

**Recycling and Surplus
Administrative Program Review Report
Site Visit: March 6-8, 2016**

Site Visit Team

External Reviewers:

- Tim Daughtry, Purchasing Specialist, East Carolina University
- Jennifer Maxwell, University Program Specialist, University Sustainability, Appalachian State University
- Robert Riddle, Director, State Surplus Property, NC Department of Administration
- BJ Tipton, Program Manager, Office of Waste Reduction and Recycling, University of North Carolina - Chapel Hill

Internal Reviewers:

- Laura DeWald, Professor, Environmental Science Program, Geosciences and Natural Resources Department, WCU College of Arts and Sciences
- Shawna Young, Director, Marketing and Assessment, WCU Division of Student Affairs

Introduction

Administrative units at Western Carolina University are committed to regular reviews to ensure excellence, productivity and efficiency. As part of this commitment, the Office of Institutional Planning and Effectiveness coordinated a review of the Recycling and Surplus programs. While these programs are managed by different administrative units, a joint review allowed exploration of formal collaborations that might be created due to the natural connections between recycling, waste reduction, waste removal and the identification and management of surplus items.

The recycling program is supported by Grounds and Housekeeping personnel in Facilities Management and in the Office of Sustainability and Energy Management. The program seeks to minimize landfill waste and increase material recycling through awareness and educational programming. The program also tries to maximize income generated from various recycling streams. The surplus property program is supported by the Procurement Office and is responsible for managing items that are no longer needed by the departments or offices that purchased them. Surplus works to rehome, recycle, sell or dispose of these items as waste in accordance with state law and university policies and procedures.

The review team for these two programs was comprised of three external reviewers and two internal reviewers. The onsite portion of the review was held March 6 – 8, 2016 and included the Director of State Surplus Property from the NC Department of Administration as an observer. Interviews were held with the Vice Chancellor for Administration and Finance, the Associate Vice Chancellor for Facilities

Management, Purchasing, the Surplus Property Manager, the Chief Sustainability Officer, Facilities Management Managers, campus stakeholders and collaborators, students, Housekeeping and Grounds staff and included an open Town Hall style meeting where the review team was able to meet with stakeholders who had experience with the recycling and surplus yard sales. An exit interview was held with executive leadership and key stakeholders.

Throughout the visit, the site visit team heard about the importance of sustainability efforts (including both recycling and surplus) to WCU's campus culture. The WCU community is proud of its campus environment and feels that robust recycling and surplus programs are integral to the university's identity. The site visit team divided this final report into two separate sections covering Recycling and Waste Reduction and the Management of Surplus Property. Each section contains observations and recommendations these programs might consider as they strive to continue excellence and to meet their program goals.

Section I: Waste Reduction and Recycling

As stated in the self study, the recycling unit is responsible for waste minimization on campus by diverting items from our trash collections and thus entering the landfill waste stream. Their goals are to:

1. Minimize landfill waste and increase material recycling through awareness and education programming, optimizing collections, staff training and appropriate placement of collection sites
2. Maximize income generated from various recycling streams available to WCU
3. Operate as efficiently as possible given available resources
4. Continually investigate strategies to improve these goals given the ever-changing recycling market that is available to us

Impressions:

The waste reduction and recycling program at Western Carolina University has many strengths and components that have served the University well in regard to meeting the goals stated above. As the WCU grows and the demand for waste reduction and recycling efforts by the campus community expand and evolve, strategic planning associated with solid waste management needs to continue to evolve as well. Participating in the program review process demonstrates a commitment to finding ways to improve the program and this commitment was also evident through comments by individuals and groups with which the team met over the day and a half spent on campus. There is no doubt that the Western Carolina University students and employees support expansion and development of this program as it supports and contributes to an overall dedication to becoming a more sustainable campus community.

Throughout the visit the team met students and staff who were committed to waste reduction and recycling, but who also expressed some frustration with availability of information, infrastructure, equipment, and integrated thinking surrounding this recycling. WCU's Facilities Management Housekeeping Department is actively involved in recycling efforts within buildings by handling the trash

and recycling from employee offices and workspaces. The Grounds “zone teams” collect recycling and trash from walkway receptacles to a central collection point. These zone teams empty the “igloo” recycling stations from outside residence halls and transport bagged materials in pickup trucks to the central recycling drop off site. Grounds operates a two-person trash truck crew and a one-person recycling route. The one-person recycling route includes collection of cardboard from throughout campus and bagged recycling from the academic and administrative buildings. The team consistently heard requests throughout the site visit from all the groups associated with recycling and trash for more staff, better collection areas, and improved collection methods.

Evidence of excellence in resources committed to the waste reduction and recycling program include available warehouse space, a cooler for food waste at the dining hall, and a baler. However, the team also noted several areas the program should address including size of the collection sites for waste and recycling, multiple handling of materials and lack of knowledge regarding recycling. Collection sites for waste and recycling are generally too small and not efficiently set up for the volume of materials being collected. This concern was also expressed by groups handling drop-off and pickup of these materials. Waste materials were regularly placed on the ground, either loose or bagged, and handled multiple times, especially in the case of cardboard. Similar to trash collection, using containers and automated equipment for recycling would make collection more efficient, saves time, and reduces an employee’s interaction with materials. Potential of injury from cuts, bending, stooping, or lifting increases each time materials are handled. Recycling collection like trash collection should utilize tools, equipment and processes that protect workers and minimize unnecessary handling. Throughout the site visit there was evidence of confusion regarding what was recyclable. The team noted that recycling bins were not labeled with instructive information and were often not paired with trash cans. Pairing trash and recycling not only increases collection efficiency, it importantly, joins trash and recycling collection into “waste stations”. Waste stations increase convenience for users and help minimize both contamination in the recycling container and recycling in the trash. Paired bins, together with informative signage, help the user have access to both bins and information needed to make appropriate choices for waste disposal.

Throughout the interviews, the team saw many cases where staff took initiative to improve efficiency of operations. For example, a Housekeeping supervisor pulled together a team of individuals to bale cardboard instead of leaving it to one person, thus working faster and making the job less burdensome. The recycling worker in Grounds who collects cardboard comes in two hours earlier than scheduled to ensure access to the dining hall loading dock before delivery trucks arrive and park while they wait to be unloaded. And, several groups worked together to create a two-color bag solution to the problem of bagged trash and recycling being undistinguishable in the collection corrals.

The team consistently heard the desire from students and employees for a cohesive, well-staffed and publicized waste reduction and recycling program. The team heard that during the design of the dining hall renovation, plans and accommodations were made to allow for the pig farmer’s collection of food scraps and that a cooler was allocated for this. However, when asked about a similar thought process for other types of recyclable materials from the dining hall such as cardboard, no examples could be

given. Students and staff expressed to us that a waste reduction and recycling program is a way for WCU to demonstrate a commitment to sustainability and the environment they love. One person said that a strong waste reduction and recycling program should be a tangible and interactive link to campus sustainability efforts and culture.

Opportunities:

The team identified several additional opportunities that could move the waste reduction and recycling program forward at Western Carolina. The University has already committed resources to the waste reduction and recycling program in the way of a warehouse to support recycling and surplus efforts, a cardboard baler, a garbage truck, a recycling van, collection equipment such as dumpsters and rolloffs, and outdoor space for collection. Staffing resources include Housekeeping and Grounds staff who participate in trash and recycling collections, a Facilities employee who collects bulbs, ballasts, and batteries, and the Sustainability Office which supports outreach and problem-solving efforts. There is significant growth potential in the recycling program given these excellent existing efforts combined with local market availability.

There are funding opportunities that could assist with program growth. For example, increased revenue development is possible through the surplus program once it has been evaluated and enhanced. The student-run Sustainable Energy Initiative (SEI) is another potential source for funding specific waste reduction and recycling projects that are consistent with the sustainability goals of the SEI. There may be an opportunity to explore the creation or adjustment of current billing to include recycling in an integrated waste management rate structure. Similarly, ensuring that heavy waste producers such as Dining, Housing, Athletics, and other auxiliaries are **proportionally** sharing the cost load, either through the auxiliary tax or other rate structure, could help fund an improved system for the campus as a whole.

The team strongly encourages WCU to develop a staff position specifically dedicated to the coordination of waste reduction and recycling. This dedicated position will allow the campus and surrounding community to have one place to communicate with regarding waste reduction and recycling on campus. Responsibilities of this position could include:

- Evaluating solid waste and recycling contracts
- Reviewing efficiencies of and collection staffing needs and making changes where needed
- Evaluating logistics and space requirements and making recommendations for improvement
- Keeping up-to-date with market values, revenues, and market requirements
- Managing collections, bin placement, consistency in containers, co-location of recycling and landfill containers, and proper labeling to support WHEE Recycle efforts
- Collaborating with the Office of Sustainability and Energy Management to develop information/education/outreach plans targeting faculty, staff, and students
- Maintaining relationships with campus partners and developing plans for continuous communication and collaborative problem solving (sustainability, housekeeping, grounds, surplus, housing, dining, athletics, and so on)

The team also encourages the recycling collection strategy by the Grounds unit to be re-evaluated. There are several directions that could be taken. While the team is not recommending one strategy over the other, safety and efficiency concerns are significant and should be priorities in decision-making. For instance, the recycling route is currently the responsibility of one person. There appears to be little backup training for others to run the recycling route(s) when the recycling worker is out. In these cases recycling either does not get picked up or other employees have to leave their jobs to cover the recycling route. When the recycling route is running behind, the piles of recycling get in the way of both housekeeping and the trash collection crew. For the cardboard route, handling cardboard multiple times is not only inefficient, it requires excessive lifting, bending and twisting. Similarly, there are times when the recycling collection requires lifting heavy bags of glass that can break and cause back and shoulder injuries.

Ways to improve safety and efficiency include adding staff to create a two-person collection team for recycling, creating a waste management team within Grounds that can provide backup to one another and focus on all outdoor waste collection (trash and recycling), or modernizing collection equipment and strategies to be less labor intensive—especially for cardboard collection. By hiring an additional recycling worker or creating a solid waste handling crew (trash and recycling), workers would be cross-trained and could cover the routes when others are out—trash and recycling. Using automation or containers for collection would cut down on the number of times materials have to be handled. For instance, carts can be rolled onto a lift gate truck cutting handling to and from the truck. Similarly, the lift gate can be used to empty carts using gravity into rolloffs. Larger scale automation and containers such as dumpsters for cardboard collection may result in a loss of revenue, but could cut both staff hours and staff injury exposure. Carts that can be used with tippers/tipper trucks can be used for mixed recycling at residence halls and academic and administrative buildings. By reaching out to other UNC system schools, there are opportunities to obtain surplus equipment for use with little upfront expense. A combination of these approaches could result in the optimum implementation for WCU.

The team also recommends a more formal process be developed for design guidelines, design reviews, and systems thinking regarding waste management. A more holistic approach to the overall management of campus waste will ensure improved operations regarding safety, efficiency, and effectiveness. Development of a strategic plan specifically for waste reduction and recycling planning will help ensure best practices and efficiencies associated with waste handling are included in new buildings, renovated spaces, and areas with particular challenges with regards to waste handling such as dining facilities.

With a renewed focus, additional resources and the creation of a solid waste program manager/recycling coordinator, there is an opportunity to do a waste assessment and set recovery goals (recycle, reuse and surplus) based on the composition of the waste stream and commitment of staff and resources to new or expanded programs.

Other Observations:

Waste Management Operations and Collections

1. When logistics interfere with recycling collection the accumulating bags block accessibility to dumpsters for trash deposition and collection. Investing in containers dedicated for cardboard and recycling such as additional dumpsters, carts, or otherwise modifying enclosures to provide adequate storage for waste materials and adequate access to both recycling and solid waste will improve efficiency and safety.
2. The team noticed an opportunity to create design standards for integrated waste handling systems for renovations and new constructions—creating a holistic approach to waste management and efficient collection systems for materials other than just trash.
3. The Dining Hall’s trash and recycling storage location is also used for routine deliveries and access to the dock is regularly blocked by delivery trucks waiting to be unloaded. Coordination with the Dining Hall management team to schedule dock access for trash and recycling pick up activities will eliminate this problem.
4. Combining trash and recycling pick up with landscaping responsibilities may create problems with trash fouling landscaping tools when both are stored in the beds of Facilities pick up trucks. The university may want to consider having separate work teams handle the trash and recycling pick up and the landscaping responsibilities.
5. Worker health and safety is a significant concern. Large bags containing mostly glass bottles are common in the residence hall igloo containers. These bags are heavy and are transferred manually to the rolloff container from the igloo containers. Lower container access helps, but the bags are still difficult to maneuver. The team suggests consideration of containers or collection strategies that address worker safety and prevent injury. Possible solutions include greater access to lift-gate trucks, lowering the roll-off height (sides or recessing the container), and the use of different collection equipment such as carts.
6. The current collection strategy for cardboard, especially at the Dining Hall, is inefficient and challenging for a single person to manage. Given the Dining Hall’s production of cardboard waste, the purchase of a cardboard baler could significantly improve cardboard pickup. Additionally, the grease collection container could be moved to allow better access for cardboard collection. The financial investment will pay off with collection efficiencies and injury prevention.
7. With only one trash truck and no backup truck, workers have to pull bags of trash out of the dumpsters by hand and load them onto a flatbed truck. Having a second trash truck that could be used for cardboard collection would also provide a backup truck when one or the other of the rearload trucks are down or in for routine service.
8. An additional recycling rolloff at the landfill will permit bottles, cans and trash to be dumped at the same time.

9. Co-locating trash and recycling bins would reduce collection sites and improve efficiency.
10. Consolidation of the recycling of universal waste (batteries, bulbs, etc.) with recycling coordinator responsibilities or 'move team' duties could improve efficiency.

Outreach and Education

1. There is an immediate opportunity for program branding and descriptive labels for recycling bins. Branding, or creating an intentional and connected look for a program, makes the program more recognizable and can tie the program to the overall campus image. A professional image to signage and program materials adds a feeling of permanence and credibility that further encourages use, educates the campus community, and increase participation and confidence in the program. Additionally, there is an opportunity to color code the collections systems in order to differentiate recycling, composting, and landfill. The consistency across campus really allows further success and ownership of the program.
2. Contaminates should not be sorted from recycling by those picking up the recycling. Heavily contaminated bags should be discarded as solid waste. To minimize contamination of recycling bins, waste reduction and recycling outreach for the campus community at large, including training all employees who collect recyclable materials, is necessary. It is also important that collection bins are labeled to identify materials that are accepted.
3. Several groups the team met with suggested that the university could consider incentivizing participation in recycling and waste reduction efforts on campus. In part, this could be as simple as by providing feedback to departments and acknowledging how their work contributes to university waste reduction and recycling goals.

Conclusion:

Even with limited resources, staff and funding, the dedication that Western Carolina has shown toward recycling and sustainability is to be commended. The desire to move beyond the current program limitations was evident with every interview the team conducted. This program review is evidence that the administration is taking a holistic approach to organization and program development for future growth. It is the team's hope that this report has highlighted some of the current strengths as well as clearly identified staffing and program needs, immediate and long-term opportunities, and areas for increased planning toward thoughtful and integrated program expansion.

Section II: Surplus Property Review

Impressions:

The Surplus Property program is housed within Procurement and Accounts Payable and is primarily supported by the Surplus Property Manager/Administrative Support Associate. The Surplus Property program serves as the 'end of life' for property purchased at WCU where property considered no longer useful is re-purposed, recycled or disposed of. The transition of property identified as no longer useful to a campus unit and the repurposing or disposal is meant to be timely and efficient, and to be done in accordance with regulations in place by the NC Department of Surplus Property. Timeliness of repurposing or disposal was listed in the self-study as an indicator of quality.

The management of Surplus Property, while the responsibility of the Procurement and Accounts Payable department, receives considerable support from other departments on campus. Housekeeping and the Grounds Crew are primarily responsible for pick up and transportation of non-technology surplus items. IT picks up and repurposes computers and other technology related equipment. The University Police Department provides security and parking assistance during the monthly surplus sales. The Surplus Property program uses warehouse space co-located with Housekeeping.

The Surplus Property program does not seem to be operating under a strategic plan and does not appear to have a formal assessment process other than the self-study mentioning feedback from informal conversations from program participants and looking at best practices at other universities to improve the services of the program. The self-study indicates that the cost effectiveness of the Surplus Property program has never been addressed. Information regarding revenues and expenditures for the last three years was not included in the self study. While budget documentation was not available, the site visit team assumes the program must be generating revenue from the monthly yard sales and other sales of surplus materials.

Opportunities:

Despite limited resources, the Surplus Property program is capable of generating significantly more revenue which could be an important source of funding for improving the Surplus program and

supplementing WCU's recycling efforts. A strategic planning process that includes campus and community partners would be a great way to establish goals and pathways for the Surplus Property Program to meet these goals. This process should identify ways to improve accountability, transparency and ownership of the surplus process by the unit and its partners.

The site visit team feels that improved communication should be a priority for this unit. As indicated in the unit's self-study, there are opportunities to better communicate property availability to campus constituents as well as ways to streamline the identification, pickup and delivery of surplus property to the warehouse for sale or disposition. The site visit team heard from staff who were confused about state and campus surplus property policies and procedures. This lack of understanding can easily be alleviated by consistent and clear communication of NC Department of Surplus Property regulations to campus partners and the creation and dissemination of campus policies pertaining to surplus property.

Another area of confusion by faculty and many staff is associated with processes for pickup. The site visit team learned that in many cases surplus property is simply moved into building hallways. For collection, staff from one of the Housekeeping teams is tasked with removal of the items as time permits. When paperwork is not completed in a timely manner (or at all), items sitting in the hallways are often moved to other locations and thus are not in the expected location when the work order is completed, thus necessitating multiple trips to pick up surplus. Another issue of concern is hazard clearance and risk management associated with handling material with biohazards. It is a significant safety concern for staff to be moving surplus property that has not been decontaminated or checked for biohazards.

Recommendations:

1. Take advantage of campus support

Even though the current Surplus Property program appears to lack vision, it has substantial support from other areas on campus. We encourage the program to leverage this support during a strategic planning process. The visiting team heard many different approaches and ideas to improve campus surplus activities during the site visit. It will be important to include campus partners to capture these ideas in future planning. As a vision is articulated, there is a need to clarify who is ultimately responsible for WCU's Surplus Property program and create a team within Finance and Administration to support those efforts. Ultimately there is a need to identify the key players (or team), clearly document their responsibilities, and hold personnel accountable and document processes.

2. Take advantage of resources and knowledge at the State and UNC system level

Not only are there best practices that can be learned from other UNC institutions, the State Surplus Property Agency offers monthly onsite training to keep agencies and university staff up to speed on the latest processes and procedures in the management of surplus property. Once the Surplus team has been identified and an accountability structure created, consider sending members of the team

to Raleigh for training or to other schools with similar physical campuses and strong surplus programs for site visits. Membership in the national University Surplus Managers Association could also be of value.

3. Policies, procedures and communication to campus customers

As the WCU Surplus Property management staff becomes more knowledgeable of state policies and procedures, they should begin documenting and creating internal policies and procedures that supplement and support State guidelines. Consistent and clear communication of policies and accessibility of guidelines will help alleviate concerns, clarify expectations and garner good will with campus constituents. Such procedures should address several areas:

- Customer's responsibilities prior to pickup such as asset management tracking, cleaning and preparation of equipment for pickup, where the equipment will be stored while waiting for pickup, any associated fees, paperwork and forms.
- Collection procedures such as how customers are to request pickup of surplus property, how long it may take for pickup, who will be picking up equipment, etc.
- Frequently asked questions such as those related to funding and reimbursement to the department after the sale of the equipment, data destruction on computer equipment, how surplus property is sold, who can purchase, and other terms related to the sale or disposition of equipment.

4. Develop tracking and inventory procedures

There does not seem to be a system in place to accurately track and monitor surplus property and thus there is a lack of accountability.

- Co-location of the Surplus Property Manager with the surplus property will help monitor surplus property. This could be achieved by moving or creating an office space within the warehouse where the property is stored. WCU is the only UNC System institution that does not locate the Surplus staff with the physical storage of surplus property.
- Many campuses use online surplus tracking systems to monitor inventory and provide accountability. WCU should consider incorporating software to support surplus operations. For example, ECU, UNC Chapel Hill, UNC-W, and Duke University utilize a system from Web Data Corporations which seems to be effective for these institutions.
- WCU should measure and seek to minimize the length of time items stay in surplus circulation. Turn rate, which is the length of time from when an item is sent to surplus until disposition (by sale, recycle, transfer, trade in, or disposal), is an indicator of unit quality and provides program transparency. Although this is recognized as important by the Surplus team, there is no evidence turn rate is being consistently and routinely tracked.
- The unit should include surplus diversion in the overall campus recovery rate, which is considered a standard and best practice for surplus property operations.

5. Operate surplus sales to generate revenue

WCU currently uses a monthly sale as an effective way to recycle surplus property and make room in the warehouse for additional surplus. However, the site visit team also heard from campus partners that weekday surplus sales can be a safety hazard requiring a police presence due to large crowds which are also disruptive to normal operations. These large crowds also increase the likelihood for surplus and non-surplus items to 'walk away'. Recommendations regarding surplus sales include:

- Explore using the state surplus bulk sale website to move material in a more timely manner. The bulk sale option could also be a different model for computer and other technology sales which will maximize profit.
- The review team heard that the sale price for computers and other technology items is very low. While the low sale price makes these items attractive and affordable for campus and community members, the site team learned that some technology items such as computers are being resold at surrounding flea markets at higher prices than they are being sold for at the surplus sale. It appears the selling price of these items should be reviewed and adjusted to better reflect their value.

Conclusion:

The Surplus Property program, with effort, can become an efficient and transparent program that generates revenue for the university. The administration's commitment to progress is shown in this program review process. The site visit team has worked to identify best practices and highlight areas where improvements will create significant, positive change in the way surplus property is being managed at WCU.