

Hillsborough and Leon Counties (Counties) are seeking funds of \$178,405 to develop an ongoing program to reclaim and resell materials discarded by college students. Examples of targeted materials for this program would include bookshelves, couches, chairs, tables, bicycles, books, beds, school supplies, etc. (items that students may not want to take back home at the end of the school year).

A similar program at Michigan State University has been extremely successful in diverting thousands of tons of materials from disposal. Typically, colleges and universities see a six to ten fold increase in disposal at the end of the school year – however they lack the infrastructure for diverting and selling reusable materials. Based on data from the Michigan State program, up to 90% of this material may be re-used if handled appropriately.

To implement this innovative grant program, the Counties have teamed with the University of South Florida (USF), Florida State University (FSU), Florida A&M University (FAMU), the City of Tampa, and the Recycling Task Force of Hillsborough County (Project Team). Hillsborough County will be the lead County for this project.

Targeted Material: The FDEP has designated materials generated from schools, community colleges, and universities as a targeted material for the innovative grant program. All the materials diverted through this program would meet this designation. In addition, the program would divert significant quantities of traditional recyclables (mainly cardboard) – which have generally not been targeted for recovery.

Advanced Technology or Processes: We are unaware of any Florida school, college or university that is source separating reusable materials and reselling these materials on campus, therefore serving this unique population is both innovative and advanced. Furthermore, DormOutfitter.com utilizes the internet to reach students and change behavior. Market research shows that 75% of internet surfers are making online purchases.

Cost Effectiveness: The project is anticipated to be self-funding after the initial grant period. All three universities have indicated their willingness to continue the program after the grant period. Reuse of items captures the highest tangible and intangible value in a product.

Technology Transfer: The project will be fully transferable to all other Florida universities, colleges, and schools.

Regional Programs: This project involves multiple counties and, therefore, meets the “regional programs” criterion. It is also highly expandable, because the universities involved have campuses in multiple counties.

Hillsborough County (lead county) and Leon County seek to develop a cost-effective system that encourages students to reuse (either as donor or purchaser) and recycle materials. The program will facilitate these activities with three programs: (1) operating on-campus swap-shops to collect salvageable material from students at the end of semesters; (2) warehousing items of value and reselling these items to partially fund the program; and (3) creating an innovative e-commerce website, "DormOutfitter.com," for students to exchange materials and search an inventory of warehoused items.

Hillsborough County will implement the program on the campus of the University of South Florida in Tampa. Leon County will implement the program on the campuses of Florida State University and Florida A&M University in Tallahassee.

The project team will execute the program in five phases. Each phase corresponds to budgeted tasks, which are outlined below.

Phase 1 – Planning, Data Gathering and Program Design

Tasks 1 through 9 involve developing an understanding of the site specific opportunities and challenges for program implementation at the participating universities. We will begin this phase with planning meetings and assignment of responsibilities for successful implementation. Our goal is to reduce disposal of usable materials, therefore we will map out waste generation patterns, both in terms of campus logistics and seasonal timing. We will also develop a sound understanding of potential items that may be recovered.

We will evaluate potential warehousing sites or other methods to store/sell/give-away recovered materials. Determining potential collection methods will include evaluation of incentives to entice students to perform the work of sorting and delivering materials to a collection point. This is a complicated task as it involves evaluating willingness and incentives, but will help establish options that are more likely to succeed.

This phase also involves developing the inventory system for items that will be stored and redistributed through online exchanges. Concurrently, we will develop a "re"-commerce website to facilitate exchanges throughout the school year.

Finally, this phase will result a marketing plan for the DormOutfitter.com materials exchange, the warehouse, and the end of semester swap / collection events.

Inventorying/Warehousing: Space will be acquired at each campus location to store collected materials. Materials collected will be sorted and cataloged. The warehouse locations will also serve as "Dorm Outfitter" stores that will be open for several weeks at the beginning of each semester for students to purchase materials.

Marketing/Promotion: A critical component of this project will be developing a program to reach students before and after they get to campus. In addition to mainstream marketing concepts (fliers, posters, campus radio spots, etc.), the Project Team is proposing to develop a web-based electronic inventory system that catalogs items available at the schools' DormOutfitter store. The website may also allow direct sales of items to buyers.

Phase 2 – Pilot, End of Fall Semester Swap and Collection

Tasks 10 through 14 relate to preparing for, promoting, facilitating, and evaluating a pilot swap/collection event at the end of the Fall Semester. The swap tents will be located in close

proximity to dumpsters or dorms – so that students staffing the sites can divert reusable or recyclable materials prior to disposal. Students will be allowed to drop-off or pick-up materials that they feel are reusable. All potentially reusable goods that are not picked-up will be stored in warehouses storage trailers, or donated to charity. All exchanges will be recorded to estimate dollar value and diversion weight.

The phase 2 pilot will be somewhat limited in scope, so as to create a manageable program. However, we plan to implement the pilot at each of the participating universities simultaneously. The program will be implemented with the cooperation of students and faculty at each of the participating universities. Students will be hired to perform promotion activities, staff the swap tents, and collect data.

Phase 3 – Pilot, Beginning of Spring Semester Swap and Collection

Tasks 15 through 20 are similar to phase 2 activities, however, the collection/swap is front-loaded to occur at the beginning of the semester when students have returned from winter break and may be replacing furnishings with new items received over the holidays. Student staffed swap tents will also be available in order to collect materials that may be discarded by new students moving into the dorms.

These swap tents will also include collection containers for corrugated and other recyclables that are generated in great quantities during this period. Students will also have the opportunity to visit the warehouse location to obtain materials that were collected at the end of the prior semester.

Phase 4 – Full-scale End of Spring Semester Swap and Collection

Tasks 21 through 25 relate to preparing for, promoting, facilitating, and evaluating a full-scale swap/collection event at the end of the Spring Semester. The end of the Spring Semester coincides with the end of the school year for most students, and graduation for the majority of graduates. Thus the end of the spring semester results in the largest spike in waste generation from students who abandon or dispose their furnishings and other materials. The project team anticipates that by establishing a campus presence throughout the year, promoting the program, and strategically locating swap/collection tents, students will be aware of and utilize swap sites to discard usable materials rather than disposing of them as waste.

Phase 5 – Evaluation and Report on Results

Tasks 26 and 27 provide for analyzing results, preparing reports, and presenting findings at conferences. Information about the project also will be posted at Dormoutfitter.com.

Budget: Hillsborough and Leon Counties are requesting an innovative recycling grant in the amount of \$178,405 (\$128,405 for Hillsborough County and \$50,000 for Leon County) to plan and implement the innovative university recycling program described above. Hillsborough County will be sharing project resources with Leon County by subsidizing its costs, thus enabling Leon County to participate fully. The table below details the proposed costs associated with this project.

Task No.	Task/Subtask	Labor	General Expenses	Travel Expenses	(Subtotal - All Expenses)	Total Cost
1.	Project Management	\$4,730	\$1,770	0	\$1,770	\$6,500
2.	Hillsborough Kick Off Meeting	\$2,035	\$80	400	\$480	\$2,515
3.	Leon Kick Off Meeting	\$3,160	\$120	750	\$870	\$4,030
4.	Determine Generation Patterns (where, when, what	\$7,955	\$300	200	\$500	\$8,455
5.	Determine Potential Facility Locations	\$5,580	\$160	200	\$360	\$5,940
6.	Determine Potential Collection Methods	\$8,775	\$350	150	\$500	\$9,275
7.	Develop Inventory Methods	\$2,770	\$120	0	\$120	\$2,890
8.	Develop Marketing/Promotional Plan	\$2,520	\$80	0	\$80	\$2,600
9.	Develop Internet Component	\$19,885	\$640	0	\$640	\$20,525
10.	Fall Semester Pilot Kick-Off Meeting	\$2,760	\$100	450	\$550	\$3,310
11.	Advertise/Promote (Collection)	\$1,475	\$50	0	\$50	\$1,525
12.	Set-Up and Manage Swap Sites	\$22,465	\$4,950	900	\$5,850	\$28,315
13.	Transport Collected Materials to Warehouse	\$3,470	\$990	0	\$990	\$4,460
14.	Catalog and Inventory Material	\$2,770	\$90	0	\$90	\$2,860
15.	Spring Semester Pilot Kick-off Meeting	\$2,760	\$100	450	\$550	\$3,310
16.	Advertise/Promote (Collection/Sale)	\$1,475	\$50	0	\$50	\$1,525
17.	Staff Warehouse Location	\$3,885	\$80	0	\$80	\$3,965
18.	Set-Up and Manage Swap Sites	\$19,240	\$600	800	\$1,400	\$20,640
19.	Transport Collected Materials to Warehouse	\$3,060	\$75	0	\$75	\$3,135
20.	Catalog and Inventory Material	\$2,770	\$90	0	\$90	\$2,860
21.	Expanded Spring Semester Ending Kick-off Meeting	\$2,760	\$100	450	\$550	\$3,310
22.	Advertise/Promote	\$1,475	\$50	0	\$50	\$1,525
23.	Set-Up and Manage Swap Tents	\$19,340	\$600	800	\$1,400	\$20,740
24.	Transport Collected Materials to Warehouse	\$2,450	\$100	0	\$100	\$2,550
25.	Catalog and Inventory Material	\$2,450	\$100	0	\$100	\$2,550
26.	Summary Report Development	\$6,850	\$275	0	\$275	\$7,125
27.	Presentation	\$1,475	\$45	450	\$495	\$1,970
GRAND TOTALS		\$160,340	\$12,065	\$6,000	\$18,065	\$178,405

^[1] Includes all travel cost associated with the Hillsborough County portion of project.

^[2] Includes all travel cost associated with the Leon County portion of project.

No equipment purchases are planned.

Hillsborough and Leon Counties will be working with R. W. Beck, Inc. and Resource Management Group, Inc. to assist in designing and implementing the program. The Counties request that the full grant amount be funded in order to fully implement the program at all three campus locations for all diversion events. Funding of less than the total amount would be acceptable, however it would require either a scale back in the number of universities participating in the project or an elimination of one or more of the collection events.

Timeline: The project team requests 16 months to complete the project. Because of the importance of a collection/diversion event at the end of the Spring Semester, it is important to extend the grant period slightly.

Task No.	Task/Subtask	Month of Implementation																
		0600	0700	0800	0900	1000	1100	1200	0101	0201	0301	0401	0501	0601	0701	0801	0901	
1.	Project Management	x																
2.	Hillsborough Kick Off Meeting	x																
3.	Leon Kick Off Meeting	x																
4.	Determine Generation Patterns (where, when, what	x	x	x														
5.	Determine Potential Facility Locations	x	x	x														
6.	Determine Potential Collection Methods	x	x	x														
7.	Develop Inventory Methods	x	x	x														
8.	Develop Marketing/Promotional Plan		x	x	x													
9.	Develop Internet Component			x	x	x		x		x		x		x		x		
10.	Fall Semester Pilot Kick-Off Meeting				x													
11.	Advertise/Promote (Collection)					x	x	x										
12.	Set-Up and Manage Swap Sites							x										
13.	Transport Collected Materials to Warehouse							x										
14.	Catalog and Inventory Material							x										
15.	Spring Semester Pilot Kick-off Meeting						x											
16.	Advertise/Promote (Collection/Sale)							x										
17.	Staff Warehouse Location								x									
18.	Set-Up and Manage Swap Sites								x									
19.	Transport Collected Materials to Warehouse								x	x								
20.	Catalog and Inventory Material									x								
21.	Expanded Spring Semester Ending Kick-off Meeting									x								
22.	Advertise/Promote									x		x						
23.	Set-Up and Manage Swap Tents											x						
24.	Transport Collected Materials to Warehouse											x						
25.	Catalog and Inventory Material											x						
26.	Summary Report Development													x	x	x		
27.	Presentation																	x

The FDEP has designated materials generated from schools, community colleges, and universities as a targeted material for the innovative grant program. All the materials diverted through this program would meet this designation. In addition, the program would divert significant quantities of traditional recyclables (mainly cardboard) – which have generally not been targeted for recovery in schools.

Collection of Targeted Materials

Reusable materials become waste when they are disposed instead of offered for reuse. In most universities, students are responsible for waste disposal. Thus, if design collection programs to accommodate student habits we have a good chance of capturing reusable materials. For example, collocating our swap tents at dumpster areas could increase recovery.

Some students, however, abandon usable materials in their dorms when they vacate at the end of a semester. In this case, we will work with the custodial staff or other responsible parties to divert reusable material.

Materials exchanged via DormOutfitter.com will be the responsibility of the buyers and sellers to work out the logistics of the exchange.

Processing

Student labor will perform sorting, inventorying, cataloguing, and estimating value and weight of diverted materials.

Remanufacture

Currently, materials will be reused in their original condition. Broken but fixable materials may be donated to charity, if a partnering charity is interested in performing the repairs.

Market

A critical component of this project will be developing a program to reach students before and after they get to campus. In addition to mainstream marketing concepts (fliers, posters, campus radio spots, etc.), the Project Team is proposing to develop a web-based electronic inventory system that catalogs items available at the schools' DormOutfitter warehouse. The website may also allow direct sales of items to buyers. Because intra-campus trading is more likely to be economically feasible, DormOutfitter.com will utilize search engines or site structure (or both) to segregate materials by location.

ADVANCED TECHNOLOGY OR PROCESS

The project demonstrates advanced technology by capturing materials that have not been targeted for collection previously. We are unaware of any Florida school, college or university that is source separating reusable materials and reselling these materials on campus.

The Internet component of this project utilizes advanced technologies to expand the reach of the program. According to Greenfiled Online, three-quarters of all Internet surfers are now making purchases on the Internet, with 82% of these buying multiple items. We anticipate that DormOutfitter.com will allow direct sales to online customers. If the project partners prefer to see all donated material redistributed for free, we may be able to institute a reservation system. Guaranteed availability is important, so that prospective students may rely on DormOutfitter.com to furnish their dwellings. Thus students may save on transportation costs and time, by purchasing online and avoiding the need to rent a “U-Haul” and transport large items from distant locations.

Greater Quantities of Recovered Material

The project team anticipates great acceptance of the Swap tent collections, warehouse, and Dormoutfitter.com for increasing reuse on participating campuses. In discussing this project with colleagues, every one could recall a story of a “found” vacuum cleaner or salvaged bookcase saved from the clutches of disposal. The DormOutfitter project offers to maximize the efficiency of collection and increase diversion.

How Does the Process Make the Recovered Material More Recyclable?

Reuse is the highest tier of the waste management hierarchy, with complete conservation of the product’s embodied energy. By protecting the recovered materials from weather, organizing collection, and hiring students to inventory and manage drop-offs, we will maintain the highest quality of recovered materials.

The project anticipates that the program will be self-funding after the initial grant period. All three universities have indicated their willingness to continue the program after the grant period. The largest cost to the program is the initial set-up and system development. Maintenance of the system will require a lower level of effort.

Cost of Participation and Ongoing Funding Mechanisms

At the onset, swap tents will be “free” for student to drop or swap. We may experiment with a consignment scenario, where students tag their items with a price - if the item sells within a time period then a percentage is sent to the student. Revenues go into a bank account to fund the program in future years.

Items that are inventoried and warehoused will probably be sold for modest prices. This will enable us to recoup the costs of storing and re-selling items. Selling items will also increase their perceived value, and increase the likelihood of items being re-used again, when the second, third, or fourth generation owner is ready to discard the item.

The economic strategy for items listed on DormOutfitter.com needs to be worked out. Initially listings will be free. We may seek funding through advertisements and keep the free listing service, universities may fund the program based from student activity fees, or we may charge a modest fee for listing items. The programs will be customized for each of the universities based on feedback from on-campus advocates and the ever-changing Internet marketplace.

Initial Population Served

The USF, FSU, and Florida A&M target populations are 10,600, 12,300, and roughly 6,000 resident students respectively. If each resident student utilizes this system for just one item (couch, bed, or a stack of books three feet high), the result would be over 1,000 tons diversion at these three campuses alone for a project cost of approximately \$18.00 per ton. This estimate is based on the number of students living on campus or in associate campus housing. However, an average of 20,000 students at each university (including on-campus and off-campus housing) would have access to the program, which could greatly increase diversion through the program and lower costs per ton diverted.

Furthermore, the DormOutfitter.com may prove to facilitate large exchanges of personal property. If each of these exchanges counts as waste diversion, then the cost per ton will be much lower than calculated above. The ultimate structure and economic impact of the overall DormOutfitter program needs to be field tested, however if the universities support the program in concept but refuse to fund it, revenues from sales may offset the cost of the program. Compared with recycling, resale is a much higher value market for diverted materials.

Marketability Issues

The project team has budgeted for staffed swap booths to reduce the quantity of unmarketable materials dropped into the DormOutfitter program. We will likely accept all materials with even the most remote chance of being reused, and then document if the items move or not. Unpopular items may be donated into programs where they might be more popular (students may be more sensitive to trends than other populations), or recycled if feasible and cost effective.

The project will be fully transferable to all other Florida universities, colleges, and schools.

The DormOutfitter.com site will be easily expandable to accommodate the addition of other colleges and universities. The global Internet makes technology transfer very easy. Once developed, the DormOutfitter.com materials exchange could add universities to broaden the positive impact of the program.

The project team will submit abstracts for presenting project findings at conferences such as Recycle Florida Today's Annual Conference or Issues Forum and/or the National Recycling Coalition's Annual Congress. The project team will prepare an article for submission to a major recycling industry publication. Information about the project also will be posted at Dormoutfitter.com.

This project involves multiple counties and, therefore, meets the “regional programs” criterion. Furthermore, the University of South Florida and Florida State University have campuses in Charlotte, Hillsborough, Pinellas, Polk, Sarasota, and Bay Counties and may self-implement the program in other counties upon completion of this grant program.