

DESCRIPTION OF INTERIM CAPITAL PROJECT FOR CONSIDERATION

November 2, 2017

CLEMSON UNIVERSITY

PROJECT NAME: Center for Manufacturing Innovation Building Renovation

REQUESTED ACTION: Establish Project (Phase I)

REQUESTED ACTION AMOUNT: \$75,000 (1.8%)

Internal Estimated Cost: \$4,000,000

PREVIOUS CHE ACTIONS: N/A

DESCRIPTION:

Clemson University requests to establish a project to renovate 10,000 SF in the Center for Manufacturing Innovation (CMI) Building at the CU-ICAR campus. The Center is a joint effort between Clemson and Greenville Technical College, with support from the SC Department of Commerce and industry partners, to meet growing workforce demands in the automotive and manufacturing industries in South Carolina. The partnership addresses need in the areas of research, development of new models for workforce development, outreach and engagement of K-12 STEM professionals, and continued education programs. Currently, no University facilities at the ICAR campus are available to house the center and composites equipment.

The Clemson Composites Center will provide space for implementation of a certificate program in Advanced Manufacturing for Clemson undergraduates, and academic programs offered by Greenville Technical College, such as Mechatronics, Machine Tool Technology, and CNC Programming. Approximately 35 Clemson graduate and undergraduate students will use the space in collaboration with faculty, staff, and engineers. The renovation will provide advanced research space for Automotive Engineering and industry trials to contribute to the success of composite material suppliers in SC, and encourage companies to move to the state. The renovation will up-fit the shell space, which Greenville Technical College has completed, for the infrastructure to support equipment that will be installed at the facility.

This project was included as priority 7 of 7 for Year 1 on the 2017 CPIP. The budget for Phase I is proposed at 1.8%, rather than 1.5% to provide for the increased design costs associated with specialized equipment used for research in the automotive manufacturing industry. Both pre-design and construction will be funded with Maintenance and Stewardships Funds. Clemson's Maintenance and Stewardship Fund is comprised of tuition revenue transferred to the STO that is not obligated to fund debt service in the current period, but is held at the STO for qualified use in funding capital projects. Clemson's accumulated uncommitted balance as of August 29, 2017 was \$48,544,946.

E&G MAINTENANCE NEEDS:

N/A - New facility

ADDITIONAL ANNUAL OPERATING COSTS/SAVINGS:

Increased operating costs at this time are expected for utilities and maintenance. Increased operating costs of \$66,950 are expected to be realized fully in FY2020-21 and are estimated to increase approximately 3% each subsequent year.

FOR DEPARTMENT USE ONLY	
CHE	_____
JBRC	_____
SFAA	_____
JBRC Staff	_____
ADMIN Staff	_____
A-1 Form Mailed	_____
SPIRS Date	_____
Summary	_____

(For Department Use Only)
SUMMARY NUMBER
FORM NUMBER

PERMANENT IMPROVEMENT PROJECT REQUEST

1. AGENCY

Cod H12 Name Clemson University
 Contact Person John McEntire Phone 864-656-1238

2. PROJECT

Project # _____ Name Center for Manufacturing Innovation Building Renovation
 Facility # _____ Facility Name _____

County Code	39
New/Revised Budget	\$75,000.00

Project Type	Renovate Existing Facility
Facility Type	Program/Academic

3. CPIP PROJECT APPROVAL FOR CURRENT FISCAL Y

CCIP priority number 7 of 7 for FY 2017-18.

4. PROJECT ACTION PROPOSED (Indicate all requested actions by checking the appropriate boxes.)

Establish Project		Decrease Budget		Close Project	
Establish Project - CPIP	X	Change Source of Funds		Change Project Name	
Increase Budget		Revise Scope		Cancel Project	

5. PROJECT DESCRIPTION AND JUSTIFICATION

(Explain and justify the project or revision, including what it is, why it is needed, and any alternatives considered. Attach supporting documentation/maps to fully convey the need for the request.)

This request is to establish a project for Phase I pre-design services to renovate approximately 10,000 square feet in the Center for Manufacturing Innovation Building (CMI) at CU-ICAR for the Clemson Composites Center (CCC). The CMI is a joint venture between Clemson University and Greenville Technical College (GTC) with support from the SC Department of Commerce and major private corporations, such as BMW, to provide an educated workforce to growing automotive and advanced manufacturing industries in SC. The CMI Building was approved by CHE, JBRC and SFAA in 2014 and was constructed by Greenville Technical College at the CU-ICAR campus. This project represents Clemson's contribution to the joint venture. The Clemson Composites Center will provide a certificate program in Advanced Manufacturing for Clemson undergraduates, as well as new programs that will be offered by GTC.

The space currently has finished walls, concrete floors, lighting, fire protection, alarm systems and HVAC. The renovation will provide the infrastructure to support the CCC's equipment to be installed in the facility. The work will include demolishing floors and providing new foundations, constructing a structural mezzanine for equipment and storage, constructing a chemical lab for the center, making HVAC, electrical, plumbing and related upgrades to accommodate the renovations, and constructing an exterior loading area for heavy truck traffic.

In addition to providing a certificate program for Clemson students, the CCC will provide an advanced research facility for Clemson Automotive Engineering with state-of-the-art instruments and equipment. It will be available for research and industry trials that will contribute to the success of composite material suppliers in SC and make the region more attractive for those contemplating a move. It will allow researchers, working closely with companies, to speedily translate the results of their research into products and companies to test their ideas before entering the marketplace.

6. OPERATING COSTS IMPLICATIONS

Attach Form A-49 if any additional operating costs or savings will result from this request. This includes costs to be absorbed with current funding.

7. ESTIMATED PROJECT SCHEDULE AND EXPENDITURES

Estimated Start Date: Dec-17 Estimated Completion Date: December 2020
 Estimated expenditures: Thru current FY: \$ 75,000.00 After current FY: \$ _____

8. ESTIMATES OF NEW/REVISED PROJECT COSTS

PROJECT # _____

- 1. _____ Land Purchase ---->
- 2. _____ Building Purchase ---->
- 3. \$75,000.00 Professional Services Fees
- 4. _____ Equipment and/or Materials ---->
- 5. _____ Site Development
- 6. _____ New Construction ---->
- 7. _____ Renovations - Building Interior -->
- 8. _____ Renovations - Utilities
- 9. _____ Roofing - _____ Roof Age
- 10. _____ Renovations - Building Exterior
- 11. _____ Other Permanent Improvements
- 12. _____ Landscaping
- 13. _____ Builders Risk Insurance
- 14. _____ Other Capital Outlay
- 15. _____ Labor Costs
- 16. _____ Bond Issue Costs
- 17. _____ Other: _____
- 18. _____ Contingency

Land: _____ Acres
 Floor Space: _____ Gross Square Feet
 Information Technology \$ _____
 Floor Space: _____ Gross Square Feet
 Floor Space: _____ Gross Square Feet

ENVIRONMENTAL HAZARDS

Identify all types of significant environmental hazards (including asbestos, PCB's, etc.) present in the project and the financial impact they will have on the project.
 Type: _____

Cost Breakdown

Design Services \$ _____
 Monitoring \$ _____
 Abate/Remed \$ _____
 Total Costs \$ _____

\$ 75,000.00 TOTAL PROJECT BUDGET

9. PROPOSED SOURCE OF FUNDING

Source	Previously Approved Amount	Increase/Decrease	Original/Revised Budget	Transfer to/from Proj #	Rev Object Code	Transfer's Attribution	Rev Sub Fund	Exp Sub Fund
(0) Capital Improvement Bonds, Gr ____					8115		3043	3043
(1) Dept Capital Improvement Bonds Grat ____					8115		3143	3143
(2) Institution Bonds								3235
(3) Revenue Bonds								3393
(4) Excess Debt Service Type								3497
(5) Capital Reserve Fund					8895		3603	3603
(6) Appropriated State Program Source -					8895	68800100	1001	3600
(7) Federal						78800100		5787
(8) Athletic						88800100		3807
(9) Other (Specify) Maintenance and Stewardship Funds			\$ 75,000.00		7221	98800100	4193	3907
TOTAL BUDGET	\$	\$	\$ 75,000.00					

10. SUBMITTED BY: Brett A. Dalton
 Signature of Authorized Official and Title
 Brett A. Dalton, Executive Vice President for Finance and Operations

9/27/17
 Date

11. APPROVED BY: _____
 (For Department Use Only) Authorized Signature and Title

 Date
 Revised 2/23/16

**ADDITIONAL ANNUAL OPERATING COSTS/SAVINGS
RESULTING FROM PERMANENT IMPROVEMENT PROJECT**

1. AGENCY
Code H12 Name Clemson University

2. PROJECT
Project # _____ Name Center for Manufacturing Innovation Building Renovation

3. ADDITIONAL ANNUAL OPERATING COSTS/SAVINGS. (Check whether reporting costs or savings.)

XX COSTS SAVINGS NO CHANGE

4.

TOTAL ADDITIONAL OPERATING COSTS/SAVINGS				
Projected Financing Sources				
(1)	(2)	(3)	(4)	(5)
Fiscal Year	General Funds	Federal	Other	Total
1) FY 19-20	\$	\$	\$32,500.00	\$32,500.00 *
2) FY 20-21	\$	\$	\$66,950.00	\$66,950.00
3) FY 21-22	\$	\$	\$68,958.00	\$68,958.00

* Partial Year

5. If "Other" sources are reported in Column 4 above, itemize and specify what the other sources are (revenues, fees, etc.).


Self-generated revenues

6. Will the additional costs be absorbed into your existing budget?
If no, how will additional funds be provided? XX YES NO

7. Itemize below the cost factors that contribute to the total costs or savings reported above in Column 5 for the first fiscal year.

<u>COST FACTORS</u>	<u>AMOUNT</u>
1. <u>Utilities</u>	<u>\$16,250.00</u>
2. <u>Maintenance</u>	<u>\$16,250.00</u>
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
TOTAL	<u>\$32,500.00</u>

8. If personal services costs or savings are reported in 7 above, please indicate the number of additional positions required or positions saved.

9. Submitted By:  9/27/17
Signature of Authorized Official and Title Date

**PERMANENT IMPROVEMENT PROJECT INFORMATION FORMAT
FOR PHASE I A&E PRE-DESIGN PROJECTS**

**Center for Manufacturing Innovation Building Renovation
September 28, 2017**

1. What is the internal projected cost of the project? \$4,000,000
2. What is/are the source(s) of funds to be used for A&E pre-design?

Maintenance and Stewardship Funds

3. What is your agency/institution's definition of the source(s) of funds used for the A&E pre-design?
(Please be specific for each source and if there is a statutory authority authorizing the use of the funds for capital projects for the source, please cite the code section. If a source includes any type of fee, what is the fee called, what is the fee amount and when was it put in place?)

Maintenance and Stewardship Funds are tuition, matriculation and other debt retirement and plant transfers revenues that are not formally obligated to fund debt service in the current period and that are responsibly transferred to and managed by the State Treasurer until the time of their State Treasurer approved qualified use.

4. What is the current fund balance of uncommitted funds in the source of funds for A&E pre-design?

Maintenance and Stewardship Funds as of 8/29/17 - \$48,544,946

5. What is the source(s) of funds to be used for construction? Maintenance and Stewardship Funds
6. What is your agency/institution's definition of the source(s) of funds to be used for construction?
(Please be specific for each if different from those in 3 above. If there is statutory authority authorizing the use of the funds for capital project, please cite the code section and if a source includes a fee, what is the fee called, what is the fee amount and when was it put in place?)

Maintenance and Stewardship Funds are tuition, matriculation and other debt retirement and plant transfers revenues that are not formally obligated to fund debt service in the current period and that are responsibly transferred to and managed by the State Treasurer until the time of their State Treasurer approved qualified use.

7. What is the current fund balance of uncommitted funds in each source to be used for construction?

Maintenance and Stewardship Funds as of 8/29/17 - \$48,544,946

8. Will the use of any funds for A&E pre-design or for construction require an increase in any student fee or tuition?

No student tuition or fee increase will be required for pre-design or construction of this facility. Existing tuition and fees, including the FY 17-18 increase, are sufficient to cover any costs associated with this project.

9. If the use of any funds for A&E pre-design or construction will require any student fee or tuition increase, please explain and include the amount of the fees annually or by semester, what the fee is called and when it was put in place. N/A – see response to question 8.

10. What is the total square footage of the building to be renovated or constructed?

Approximately 10,000 square feet of the Center for Manufacturing Innovation Building, which was built by Greenville Technical College at the CU-ICAR campus, will be renovated by Clemson for the Clemson Composites Center.

11. If a portion of the building is to be renovated, what is the square footage of the portion that will be included in the renovation?

Approximately 10,000 square feet of the Greenville Tech's Center for Manufacturing Innovation Building will be renovated.

12. What program(s) will use the space to be renovated/constructed?

The program that will use the space to be renovated is the Clemson Composites Center, part of a partnership with Greenville Technical College to provide an educated workforce to growing automotive and advanced manufacturing industries in SC.

13. What is the current age of the building to be renovated? The building is approximately one year old.

14. What is the current age of the building system(s) to be renovated or replaced? N/A

15. If any new space is being added to the facility, please provide demand/usage data to support the need.

This upfit project represents Clemson's contribution to a joint venture between Clemson and Greenville Technical College with support from the SC Department of Commerce and major corporations, such as BMW, to provide an educated workforce to growing automotive and advanced manufacturing industries in SC. The CMI partnership fulfills needs in several areas, including research in advanced manufacturing, development of new models for workforce development, outreach and engagement of K-12 STEM professionals, and professional and continued education programs.

The automotive composites industry is expected to grow as automotive manufacturers meet increasingly stringent fuel economy and emissions requirements in the United States and worldwide. Reductions in the weight of vehicles increases fuel efficiency, so major manufacturers, like BMW, are increasingly using composites to achieve these goals. The Clemson Composites Center will enable South Carolina to continue providing the infrastructure to continue attracting major industry to the state. Currently, no space is available in University facilities at CU-ICAR to house the center and composites equipment.

16. If the A&E pre-design request is above 1.5% of the internal estimated cost of the project, what is the reason the amount exceeds 1.5%?

The Phase I pre-design budget of \$75,000 is requested at 1.8% of the estimated project cost. The additional amount will allow the University to provide for the costs of design for specialized equipment for research in the automotive manufacturing industry that must be installed in the space to be renovated. This equipment has a heavy utility and infrastructure demand which will require the design team to do additional work for the schematic design package.

17. What are the estimated numbers of students, faculty, staff and/or clients that are expected to use the space affected by the project or for the entire building? (Answer for as many as are applicable.)

The renovated space will be used by approximately 35 graduate and undergraduate students, three faculty members and four staff. Additionally, engineers working for industry clients of the center will also use the facility.

18. Has the project been included in a previous year's CPIP? If so, what was the last year the project was included and for which year, 1-5? 2017 CPIP, Year One
19. What are the economic impacts of the project, including job creation and retention? If there are none, please explain.

The economic impact of this project will be significant. Approximately \$4 million in construction will mean a significant number of jobs for architects, engineers, builders and tradesmen.

20. How will your agency/institution address and fund maintenance of this facility construction/renovation?

The University has a comprehensive maintenance stewardship fund as well as a designated fund for maintenance, repair and renovation. Annual prioritization resulting from objective building assessments determines the planned investments in asset stewardship on a building by building and project by project basis. The University targets balances for this maintenance stewardship fund required to adequately protect the physical assets of the University. It is a long range planning tool/fund and, in that respect, the planned balances match the anticipated needs for annual and long range stewardship.

21. If your agency/institution has a deferred maintenance account, what is the name of the account and what is its current uncommitted balance?

The University has Maintenance and Stewardship Funds (MSF) comprised of tuition, matriculation, and other debt retirement and plant fund revenues that are restricted to support capital investment and that are not formally obligated to fund debt service in the current period. These funds are consciously planned for maintenance and renovation needs and are responsibly transferred to and managed by the State Treasurer until the time the State Treasurer approves a qualified use of these funds. As of 8/29/17, the balance in the MSF held by the State Treasurer and not currently committed to identified capital projects is \$48,544,946.

22. If how maintenance will be addressed and funded for this facility construction/renovation has not been determined yet, what steps are in place to begin to address how your agency/institution will fund maintenance to this and other agency/institution facilities?

N/A – see the response to question 20.