

# CSF - Mini Grant Final Application

Project Name: TerraCycle It

## Grant Type

Mini Grant

## Application Type

Final Application

## Primary Project Manager

The Primary Project Manager is responsible for completing this application, answering questions posed by the Campus Sustainability Fund Committee, and completing all required reporting on project progress and outcomes. If the Primary Project Manager is a student who graduates in May 2023, the Secondary Project Manager must be a staff or faculty member OR a student who graduates after May 2023.

## Primary Project Manager Name:

Nicole Collins

## Primary Project Manager Status:

Student

## Primary Project Manager Email:

ncollins1@arizona.edu

## Primary Project Manager Department

Students for Sustainability

## **Secondary Project Manager**

The Secondary Project Manager is the back-up for the Primary Project Manager if they are unable to complete any of the requirements of the Campus Sustainability Fund, particularly completing required reporting on project outcomes. Alternatively, the Secondary Project Manager could be co-facilitating the project with the Primary Project Manager should the proposal require or desire to have two Project Managers.

### **Secondary Project Manager Name:**

Lila Carruthers

### **Secondary Project Manager Email:**

lilacarruthers@arizona.edu

### **Secondary Project Manager Status:**

Student

### **Secondary Project Manager Department**

Students for Sustainability

### **Project Advisor Name:**

Projects where the Primary and Secondary Project Manager are both students require the involvement of a staff or faculty member within project's Fiscal Officer's department. The Project Advisor contact must be a staff or faculty member within your department who is responsible for monitoring the project's budget, communicating with the Fiscal Officer, and reporting if both project managers are unavailable. Please ensure you have received consent from this individual to be the Project Advisor for your proposal and have informed them of your proposal's intent and budgetary needs. If this does not apply to you, type N/A for these responses.

Carol Barnette

### **Project Advisor Email:**

carolb5@arizona.edu

## **Project Advisor Department:**

Associated Students of the University of Arizona

## **Fiscal Officer:**

The Fiscal Officer is a staff member within your department who is responsible for financial transactions and who will support reporting by pulling requested expenses against awarded funding and ensuring that funding is spent within awarded categories. Please coordinate with your department to properly identify an individual who is a designated Fiscal Officer. If awarded, this will be the individual who will help you access your project's funding. Please ensure you have received consent from this individual to be the Fiscal Officer for your proposal and have informed them of your proposal's intent and budgetary needs.

Estella Trevers

## **Fiscal Officer Email:**

etrevers@arizona.edu

## **Fiscal Officer Department Name:**

Associated Students of the University of Arizona

## **Request Funding Amount:**

\$1700

## **Official Project Name:**

Please be specific but concise as this name will appear on reports and our website. Creativity is encouraged!

TerraCycle It

## **Primary Project Category:**

Waste

## Secondary Project Category:

Campus Life (Health & Wellbeing, Behavior Change)

## Background and Context:

Please provide any relevant background about your organization/team including your mission and/or expertise. Please also lay out the rationale for the proposed project, focusing on the issue that your project would address. This section is meant to give us more information about you and the context for the project, while the questions below provide space to go into detail about your proposal's specifics.

### Response:

Students for Sustainability is a program run through the Associated Students of the University of Arizona (ASUA) that is composed of students who are passionate about implementing sustainable practices within the University of Arizona community, and educating the members and community about these practices. Students for Sustainability is divided into committees, each aiming to create measurable change within one specific field of sustainability. As members of the Waste Reduction committee within Students for Sustainability, we have identified a need for increased access to recycling systems that process materials which are not recyclable on campus, such as plastic film and office supplies. On campus, there is a great need for improved recycling education, which we plan to contribute to by making community members more aware of how these materials do not belong in mainstream recycling on campus. These two categories of waste pose a unique issue to the recycling streams, especially plastic film, because oftentimes they are mistaken as recyclable and end up contaminating the entire recycling stream. We plan to address this issue by providing an alternative waste collection for these materials in order to limit that contamination and the amount of waste going into the Los Reales Landfill. The goal of this project is to purchase collection boxes for hard-to-recycle materials through TerraCycle and place them in easily accessible areas around campus. TerraCycle is a company based in the United States that gathers and properly recycles materials that are hard to recycle within municipal recycling programs and curbside pick-up programs. Organizations or individuals can purchase a box from TerraCycle that becomes a waste collection location for a certain hard-to-recycle material. Once the box has been filled up with the proper materials, it is dropped off at a UPS center to be sent back to TerraCycle. The cost of shipping is included in the price of the box when initially purchased, so no additional price will need to be paid at the time of drop-off. Last year when this project was conceived, we spoke with Troy Vaughn, the Director of Campus Recreation, about how effective their existing TerraCycle boxes were. He gave us helpful information about their process and contamination levels that prove that implementing TerraCycle Zero-Waste Boxes can work. With that said, we will continue to reach out to other groups on campus who have tried TerraCycle in the past for advice. This project would be a pilot to gauge collection success and has potential to be expanded to other locations on campus in the future if it proves to be an effective waste diversion tool. Members of Students for Sustainability will monitor the boxes continuously while they are in place, work to address any contamination issues that may arise, and conduct a progress report in May and June of 2023 detailing the collection and outreach data, and measuring the outcome of the project.

## Project Description:

Please provide a thorough description and explanation of your project. Describe the objective(s) and what will be accomplished. Describe how each objective will be achieved (listed as steps or goals, with anticipated timeframes for each). Explain how the project will be implemented (who does what?). Finally, please identify the core goals of your project and how you will measure the degree of its success includes the metrics you will track to measure the success or impact of your project (e.g., number of kWh saved, gallons of water saved, number of student training hours, etc.). Responses are limited to 3,000 characters including spaces.

## **Response:**

Our project will place TerraCycle bins in the Main and Science and Engineering Libraries to collect snack wrappers and office supplies, which are not recyclable on campus. These locations are highly trafficked and easily accessible to students and community members, which will facilitate easy disposal of the items we are collecting. We would place one of each type of bin (Candy & Snack Wrappers and Office Supplies) in each location. The high quantity of these materials across campus and the frequent improper disposal of them makes it apparent that another option for disposal is necessary. Collecting these materials in the UA Libraries is ideal because they are high traffic areas where students and community members typically use these items in large quantities. Thus, the bins will fill the need for alternative methods of recycling for items that the Tucson recycling center is unable to take. In order to educate the UArizona community about the proper use of the bins, paper fliers will be put near the boxes placed in the libraries, and various bulletins will be posted in different locations around campus, like near vending machines. Digital fliers will also be displayed in the libraries. These fliers will have recycling information about what and where materials can be recycled, as well as alternative products that produce less waste. The fliers are already being designed by the students involved in this project to ensure that they will be ready by the time that the TerraCycle boxes arrive. Potential contamination issues will be addressed by the UA Libraries having a point of contact to the Waste Reduction Committee so that if they notice any contamination or have concerns about it, they can directly contact us to check it out. The regular engagement and communication between the UA Libraries and the Waste Reduction committee will ensure that the contamination of these boxes is very limited or non-existent. Once funding is received, the boxes would be ordered within 5 days, and upon arrival to the Main Library, they would be placed in each location. Once the boxes are full, they will be shipped back to TerraCycle via the library's shipping department. Prior to shipping the boxes back to TerraCycle, we will weigh each box to gauge how much waste is being collected of each material, as well as analyzing each box for contamination. These metrics will help us to determine the efficacy of the project. The expected impacts of this project are to reduce waste on campus, increase accessibility to alternative waste disposal options, decrease waste stream contamination, increase consumer mindfulness, and educate the community on proper recycling practices.

## **Project Summary Snapshot:**

Please provide a short summary of your project. This summary will be used on our new website and other Office of Sustainability materials, if approved. Think of this as a hyper-concentrated summary to capture your project's scope and impact.

## **Response:**

The TerraCycle It! project aims to prevent items that are not recyclable on campus from ending up in the landfill or contaminating current recycling. This pilot project will involve placing materials collection boxes from a company called TerraCycle at the UArizona Libraries (both the Main and Science & Engineering Library), and then having the Libraries ship those boxes back to TerraCycle for proper recycling. In each location, there will be an Office Supplies collection box and a Candy and Snack Wrapper collection box placed in public lobbies. Thus, UArizona and Tucson community members will be able to access the boxes.

Additionally, signage will be displayed via physical fliers and digital monitors within the libraries to help participants sort materials and avoid contamination.

## **Project Feasibility and Logistics:**

Please provide a description of the work that has been completed so far to make this project feasible. Have all relevant partners been contacted/coordinated with? Have you received consent or authorization from relevant departments or offices to complete your project (Housing and Residence Life, Facilities Management, Parking and Transportation, etc.)? Please identify them in your response. For example, have you received reasonable quotes for supplies? What research has been completed to lay the foundation for this project?

### **Response:**

We have been in regular communication with Hayri Yildirim, the Director of Library Facilities Planning and Management, to discuss the logistics of this project. With his permission, we plan to place TerraCycle Zero-Waste Boxes in the Main and Science and Engineering Libraries as a pilot project for the Spring 2023 Semester. We intend to place 13 total boxes between these two libraries, with five boxes at the Main Library and three boxes at the Science and Engineering Library. The Office Supplies boxes will be placed on the first and second floor of the Main library, as well as the first floor of the Science & Engineering Library, in high traffic areas so that they can be utilized by both students and staff at the libraries, who are more likely to have office supplies there. We plan to only have one round of the office supplies boxes due to low anticipated demand. The Candy and Snack Wrappers boxes will be placed on the first, second and third floor of the Main Library in high traffic areas, which will be utilized by students who often eat snacks while studying/working on homework. In the Science and Engineering Library they will be placed on the first and second floors, also in high traffic areas. We will have two rounds of those boxes. If those boxes are not filled, Mr. Yildirim has confirmed that they may be stored at the libraries over the summer. The library staff will be notified of the Terracycle program in a memo sent out at the beginning of the spring semester. Additionally, there will be signage placed at each box's location explaining what is accepted in them as well as signage describing TerraCycle and how it is different from the conventional recycling that UArizona already has. Signage will also be placed around the libraries to notify students about the boxes and how they can utilize them. The Main Library has a shipping department, which is where the TerraCycle boxes would be shipped to. Upon their arrival, members of the Students for Sustainability Waste Reduction Committee would put the boxes together and place them in their designated locations. Members from our committee will then monitor the boxes once a week and when they are filled, they will take the boxes to the shipping department for them to be shipped back to TerraCycle. If the library staff notices any issues with the boxes in between our visits, they will contact us for an off-rotation visit to the library. We will complete a Memorandum of Understanding for this project, which will be sent to Mr. Yildirim to sign along with the Dean of University Libraries to confirm the project. The monitoring and maintenance of the boxes by our committee will help determine the success of the project in both reducing waste and limiting contamination rates.

## **Environmental Sustainability Outcomes:**

Please provide a description of how you expect your project to advance environmental sustainability on campus. A definition of environmental sustainability is provided on our Resources webpage.

## **Response:**

This project will advance environmental sustainability on campus by creating an accessible way for students and community members to recycle their waste that would otherwise end up in a landfill. The recycling system on campus is ineffective and highly contaminated, which ruins the value of the materials and makes a recycling bin equivalent to a garbage bin. The establishment of TerraCycle bins on campus will decrease recycling contamination by having a convenient disposal location for materials that are frequently placed in recycling bins either by mistake or misinformation. TerraCycle handles items that are often unconventional and not easy to recycle. The uniqueness of their program allows for education about and implementation of innovative recycling practices. The educational aspects and the presence of the bins will show University of Arizona community members that there are likely more facets to recycling than they were aware of, and will help them to realize that they should be more conscious of what they are placing in recycling bins. Additionally, for those who are aware of the harms of recycling contamination, these bins will give them an outlet for some common streams of waste that they may be creating and have no access to recycle. If this project were to expand beyond the UArizona Libraries, it could have the potential to decrease UArizona's recycling contamination rate. Implementing this project will encourage a cleaner campus environment as well as healthier consumption habits. The visibility of the bins will help community members realize how much waste they are creating and perhaps take a closer look into their garbage bins in the future. It will make community members aware that these items are not conventionally recyclable, and lessen contamination of recycling. Furthermore, expansion of the project could include additional collection bins in more locations that could be used for collection of more materials, and thus further educate the campus community and provide locations for those who do not have transportation to take the materials that are not recyclable on campus.

## **Social Sustainability Outcomes:**

Please provide a description of how you expect your project to advance environmental sustainability on campus. A definition of social sustainability is provided on our Resources webpage.

## **Response:**

This project will advance social sustainability because it will encourage the UArizona community to be more responsible for the waste that they produce and it will encourage them to think about where their waste ends up. Currently, the University has a 40% waste diversion rate, which means that only 40% of all waste produced and managed on campus is being recycled and being diverted from landfills. The majority of landfill materials produced at UArizona are sent to the Los Reales Landfill, which is located in South Tucson. It is well known that landfills negatively impact surrounding neighborhoods. They cause disproportionately higher rates of negative health effects within these communities, such as reproductive disorders, developmental effects, and multiple forms of cancer (Palmiotto et al., 2014). The neighborhoods in South Tucson have high percentages of Black, Indigenous, and people of color (BIPOC), so these neighborhoods are disproportionately experiencing the negative effects of living near a landfill. Creating this project will help divert waste from these neighborhoods surrounding landfills. Reducing waste on campus by promoting recycling will lower the impact on these neighborhoods and discourage them from littering. Less landfill means less health impact and therefore demonstrates why recycling on campus is an important necessity for the health of local Tucson residents. By redirecting plastic and office waste from the Los Reales Landfill to recycling programs, waste diversion efforts on campus could reduce the University's indirect impacts on BIPOC neighborhoods, while also creating more socially conscious community members. By encouraging campus users to consider where their waste ends up, this project will cause people to be more responsible for their waste and in turn become better neighbors. Source: <https://doi.org/10.1016/j.envint.2014.03.004>

## Student Leadership & Involvement:

Please provide a description of how you expect your project to benefit students on campus regarding the creation of leadership opportunities or student engagement. What leadership opportunities exist within your proposal? If you plan to hire/ or involve students, please describe in what capacity. For example, if you plan to hire students, create an internship, or seek student involvement, please describe relevant details thoroughly (wages, responsibilities, duration of job, extent of involvement, how you will solicit/ market these opportunities etc.).

### Response:

Since this is a project by Students for Sustainability, which is a student-run organization, student engagement and leadership are vital for its success. Students have reached out to the appropriate UArizona Library staff members and faculty to discuss the logistics and viability of this project, and will continue to be in contact with the staff throughout the duration of the project. This grant has been entirely written by students who have taken initiative to see this project through, and these students will have continued involvement in this process. The students involved will have the role of coordinating advertisement and marketing for the TerraCycle boxes, along with their purchase and installment. Students will be contributing at all steps along the advertising process, including the design of bin signage, the printing of fliers, and proper placement of fliers around campus. Once the boxes are in place, the collection of the bins will be coordinated by the Libraries. The Waste Reduction committee will continue to be involved in evaluating the success of the project throughout the pilot program, and will take the initiative to ensure the continued success and implementation of other necessary measures to ensure that the bins are used correctly. Students will look to measure visual levels of contamination within the waste stream and will continue to maintain and replace damaged signage as needed. The seven members of the Waste Reduction Committee will use time after each of their weekly meetings to check in and monitor the success of the boxes by visually checking in on the fullness and contamination of the boxes. Students will conduct monthly progress reports. The custodians of the library will be notified of the presence of the boxes and will make us aware if there are any issues with the boxes. If a problem arises with noticeable contamination between the weekly check-ins, they will notify our committee to take care of it. Once the bins are full and ready to be shipped to TerraCycle, students will then be able to synthesize the data gathered during this project so that any future expansions of this project will be improvements of this pilot. In order to gather data, the students will sort through each of the boxes to measure the level of contamination and proper usage of each box before they are shipped back to TerraCycle.

## Education, Outreach, and Behavior Change:

What opportunities does this project provide for members of the campus/ community to learn about sustainability? How will your project educate the campus community and/or incorporate outreach and behavior change? How are you reaching beyond the "sustainability choir?" Please provide a description of how you expect your project will communicate its impacts to the campus community. What is your plan for publicizing your project on campus? How visible and accessible will your project be to the general campus population?

### Response:

The primary goal of this project is to provide an opportunity for students and community members to learn about and divert hard-to-recycle materials. There exists a widespread belief that things we don't need anymore simply go away when they are thrown out; however, few people confront the reality of our waste disposal practices. Many everyday items cannot be recycled through conventional recycling methods especially items that are made up of multiple materials. Such items are doomed for the landfill because



standard recycling processes require materials to be cleanly separated from each other; therefore, it would be inefficient to attempt to recycle them. For this project, we decided to collect Office Supplies and Snack and Candy Wrappers because these are two waste categories that are conventionally unrecyclable, are commonly found among the campus community, and can easily be diverted through the TerraCycle program. We expect that this project will spark awareness about sustainable living among those who are unfamiliar with our current waste system and recycling processes. Ideally, seeing and understanding the purpose of the TerraCycle boxes would plant the seed for students and community members to adopt more sustainable habits in the future. Many people fail to practice positive environmental habits not because they do not want to, but because they do not know how to. This project will provide an educational opportunity for people who would like to recycle more. Additionally, it could start important conversations about sustainability, helping to spread the word about waste management practices. This project also serves people who know how to be sustainable, but lack the resources to make large lifestyle changes. For those who are already knowledgeable about and comfortable with recycling, this project provides an outlet for them to recycle more than they are usually able to. Most importantly, this project would allow the campus community to engage with a cause that has historically excluded many groups of people, ultimately helping to create a sense of belonging and community. We plan to promote our TerraCycle project by tabling on the mall. Tabling will focus on what our project is and what student's will expect. We will have some type of visualization for what the boxes should look like and how to properly use them. To engage the students with this project we plan to have some type of reward for when they use a TerraCycle box at a designated location. This might be taking a picture of using a TerraCycle box and email it to one of our project leaders where we would pick a winner at random. Another engagement opportunity would be to reach out to other environment or sustainability related organizations on campus and encourage them to promote and explain this project to their members. This would not only engage students with our project, but also connect with students who are also invested in sustainability and recycling on campus.

## **Timeline:**

Please describe the timeline of your project. The timeline may be estimations at the point of this Preliminary Application but providing this is especially important if your project is a time-sensitive event. Funds may not be used as reimbursement for projects already completed, therefore a realistic amount of lead time should be given in order for proposals to be eligible for review. Please describe when your project will take place, key dates for when certain elements must start or be completed by, or any other known dates. Timeline extensions will be granted on a case-by-case and limited basis.

## **Response:**

Since we have already confirmed the locations and maintenance for our TerraCycle boxes, we will be able to begin the installation process as soon as we receive funding for the project. Within 7 days of receiving grant funding, we plan to have the first round of boxes ordered and on their way to the Main Library. After the delivery of the boxes within 3-10 days of ordering, we will install them in agreed upon locations around the Main Library and the Science and Engineering Library. Depending on how long the boxes take to ship, the whole installation process should take no longer than three weeks. Ideally, the boxes would all be set up and ready to go at the beginning of the spring semester. Over winter break, the library has stated that they are willing to store our boxes until classes begin on January 11. Although we cannot predict exactly when the boxes will fill up, it is our intention to replace the Candy and Snack Wrapper boxes about halfway into the semester (splitting the semester into two periods of 2.5 months). Being that this is a pilot program, we will be able to gauge a more accurate replenishment cycle as time goes on. The goal is to have the Office Supplies boxes fill up by the end of the semester and the Candy and Snack Wrapper containers to fill up twice during the semester. Overall, the funding will be used before the spring semester ends, allowing us to measure what this program would look like on an extended timeline and larger scale. Any extension of this project would be a follow up and not a part of the funding requested in this application. If necessary, the library is willing to store any extra/unused boxes over summer break to be used in the following fall semester.