Burns and McDonnell of Raleigh, North Carolina for Package A and HHB Engineers, P.C. of Prattville, Alabama for Package B; and

WHEREAS, upon completion of negotiations, the University has established a fee of 5.8% of the construction cost for Package A and Equipment with Burns and McDonnell and 6.8% of the construction cost of Package B with HHB Engineers, P.C.; and

WHEREAS, the University is requesting a scope revision to provide additional thermal energy capacity for current and planned facilities including a central plant to support the new Tutwiler Development; and WHEREAS, the University is requesting a budget revision from \$10,000,000 to \$20,974,000 to reflect the negotiated architect fees and scope revision; and

WHEREAS, the Project needs to be completed by April 2019 in order to efficiently service the campus, the University is requesting approval to award the contracts for this Project to the lowest responsible bidders so long as the bids for the Project does not cause the total project budget to exceed \$20,974,000; and

WHEREAS, the Project will be funded from 2017 Future General Revenue bonds in the amount of \$20,974,000; and

WHEREAS, the Project location and program have been reviewed and are consistent with the Master Plan, University Design Standards and the principles contained therein; and

TOTAL PROJECT COST	\$	20,974,000
Architect/Engineer Fee*** (~5.9%)	\$	1,054,708
UA Project Management Fee** (3%)	\$	576,813
Contingency* (5%)	\$	915,576
Telecommunication/Data	\$	115,374
Landscaping	\$	385,529
Equipment – Chiller	\$	800,000
Package B – Steam Replacement and Heating System Upgrade	\$	1,500,000
Package A – Campus Thermal Energy Expansion	\$	15,626,000
BUDGET:		REVISED
WHEREAS, the revised budget for the Project is as stipulated below:		

*Contingency is based on 5% of the cost of construction for Package A – Campus Thermal Energy Expansion, Package B – Steam Replacement and Heating System Upgrade, Equipment and Landscaping.

**UA Project Management Fee is based on 3% of the cost of construction for Package A – Campus Thermal Energy Expansion and Package B – Steam Replacement and Heating System Upgrade, Equipment, Landscaping and Contingency.

***Architect/Engineer Fee is based on a blended fee of approximately 5.9% (5.8% of the cost of construction Package A – Campus Thermal Energy Expansion and Equipment and 6.8% of the cost of construction of Package B – Steam Replacement and Heating System Upgrade).

WHEREAS, officials at The University of Alabama have determined that the Board will incur certain costs in connection with the acquisition, construction and installation of the Project prior to the issuance of the Bonds, and the Board intends to allocate a portion of the proceeds of the Bonds to reimburse the Board for certain of the costs incurred in connection with the acquisition, construction and installation of the Project paid prior to the issuance of the Bonds; and

NOW, THEREFORE, BE IT RESOLVED by The Board of Trustees of The University of Alabama that The University of Alabama does hereby declare that it intends to allocate a portion of the proceeds of the Bonds to reimburse the Board for expenses incurred after the date that is no more than sixty days prior to the date of the adoption of this resolution but prior to the issuance of the Bonds in connection with the acquisition, construction and installment of the Project. This portion of this resolution is being adopted pursuant to the requirement of Treasury Regulations Section 1.150-2(e).

BE IT FURTHER RESOLVED that the scope and budget revision for the Project is approved as stipulated above.

BE IT ALSO RESOLVED THAT the contracts to be competitively bid on the Project as aforementioned may be awarded by the University pursuant to Alabama bid law, and the hereinafter listed campus officials of the University are thereafter authorized to act for and in the name of The Board of Trustees of The University of Alabama in executing the contracts with such low bidders for the Project subject to compliance with all of the following provisions:

- 1. The University is granted approval to award all contracts for the Project to the lowest responsible bidders pursuant to Alabama bid law so long as the awards of such contracts for the Project do not cause the Project to exceed the total Project budget.
- 2. If the awards of the contracts for the Project will cause an increase in the total Project budget, the University shall bring the matter before the Board of Trustees or the Executive Committee of the Board of Trustees for approval of the contracts and the revised budget for the Project.
- 3. The University will provide an ongoing report about the awards of the construction contracts for the Project to the Office of the Chancellor.
- 4. Stuart R. Bell, President, Lynda Gilbert, Vice President for Financial Affairs and Treasurer, or those officers named in the most recent Board Resolution granting signature authority for The University of Alabama be, and each hereby are, authorized to act for and in the name of the Board of Trustees in executing the aforementioned Construction and Renovation and Demolition and Abatement contracts for the Project upon satisfaction of the conditions set out above.

ATTACHMENT NO. 1 Project: Central Campus Thermal Energy Connections BOT Submittal: Scope and Budget Revision and Stage IV, Not to Exceed Contract Awards Meeting Date: February 2 – 3, 2017

Project Summary

CENTRAL CAMPUS THERMAL ENERGY CONNECTIONS

The University of Alabama ("University") currently operates two interconnected central thermal energy plants, which generate hot water for campus heating and chilled water for cooling to various campus buildings. Over the last six years and in conjunction with capital projects, the service area of the central system has been expanded to provide efficient and reliable heating and cooling to many buildings on the campus. The Central Campus Thermal Energy Connections project ("Project") is a continuation of this service area expansion based on the University's Energy Master Plan, with the goal of eliminating antiquated systems that are at the end of their functional system life expectancy, with a focus on decommissioning deteriorating existing steam systems as quickly as possible.

Package A – Campus Thermal Energy Expansion will consist of the replacement of existing steam service, boilers, and antiquated chilled water generation systems at various campus buildings by interconnecting to the Central Thermal Energy Plant. Campus thermal energy capacity will be increased accordingly and capacity will be provided for current and planned projects as prioritized including providing central plant capacity for the Tutwiler Development.

Package B – Steam Replacement and Heating System Upgrade will consist of the replacement of the existing steam heating systems serving Morgan Hall, Bruno Library, Carmichael Hall, Bidgood Hall, Alston Hall and other campus buildings with local heating hot water systems. The piping configuration of these local heating hot water systems will be configured to allow for connection to the future B.B. Comer Central Energy Plant upon its completion. It will also extend the available heating period as the Campus steam system operational season is not continuous; therefore, the University will be able to provide heat during off season cold spells. The project will also provide the availability of "reheat" during cooling periods which is advantageous as it provides enhanced moisture control during the cooling season.

EXECUTIVE SUMMARY PROPOSED CAPITAL PROJECT

BOARD OF TRUSTEES SUBMITTAL

	Meeting Date: February 2 – 3, 2017		
CAMPUS:	The University of Alabama, Tuscaloosa, Alabama		
PROJECT NAME:	Various Areas of Campus		
PROJECT LOCATION:	Hackberry Drive/Colonial Drive/Southwest Campus areas		
ARCHITECT:	Package A: Burns and McDonnell, Raleigh, North Carolina		
	Package B: HHB Engineers, P.C., Prattville, Alabama		

THIS SUBMITTAL:	PREVIOUS APPROVALS:
☐ Stage I	September 23, 2016
Stage II, Waiver of Selection process	September 23, 2016
Scope and Budget Revision	
Stage III (Not Applicable to this Project)	
Stage IV, Not-to-Exceed Contract Awards	

PROJECT TYPE	SPACE CATEGORIES	PERCENTAGE	GSF
Building Construction			
Building Addition			
☑ Campus Infrastructure		100%	N/A
Equipment			
☐ Other			
	TOTAL	100%	N/A

BUDGET	Current	Revised
Package A – Campus Thermal Energy Expansion	\$ 6,000,000	\$ 15,626,000
Package B – Steam Replacement and Heating System Upgrade	\$ 1,500,000	\$ 1,500,000
Equipment – Chiller	\$ 800,000	\$ 800,000
Landscaping	\$ 385,529	\$ 385,529
Telecommunication/Data	\$ 83,001	\$ 115,374
Contingency* (5%)	\$ 434,276	\$ 915,576
UA Project Management Fee** (3%)	\$ 273,594	\$ 576,813
Architect/Engineer Fee*** (~5.9%)	\$ 523,600	\$ 1,054,708
TOTAL PROJECT COST	\$ 10,000,000	\$ 20,974,000

*Contingency is based on 5% of the cost of construction for Package A – Campus Thermal Energy Expansion, Package B – Steam Replacement and Heating System Upgrade, and Equipment and Landscaping. **UA Project Management Fee is based on 3% of the cost of construction for Package A – Campus Thermal Energy Expansion,

UA Project Management Fee is based on 3% of the cost of construction for Package A – Campus Thermal Energy Expansion, and Package B – Steam Replacement and Heating System Upgrade, and Equipment, Landscaping and Contingency. *Architect/Engineer Fee is based on a blended fee of approximately 5.9% (5.8% of the cost of construction for Package A –

Campus Thermal Energy Expansion and Equipment and 6.8% of the cost of construction for Package B – Steam Replacement and Heating System Upgrade).

ESTIMATED ANNUAL OPERATING AND MAINTENANCE (O&M) COSTS:			
(Utilities, Housekeeping, Maintenance, Insurance, Other)			
Per GSF: gsf x~\$ /GSF	\$	N/A*	
TOTAL ESTIMATED ANNUAL O&M COSTS:	\$	N/A*	

*Project replaces existing local utility infrastructure with centralized equipment. Central utility O&M costs are neither assigned at a facility level nor by GSF.

FUNDING SOURCE:		
Capital Outlay:		
2017 Future Ge	neral Revenue Bonds	\$ 20,974,000
	O&M Costs:	\$ N/A

NEW EQUIPMENT REQUIRED:

(1) 1,200 Ton Chiller w/ Associated Cooling Tower and Pumps

Hydronic Heating Boilers

RELATIONSHIP & ENHANCEMENT OF CAMPUS PROGRAMS:

The Central Campus Thermal Energy Connections project ("Project") will improve the teaching, learning, and working environments of campus constituents by providing an increased range of control and reliable and efficient thermal energy to facilities by replacing systems which have reached the end of their functional service life. By centralizing equipment in the energy plants, the Project will free campus exterior space currently occupied by existing equipment for other uses, including, but not limited to, parking, landscaping and hardscape improvements. Furthermore, reducing the cost to provide heating and cooling to buildings will support The University of Alabama ("University") in maintaining a competitive cost of attendance.

Package A – Campus Thermal Energy Expansion of the Project will allow the University to heat and cool buildings more efficiently and reduce the quantity of equipment that requires maintenance thereby reducing HVAC system downtime and increasing occupant comfort. Removal of localized equipment such as cooling towers and air cooled chillers will lower ambient noise nearby key facilities and improve campus appearance. Rodgers Library, Smith Hall, Lloyd Hall, Mary Harmon Bryant Hall, Nott Hall and Gallalee Hall will be connected to the system and additional capacity will be provided for other current and planned facilities as prioritized including a central plant to support the Tutwiler Development.

Package B – Steam Replacement and Heating System Upgrade of this proposed Project will provide heating systems with inherent redundant capacity, ensuring building heating during the coldest periods of the year to Bruno Library, Carmichael Hall, Bidgood Hall, Alston Hall, Bibb Graves Hall and McClure Library. It will also extend the available heating period as the Campus steam system operational season is not continuous; therefore, the University will be able to provide heat during off season cold spells. The project will also provide the availability of "reheat" during the cooling periods which is advantageous as it provides enhanced moisture control during the cooling season.

THE UNIVERSITY OF ALABAMA SYSTEM PROJECT PLANNING REPORT DATE: February 2 - 3, 2017

Central Campus Thermal Energy Connections

X INITIAL REPORT **INTERIM REPORT FINAL REPORT** 1 REPORT NO.

TO: OFFICE OF THE CHANCELLOR BOARD OF TRUSTEES OF THE UNIVERSITY OF ALABAMA

FROM: OFFICE OF THE PRESIDENT THE UNIVERSITY OF ALABAMA

1. PROJECT:

2. LOCATION:	Various areas of campus				
3. ARCHITECT/ENGINEER:	Burns and McDonnell, Raleigh, North Carolina (Package A)				
	HHB Engineers, P.C., Prattv	rille, Alaba	ama (Package B)		
4. PROJECT STATUS:					Nov 16
A. SCHEMATIC DESIGN					100%
					Nov 16
		DAIL			1404-10
B. PRELIMINARY DESIGN	1	DATE I	NITIATED	-	Nov-16
		% COM	PLETE		100%
		* DATE	COMPLETED	-	Nov-16
C. CONSTRUCTION DOC	UMENTS:		NITIATED		Nov-16
		% COM	PLETE		60%
		* DATE	COMPLETED	-	Mar-17
D. SCHEDULED BID DATE	Ξ:			2	Apr-17
5. CURRENT PROJECT BUD	DGET:		CURRENT		REVISED
A. PACKAGE - CAMPUS T	HERMAL ENERGY EXPANS	ION	\$ 6,000,000	\$	15,626,000
B. PACKAGE B - STEAM R	EPLACEMENT AND			0	
HEATING SYSTEM UPGRA	ADE		\$1,500,000	\$	1,500,000
C. EQUIPMENT - CHILLER			\$800,000	\$	800,000
D. LANDSCAPING			\$385,529_	\$	385,529
E. TELECOMMUNICATION	I/DATA		\$ 83,001	\$	115,374
F. CONTINGENCY* (5%)			\$ 434,276	\$	915,576
G. UA PROJECT MANAGE	MENT FEE** (3%)		\$ 273,594	\$	576,813
H. ARCHITECT/ENGINEER	(FEE ²²⁷ (~5.9%)		\$ <u>523,600</u>	*	1,054,708
I. TOTAL PROJECT COST			\$ 10,000,000	S	20 974 000

*Contingency is based on 5% of the cost of construction for Package A - Campus Thermal Energy Expansion, Package B - Steam Replacement and Heating System

Upgrade, and Equipment and Landscaping. **UA Project Management Fee is based on 3% of the cost of construction for Package A - Campus Thermal Energy Expansion, Package B - Steam Replacement and Heating System Upgrade, Equipment, Landscaping and Contingency.

***Architect/Engineer Fee is based on a blended fee of approximately 5.9% (5.8% of the cost of construction for Package A - Campus Thermal Energy Expansion and Equipment and 6.8% of the cost of construction for Package B - Steam Replacement and Heating System Update).

6. FUNDING/RESOURCES: 2017 FUTURE GENERAL REVENUE BONDS - \$20,974,000

7. REMARKS

* FINAL AGENCY APPROVAL

SUBMITTED	BY:
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LOCATION MAP Central Campus Thermal Energy Connections

