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9/26/22

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MTSU Clean Energy Initiative Project Funding Request

There are five (5) sections of the request to complete before submitting. See <http://www.mtsu.edu/~sga/cleanenergy.shtml> for funding guidelines. Save completed form and email to cee@mtsu.edu or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request Josh Stone	
Department/Office Campus Recreation	Phone # (Office) 904-8484
MTSU Box # 556	Phone # (Cell) 615-498-7831
E-mail josh.stone@mtsu.edu	Submittal Date 9/26/2022

2. Project Categories (Select One)	
Select the category that best describes the project.	
<input checked="" type="checkbox"/> Energy Conservation/Efficiency	<input type="checkbox"/> Sustainable Design
<input checked="" type="checkbox"/> Alternative Fuels	<input type="checkbox"/> Other
<input type="checkbox"/> Renewable Energy	

3. Project Information
<p>a. Please provide a brief descriptive title for the project.</p> <p>b. The project cost estimate is the expected cost of the project to be considered by the committee for approval, which may differ from the total project cost in the case of matching funding opportunities. Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.</p> <p>c. List the source of project cost estimates.</p> <p>d. Provide a brief explanation in response to question regarding previous funding.</p>
3a. Project Title Continuation of Bicycle Friendly University
3b. Project Cost Estimate \$26,545
3c. Source of Estimate MOAB bike shop, Bikesonline.com, Jamie Brewer in Campus Planning

3d. If previous funding from this source was awarded, explain how this request differs?

This is part of a continuous project in effort to increase bicycle commuting on campus dating back to 2012.

4. Project Description

(Completed in as much detail as possible.)

- a. The scope of the work to be accomplished is a detailed description of project activities.
- b. The benefit statement describes the advantages of the project as relates to the selected project category.
- c. The location of the project includes the name of the building, department, and/or specific location of where the project will be conducted on campus.
- d. List any departments you anticipate to be involved. Were any departments consulted in preparation of this request? Who? A listing may be attached to this form when submitted.
- e. Provide specific information on anticipated student involvement or benefit.
- f. Provide information for anticipated future operating and/or maintenance requirements occurring as a result of the proposed project.
- g. Provide any additional comments or information that may be pertinent to approval of the project funding request.

4a. Scope: Work to be accomplished

This grant application is for the purchase of 15 new commuter bikes for rental for student checkout through the MTSU Bike Shop. Upon the bike shop's 10th anniversary, we first purchased commuter bikes for checkout in the Fall of 2012. During that time, we purchased 15 commuter bikes for checkout. Since then we have increased our fleet of commuter bikes to over 40 bikes. Unfortunately, due to consistent use, a lot of our original bikes have had to be retired. In effort to keep up with the demand of our students, which is at a record this Fall, we need to purchase 15 more bikes. For the past 9 years we have been at capacity on rentals every semester and we have a wait list this Fall. In addition to 15 new bikes, we will need to purchase 15 new locks for the bikes to ensure that they don't get stolen and are locked up properly when on campus.

Campus Planning will coordinate the purchase and installation of a bike shelter that is similar or the same as all past bike shelters purchased in the past, an outdoor bike pump for the shelter, and pouring a concrete pad for the shelter. They will schedule all contract work for the shelter.

4b. Scope: Benefit Statement

According to a recent Bloomberg report, cycle commuting has increased in the U.S. by over 122% since the start of the Covid pandemic. This is stated to be a direct result of depleted transit options during Covid as well as available bike sharing options in the wake of depleted store inventories. As more people started cycling, infrastructure to make cycling safer increased across the U.S. And when it comes to the impact of commuting, the average commuting distance round trip by a cyclist is 4.3 miles. With just one bicycle being used for commuting 5 days a week for 8 years (lifespan of our first purchased bikes), over 8,000 miles would be saved from vehicular transportation annually. With the addition of 15 bikes, over 120,000 miles would be saved from vehicular transportation. To expand, having a continuous fleet of 50+ bikes would save over 400,000 miles of vehicular transportation in an 8 year span. The national average of miles per gallon per U.S. car and light truck is 23.6 mpg. Using this data, the addition of 15 commuter bikes would save an estimated 5085 gallons of gas in an 8 year period.

4. Project Description (continued)
<p>4c. Location of Project (Building, etc.) Bikes will be inventoried and housed in MTSU Campus Recreation's bike shop. The new bike shelter and pump will be adjacent to the new School of Concrete building alongside Blue Raider Drive (see attached map)</p>
<p>4d. Participants and Roles Campus Recreation will manage the inventory, maintenance, and checkout processes of commuter bike rentals. Campus Recreation will also be responsible for all marketing and promotion of bicycle rentals as well as promoting bicycle travel on campus. Campus Planning will be responsible for the ordering and installation of the new bike shelter as well as the outdoor pump that goes with the shelter.</p>
<p>4e. Student participation and/or student benefit Since 2012 Campus Recreation has been renting out a fleet of at least 30 commuter bikes to MTSU students. These bikes have helped our students have a choice of using multi-modal transportation instead of opting for their car. A lot of our student do not have cars, and our bikes have become their source of transportation to the grocery store, work, etc. In addition, Campus Rec and Campus Planning have now installed 6 covered bicycle shelters on campus, allowing for 100+ bikes to be parked out of the elements, which encourages more students to ride their bikes on campus.</p>
<p>4f. Future Operating and/or Maintenance Requirements All maintenance and upkeep of bikes will be performed by Campus Recreation's bike shop. This has allowed us to still have some of our very original bikes still in our fleet. All replacement parts and staffing of mechanics for the bike shop will be incurred by Campus Recreation. Maintenance and upkeep of bike shelters is tasked to Campus Planning who will be responsible for that.</p>
<p>4g. Additional Comments or Information Pertinent to the Proposed Project Since the beginning of this project in 2012, the demand for rental commuter bikes has grown significantly. In addition, our shop services more and more bikes every year, which is correlative to increased bicycle usage on campus. Through the creation of more bike lanes, better bicycle infrastructure, and bikes being available to rent, this project is continuously successful in getting more people on bikes and out of cars.</p>

5. Project Performance Information

Provide information if applicable.

- a. Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.
- b. Provide information on estimated annual energy cost savings in monetary terms.
- c. Provide information on any annual operating or other cost savings in monetary terms. Be specific.
- d. Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.

5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.) 1 gallon of gas, when burned through combustion, produces 18.95 lbs of CO₂. The addition of 15 bikes, with an estimated longevity of at least 8 years, saves an average of 5085 gallons of gas (as shown in answer 4b) through providing alternative transportation. This would eliminate over 96,360 lbs of CO₂ from being produced from vehicle transportation.

5b. Annual Energy COST Savings (\$)

As outlined above, over 5085 gallons of gas in an 8 year period will be saved by the addition of 15 commuter bikes. The current national average price per gallon for gas is \$3.21. Given the current rate, this would save \$16322 over an 8 year period. An indirect saving would also be less road impact from vehicle transportation, as well as the potential for less areas dedicated to parking due to a shifting culture of multi-modal transportation.

5c. Annual Operating or Other Cost Savings. Specify. (\$)

Ultimately, through the continuation of this long range master plan, the university will save money by not having to create as many parking spaces as well as by reducing vehicular impact on roads and automobile infrastructure. As the master plan intends to move parking on the perimeter of campus, it will be important to make bicycle transportation available to students. Cost savings is handed on down to students who utilize the bikes provided by this grant by not having to pay for gas for their vehicles.

5d. Matching or Supplementary Funding (Identify and Explain)

Supplementary funding will be provided annually by Campus Recreation. This includes but is not limited to: Human Resource costs for bike shop employees to work on the bikes and manage the rentals, parts and inventory costs for repairs needed, and infrastructure costs (storefront and associated costs). A fraction of these costs will be recovered via rental fees



2022-2023 Clean Energy Grant Proposal Budget

ITEM	QUANTITY	COST	TOTAL
Duo Guard 12x16 Apex Bike Shelter (includes install)	1	\$16,200.00	\$16,200.00
Belson Outdoor Bike Pump (includes install)	1	\$985.00	\$985.00
Polygon Path urban city bike	15	\$589.00	\$8,835.00
Kryptonite U-Lock	15	\$35.00	\$525.00
TOTAL			\$26,545.00

Prepared by Josh Stone

Linda Hardymon

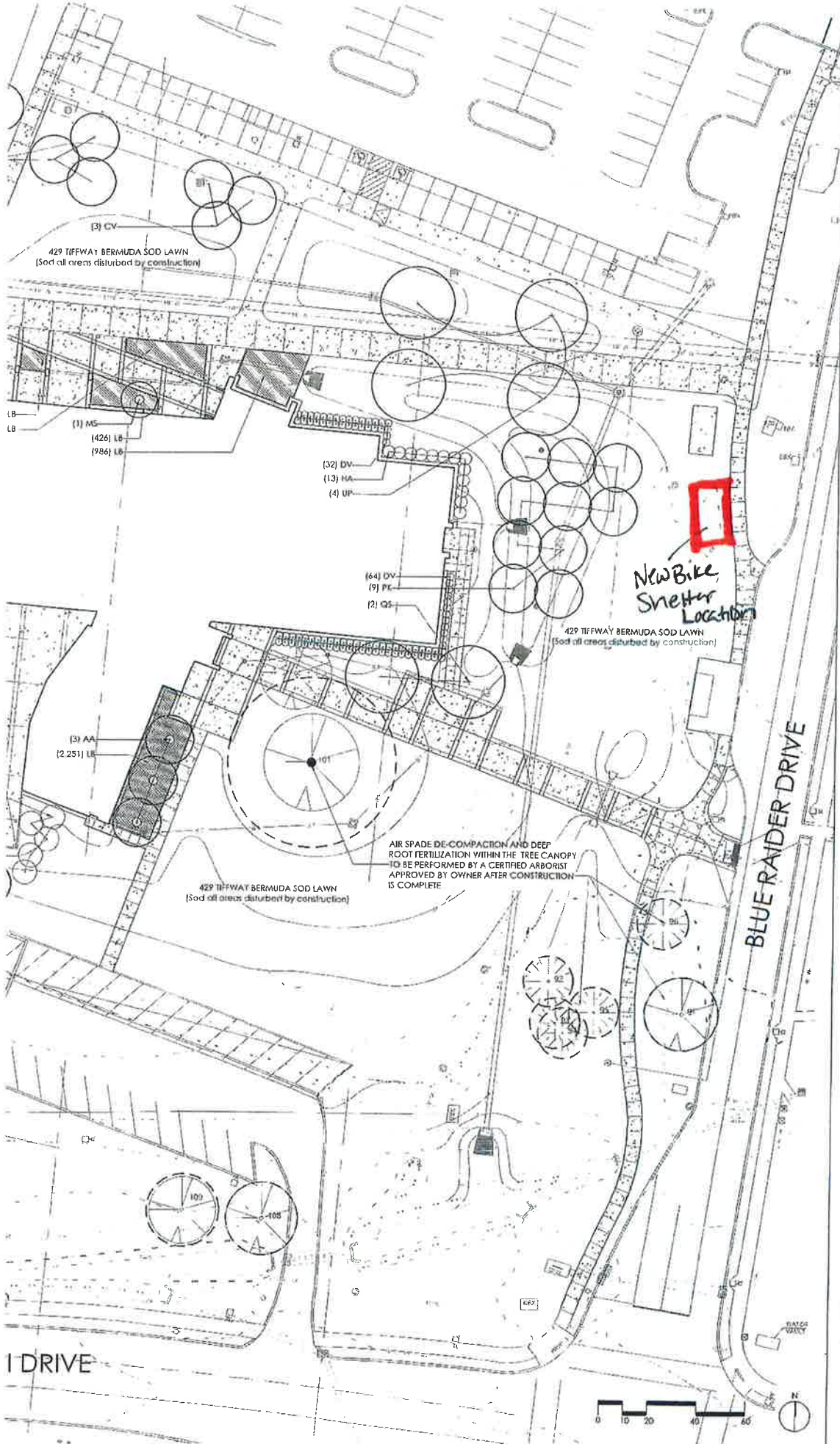
From: Josh Stone
Sent: Monday, September 26, 2022 4:00 PM
To: Center for Energy Efficiency
Subject: Clean Energy Grant proposal
Attachments: shelter location map.pdf; Budget.pdf; CleanEnergyProjectFundingRequest08LH.pdf

Attached you will find Campus Recreation's Clean Energy Grant proposal for the continuation of a Bicycle Friendly University. Please let me know if anything else is needed.

Thank You

Josh Stone

Josh Stone
Associate Director of Recreation Programs
MTSU Campus Recreation
615-904-8484
www.mtsu.edu/camprec
he, him, his



orcutt|winslow

5016 continental blvd
 third floor
 nashville, tn 37209
 mtd@owp.com
 615.290.2525 f
 www.owp.com



I CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TENNESSEE AND THAT I AM THE DESIGNER OF THE ABOVE PROJECT. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREON. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREON. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREON.

SCHOOL OF CONCRETE AND CONSTRUCTION MANAGEMENT - PHASE II

Middle Tennessee State University
 Murfreesboro, TN
 SBC 366/009-007-2019C

CLIENT CONTACT
 Middle Tennessee State University
 1301 EAST MAIN STREET
 MURFREESBORO, TN 37132
 615-898-2300 T | helen.brewer@mtsu.edu

PROJECT NO. 2019_235
DATE OF ISSUE 12.22.2020

REVISIONS

NO.	DESCRIPTION	DATE

PROJECT TEAM DRAWN BY
 TN EDUCATION

PROJECT PHASE
 Construction Documents
 Addendum 2
 SHEET CONTENTS

PLANTING PLAN
 SHEET NO.

L400