

# Lawrence University Sustainability Strategic Plan

## Part One: Operations

### Introduction

Lawrence's strategic plan, *Veritas est Lux* (2017-2022), outlines the university's ambition to firmly establish a culture of sustainable living and decision making by integrating sustainability goals across all aspects of the Lawrence experience. The most commonly accepted definition of sustainable development is outlined by the 1987 Brundtland Commission Report to the United Nations:

*"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

Lawrence will use this foundational definition in setting its own sustainability goals. Breaking sustainability down into its three supporting components, Lawrence will focus on cost savings and reinvestment (*economic*), resource management and conservation (*environment*), and changing social norms directly through formal education and indirectly by using campus as a living laboratory (*social*). Using these principles, we will develop a two-part Sustainability Strategic Plan. This document is Part One of the strategic plan, which focuses on campus operations. Part Two will focus on sustainability in the curriculum, co-curriculum, community engagement, and communications. We have chosen to develop the plan for operations first to set initial benchmarks and begin making improvements and track long-term savings. Part Two will be developed in AY19-20.

### Background

Lawrence has long worked to be a responsible steward of the environment. Lawrence's identity is strongly tied to its geographic location in Appleton, Wisconsin. Situated along the banks of the Fox River, Lawrence has one of the oldest Environmental Studies programs in the country, first established as an interdisciplinary area nearly 40 years ago. In 1970 a two-year Environmental Taskforce was commissioned and prepared a report with recommendations that included increasing recycling, purchasing more products made from recycled material, and conserving energy through temperature set policies. Sustainability efforts were reinvigorated in 2008 with the launch of *Green Roots*, a presidential committee organized to promote environmental awareness in response to national concern for the environment. This committee operated until 2013.

A new presidential committee established in 2017, the Sustainability Steering Committee (SSC), has again begun to work to implement new infrastructural and programmatic initiatives and to increase awareness of Lawrence's longstanding sustainability efforts. The committee's charge is included as Appendix 1 and its mission statement, drafted by Green Roots (2008) but still used today reads:

*"To establish an institutional framework within which we can cultivate habits of mind and dispositions that lead to ecological intelligence and environmental sustainability."*

The starting block for these reinvigorated efforts was a sustainability grant gifted to Lawrence by Margaret A. Cargill Philanthropies. As described in the grant proposal, it is our vision that Lawrence's campus will be a living laboratory for students, faculty, and staff in which (1) we can learn how to be responsible and active environmental stewards and (2) sustainability issues are highly considered in all campus decisions. The strategies and goals put forward in this document

will be shepherded by the Sustainability Coordinator and ultimately implemented by the appropriate departments or relevant entities. Through routine review of these goals the SSC is responsible for holding parties accountable for carrying out this strategic plan. In addition, the Sustainability Coordinator and SSC will track and report progress to the Lawrence community.

Recognition of human impact on our environment and climate system in the past decade spurred action at many colleges and universities leading them to establish goals of carbon neutrality, zero waste, and local sourcing of foods. Broad engagement by institutions across the country also led to the formation of the Association for the Advancement of Sustainability in Higher Education (AASHE). Through AASHE, colleges and universities share data, strategies, and best practices for achieving sustainability goals. They also report data to organizations like the Sierra Club and The Princeton Review, which use that data to publish rankings of “green” schools. In 2018, The Princeton Review revealed that nearly two-thirds of students said having information on a college’s commitment to the environment would influence their decision to apply or attend the school.

This strategic plan for operations outlines seven focus areas which broadly cover the environmental impact of campus. They are: energy, water, solid waste, transportation, dining, buildings, and grounds. The AASHE Sustainability Tracking, Assessment, and Rating System (STARS) tool is used to guide strategic objectives within these focus areas and to track progress. STARS is comprehensive in its approach and is the industry standard in sustainability benchmarking and assessment for colleges. In developing the following goals and strategies the committee worked closely with colleagues from Facilities Services, Campus Services, Campus Life, as well as the President’s Office and Cabinet. The goals put forward in this document will substantially reduce the impact of its operations by 2025.

The success of this plan is dependent upon the participation of the entire campus community. The overriding sustainability goal in the University’s strategic plan, *Veritas est Lux* (2017-2022) is to “...enhance a culture of sustainable living by integrating sustainability goals across all aspects of the Lawrence experience.” Faculty and staff can practice sustainability in their work place and model environmentally responsible decision making to our students. Students will be presented with the opportunity to make more conscious decisions every day, helping us to achieve our goals and preparing them for the global issues they will face after graduation. We expect that each member of the campus community will take seriously this commitment and we, in turn, challenge everyone to participate fully in realizing the goals that follow.

### **Overarching Goals for 2025:**

- Achieving an AASHE STARS ranking of Silver and score at least 50 points.
  - Energy-Reduce total campus energy consumption by 15% of the 2013-17 average.
  - Waste-Achieve a waste diversion rate of 50%.
  - Water-Reduce campus-wide water usage by 10%.
  - Grounds- Develop a landscape management program, which reduces invasive species, exogenous chemicals, and water use.
  - Buildings- Operate and maintain campus buildings in accordance with published university sustainable operations and maintenance guidelines.
  - Transportation- Increase the percentage of students, faculty and staff that use public or alternative forms of transportation
  - Food- Source 30% local food according to Bon Appetit’s Farm-to-Fork program guidelines and decrease waste in dining operations.

## Energy

### I. Introduction:

Lawrence University uses two primary sources of energy—electricity and natural gas. Both commodities are purchased through a utility provider, WE Energies. The use of fossil fuels results in the release of greenhouse gases (GHGs) such as carbon dioxide (CO<sub>2</sub>) as well as other pollutants. GHGs are known to contribute to global climate change. By replacing aging infrastructure, installing more energy efficient technologies, and promoting conservation Lawrence can reduce energy consumption and greenhouse gas emissions to decrease its carbon footprint and save money.

### II. Goals:

Goals	Strategies & Tactics
Reduce total campus energy consumption (Combined BTUs of electricity and natural gas) by 15% of the 2013-17 average	<ul style="list-style-type: none"><li>• Enter Performance Contract with JCI</li><li>• Develop an energy management or benchmarking program</li><li>• Conduct energy reduction competitions 1-2 times per year</li></ul>
Reduce net greenhouse gas emissions for main campus lighting and HVAC by 15% of the 2013-17 average.	<ul style="list-style-type: none"><li>• Work with a partner to purchase Fox River hydroelectric power</li></ul>
Explore carbon neutrality at Björklunden	<ul style="list-style-type: none"><li>• Conduct a renewable energy feasibility study</li><li>• Conduct carbon sequestration study and develop land management plan</li><li>• Enact energy conservation measures in lighting and HVAC</li></ul>

### III. Context and Past Successes:

Over the past 12 years, Lawrence has reduced its overall energy consumption by about 10% and its GHG emissions (measured in CO<sub>2</sub> equivalent) by about 5% through techniques such as installing more efficient lighting fixtures and upgrading HVAC systems (Figure 1). A more detailed breakdown of energy consumption is shown in Figure 2, which indicates that the leading cause for energy and emissions reductions has been a reduction of natural gas use. Despite electricity efficiency improvements the introduction of more air-conditioned space and more demanding IT infrastructure has caused electrical use to remain flat.

Lawrence's renewable energy portfolio includes a 50-kilowatt wind turbine at Björklunden and two solar arrays (Hiatt-20 kW, Youngchild-2.92 kW) on the main campus. Lawrence has the potential to increase the amount of energy coming from renewable sources.

In spring of 2018, Lawrence commissioned a comprehensive energy audit for the main campus buildings from MEP associates. MEP outlined recommendations for improvements in energy efficiency and water conservation across campus and the Facility Services staff has culled the most promising of those for implementation by 2020.

Based on historical data, Lawrence was able to reduce its energy usage by 10% over a 12 year period. With concerted effort, we feel that Lawrence can reduce campus energy usage by an additional 15% of the 2013-17 average (91.31 MMBTU/1000 sqft) by 2025.

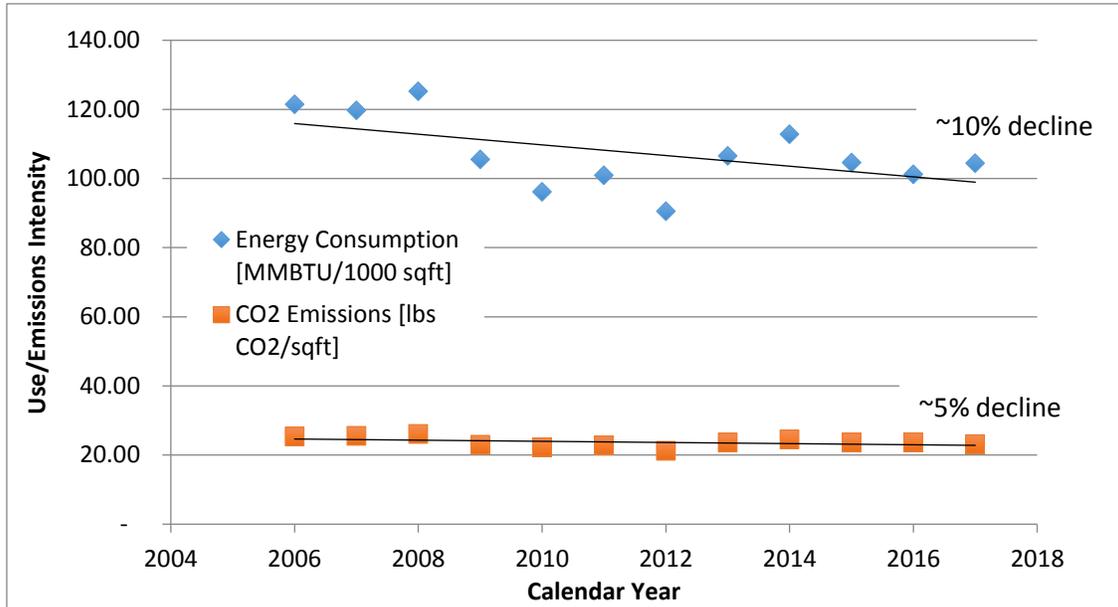


Figure 1. Energy use and emissions data 2006-2017

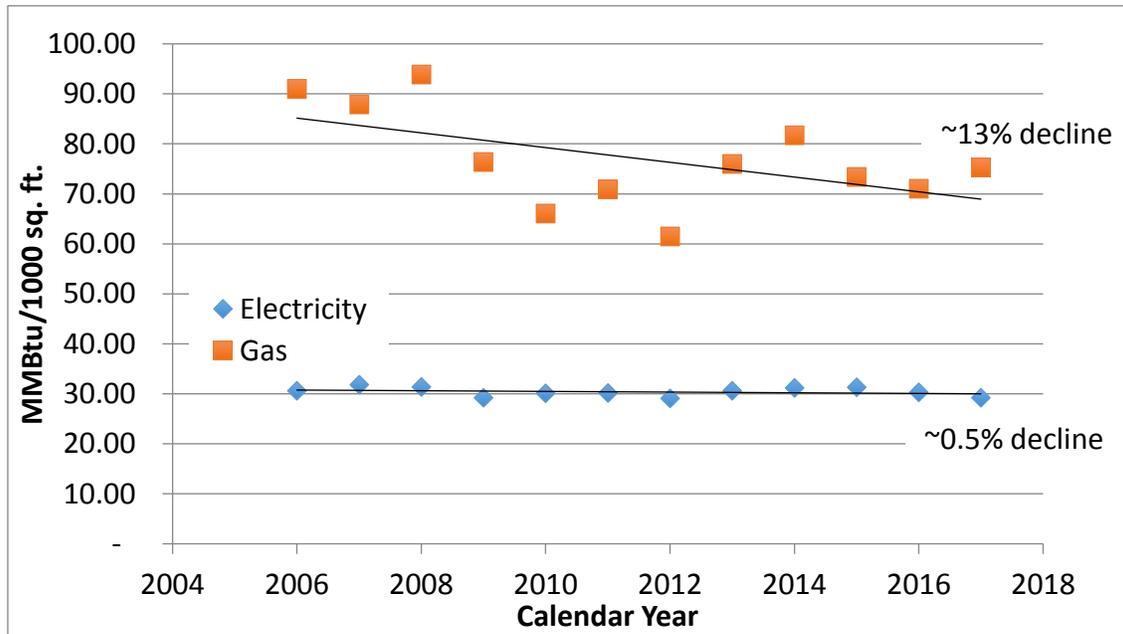


Figure 2. Energy use in form of electricity and natural gas

Additional Achievements:

- Real-time electricity meters have been added to 12 campus buildings.
- All Chapel lighting was converted to LED (2018).
- Chapel ceiling was reinsulated (2018).
- Ormsby hall renovations included upgrades to LED lighting, occupancy sensors, efficient water fixtures and new insulation (2018).
- Sage loft and entryway renovations and LED conversions (2018).
- Ecolympics energy competition averaged a 1% reduction in use over 1 week period (2018).
- Music-Drama lighting replaced with LED (2017).

**IV. Key Stakeholders**

- Director of Facility Services
- Construction Manager
- Vice President for Finance and Administration

**aste**

**I. Introduction:**

Lawrence contracts with Waste Management for trash and recycling removal on campus. Proper waste management employs three fundamental strategies – reduction, reuse, and recycling – to decrease and divert the amount of landfill material generated by the university. Waste diversion is not only better for the environment, but it also saves money. Tipping fees for recyclable material are less than half that of trash.

**II. Goals:**

Goals	Strategies & Tactics
Increase waste diversion <sup>1</sup> rate from 34% to 50%	<ul style="list-style-type: none"> <li>• Develop a method for measuring the waste leaving campus to better track reduction strategies*</li> <li>• Conduct a waste-audit every other year</li> <li>• Host a zero-waste event each year</li> <li>• Develop a consistent university goods exchange/swap program</li> <li>• Participate in RecycleMania annually</li> <li>• Pilot a residence hall composting program</li> <li>• Integrate recycling education into welcome week activities and RLA training</li> </ul>
Divert 70% of all dining and catering waste**	<ul style="list-style-type: none"> <li>• Develop a system to consistently track food waste</li> <li>• Divert post-consumer food waste from the landfill</li> <li>• Implement composting program for the Café</li> </ul>

<sup>1</sup>Defined as weight (or volume) of recyclables divided by the sum of waste and recycling weights (or volumes).

\*Estimated 10-15% reduction in waste hauling fees (~10,000/year).

\*\*Contingent on contract negotiations with food service provider.

### **III. Context and Past Successes:**

Lawrence has two major waste streams, trash and recycling. Special streams such as compost and battery recycling are available in specific locations on campus. Lawrence has a single-stream recycling system where all recyclable materials go into one bin rather than having to be separated by type (paper, glass, plastic, etc.). This system can be convenient for users because no extra effort in sorting is involved. However, a lack of uniform and clearly labeled trash and recycling bins on campus led to confusion about which container was for waste and which was for recycling. Waste audits conducted in academic and residential buildings revealed that in some buildings contamination rates exceeded 50% (with one residence hall exceeding 80%). This led the Sustainability Steering Committee to purchase new trash and recycling stations as a first step in addressing the problem. An additional audit conducted after the installation of the new trash and recycling stations demonstrated that just by installing clearly marked containers contamination rates could be reduced by nearly 20%. In total, the committee purchased 50 indoor containers and 5 outdoor containers for major campus buildings and specified outdoor locations. The bins were purchased with funding allocated for infrastructure improvements through the MACP grant Lawrence received in 2017. The committee also provided small recycling bins in each residence hall room.

The committee also initiated the process of drafting a waste policy for the university. The document (Appendix 3) outlines guidelines for ongoing recycling and waste reduction programs, introduces new procedures and identifies points of contact regarding waste and waste removal on campus. The policy was approved by the President's Cabinet in the fall of 2018 and is posted on the Sustainable Lawrence website.

An area that continues to be a challenge is the lack of data regarding the weight volume of trash and recycling leaving campus. Lawrence currently contracts with Waste Management to tip trash and recycling dumpsters on a schedule, regardless of how full they are. The inability to identify a decreased need for trash tipping is preventing potential cost savings, as the cost for tipping a recycling dumpster is less than a trash dumpster.

Given the 20% decrease in contamination rates after the pilot and installation of new, clearly marked trash and recycling stations, we feel that Lawrence can achieve a waste diversion rate of 50% by 2025 with additional waste reduction and recycling education.

#### Additional Achievements:

- A partnership between Bon Appetit and SLUG allows 900 lbs. of pre-consumer kitchen scraps to be diverted from the landfill and composted each week.
- Tray-less dining in Andrew Commons discourages food waste by only allowing users to take as much food as their plate can carry, rather than a full tray.
- Reusable clamshells are available to take food out of Andrew Commons.
- Bottled water is not sold in the Warch Campus Center to discourage use of single-use plastic.

- Discounts are available to those that bring their own mug to Andrew Commons or the café.
- Unwanted clothes, furniture and other items can be donated to local thrift stores during move-out. Donation bins are made available in the lobby of all residence halls.
- Batteries and e-waste can be recycled/properly disposed of at the Info desk.
- Food Recovery Network collects and redistributes 220 lbs. of food each week.
- Hand dryers installed in the Warch Campus Center and Chapman Hall reduce paper towel waste.
- A residential compost program is currently being piloted in the residence halls.

#### IV. Key Stakeholders

- Bon Appetit
- Director of Campus Services
- Custodial Services Supervisor
- Director of Facility Services
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### Water

#### I. Introduction:

Although the Great Lakes region has an abundance of fresh water, access to potable water is a major issue worldwide and Lawrence must work to steward this natural resource. Lawrence University must work to reduce water usage by upgrading aging infrastructure and improving efficiency and encouraging water conservation.

#### II. Goals:

Goals	Strategies & Tactics
Reduce campus-wide water usage by 10% of 2013-2017 average*	<ul style="list-style-type: none"> <li>• Install low flow fixtures upon replacement of old (toilets, shower heads, sinks, washers)**</li> <li>• Install waterless urinals upon replacement where appropriate</li> <li>• Install water efficient washing machines and dishwashers upon replacement</li> <li>• Install aerators on all campus faucets where appropriate</li> <li>• Develop a water management or benchmarking program</li> <li>• Integrate water conservation into welcome week activities and RLA training</li> </ul>

\*Savings of ~\$30,000 per year

\*\*As required by code

### III. Context and Past Successes:

Due to upgrades of facilities during renovation, Lawrence has reduced its water usage by nearly 20% from 2013 to 2017 (Figure 3). We feel that Lawrence can reduce its water consumption by an additional 10% of the 2013-17 average (23,733 gallons) by 2025 by promoting water conservation practices and continuing to replace fixtures with low flow alternatives during building renovations. For example, the bathrooms in Ormsby received updated, low flow fixtures during a renovation in 2018. Fixtures and appliances labeled with the WaterSense label, which use 20% less water than conventional products, should be considered during all renovations. As with energy, conservation effort should always be sought prior to or alongside infrastructure improvements. At Lawrence, this means educating the faculty, staff and students who are dependent on Lawrence's water infrastructure every day on how they can contribute.

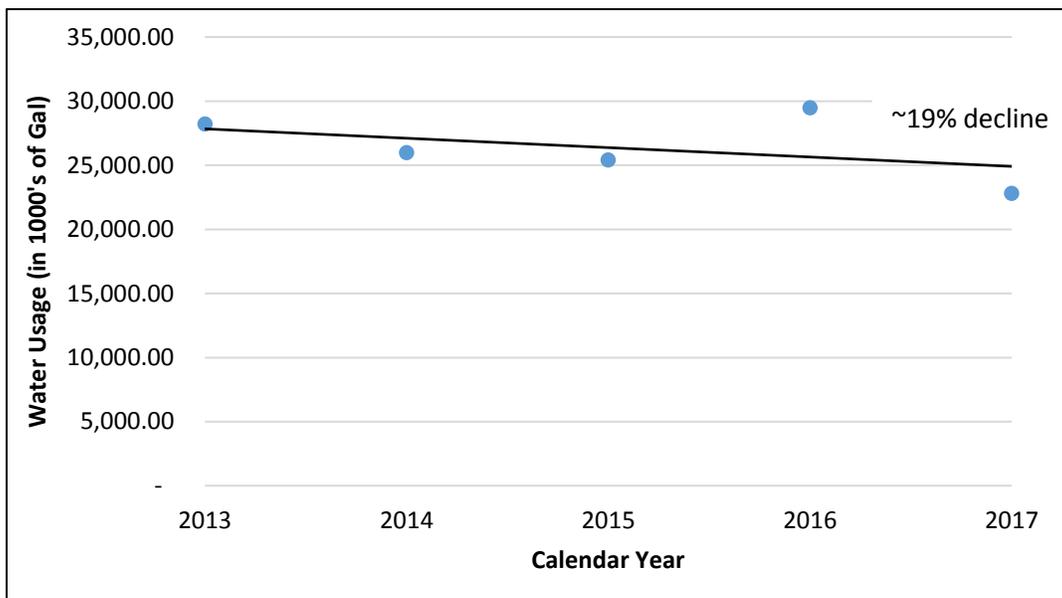


Figure 3. Water use data 2013-2017

#### Additional Achievements:

- Native or ecologically appropriate plants used in landscaping require minimal watering.
- Trayless dining in the campus center saves on dishwashing (2009).
- Waterless urinals in the Warch Campus Center save 1 gallon per flush (2009).
- Bathroom renovations in Ormsby, Colman and Sage included upgrades to low-flow fixtures (2018).

### IV. Key Stakeholders

- Director of Facility Services
- Campus Life

## Grounds

### I. Introduction

Located in an urban center sharing boundaries with downtown Appleton, a residential neighborhood, and the Fox River. Lawrence’s physical grounds offer opportunities to experience nature, compete in athletic events, performances, gatherings, and space for rest and relaxation. The landscape must also provide necessary functions such as storm water management and transportation services. Lawrence University must work to maintain the aesthetic of its physical campus grounds, including Björklunden, while implementing and maintaining low-impact landscape practices.

### II. Goals

Goals	Strategies & Tactics
Develop a landscape management program, which reduces invasive species, exogenous chemicals, and water use	<ul style="list-style-type: none"><li>• Develop an Integrated Pest Management (IPM) plan to increase the percentage of campus grounds managed without the use of inorganic fertilizers and chemical pesticides, fungicides and herbicides</li><li>• Formalize commitment to prioritize native and ecologically appropriate plants</li><li>• Decrease the amount of managed turf area by converting to low-mow or no-mow grass</li><li>• Reduce square footage of snow removal areas</li><li>• Develop a plan for removal and eradication of invasive species</li><li>• Convert SLUG to drip irrigation</li><li>• Utilize storm water infrastructure in all campus projects</li></ul>

### III. Context and Past Successes

Lawrence takes pride in its physical grounds. The diverse selection of trees on Main Hall Green are thoughtfully maintained to create a natural front entrance to campus. A riverwalk along the Fox River is a natural area maintained by the university and is open to the public. In 2016, 305 acres of Lawrence’s northern campus, Björklunden, was signed into a conservation easement preserving the property from any future development. In the past five years, Lawrence has worked with a landscape architect to create a campus landscape framework and has begun to establish landscape and design standards. Lawrence’s campus grounds team works to implement an institutional plant pallet of native or ecologically appropriate species to create a sense of cohesion on campus while limiting water use. Application of pesticides, herbicides and fertilizers is minimal, and outsourced to TruGreen™ on an as-needed basis.

Lawrence has also chosen not to implement a formal irrigation system for watering landscaping (with the exception of some athletic fields and SLUG). Sprinklers will occasionally be used to water new grass in the spring or after a campus renewal project but this is a temporary measure

that is utilized only until the new grass has seeded. Athletic fields are irrigated to provide a safe playing surface; however, the addition of artificial field turf at the Banta Bowl has reduced the overall irrigation burden in athletics.

It is important for Lawrence to consider the full ecological effect of campus grounds decisions due to the campus’s close proximity to the Fox River. The products used on our grounds have the potential to flow into the river and impact water quality. Improved storm water infrastructure is also integral in meeting this goal. Slowing the flow of water after rainfall allows more time for water to be filtered through the soil and decreases pressures on the public storm water system.

Given Lawrence’s recent steps towards developing a campus landscape framework and implementing ecologically appropriate plants, we feel that Lawrence will be able to formalize these practices and utilize them in the planning of new campus projects.

Additional Achievements:

- Planting perennials instead of annuals has cut down on labor and water usage.
- Fertilizer application is limited to 1-2 times per year.
- Irrigation is only utilized for new plantings, athletic fields, and SLUG
- Artificial turf surface at Roberts Field has reduced the need for watering, fertilizing and pesticide application.
- The Green roof on top of the Warch Campus Center reduces storm water run-off.

**IV. Key Stakeholders**

- Director of Campus Services
- Assistant Director of Campus Services – Grounds

**Buildings**

**I. Introduction:**

This section refers to the built environment or the physical infrastructure on our campus. The built environment is a confluence of resources that include materials, water, and energy. The way Lawrence manages those resources has a significant impact on its carbon footprint, health, and productivity. In existing buildings this includes considering ongoing operations and maintenance with regard to purchasing, chemical use, and resource conservation. In new construction (including renovation of existing spaces) it includes considering location, design, materials, fixtures, and mechanicals. Lawrence can decrease its environmental footprint by paying close attention to materials used, and the performance of campus infrastructure.

**II. Goals:**

Goals	Strategies & Tactics
Operate and maintain campus buildings in accordance with published university sustainable operations and maintenance guidelines*	<ul style="list-style-type: none"> <li>• Develop a retro-commissioning plan for main campus buildings</li> <li>• Train key Facility Services staff on LEED</li> </ul>

\*For required policies, see Appendix 2 and AASHE STARS OP 3 and OP 4

### **III. Context and Past Successes:**

In 2009 Lawrence revealed the Warch Campus Center, which was built and certified as a LEED Gold building by the U.S. Green Building Council. The building has many noteworthy features including locally sourced building materials, low flow toilets and fixtures, expansive daylighting and a green roof. Though Lawrence has not built a new building since 2009, it has grown more sustainability-conscious in its design decisions. Examples to cite include Lawrence's transition to Interface carpeting, a product made from recycled materials that can be replaced in sections rather than replacing a whole room, as well as efforts to incorporate more daylighting strategies into the new Brokaw Central wing of Brokaw Hall. Lawrence has also explored temperature set policies at least twice in the past to try to keep energy usage low.

Retrocommissioning is a vital process for the maintenance and performance of a building. Retrocommissioning is the evaluation of a building's systems and how well they are working and functioning together. This process can resolve problems that occurred during construction or address problems that have developed throughout the building's life as equipment has aged or usage has changed. Leadership in Facility Services has been discussing the need to increase the frequency at which buildings are retrocommissioned and to set up a schedule for all buildings on campus.

In 2011, the president's cabinet approved a building policy which specified that the design and construction of campus projects should meet the LEED Silver standard (Appendix 2). Although the desire for LEED Silver projects appears in our RFPs and are included in early design stages, they are invariably value engineered out. We feel that Lawrence can strive to uphold this policy and operate all buildings according to university-determined sustainable guidelines by 2025.

#### Additional Achievements:

- The Warch Campus Center is certified as a LEED Gold building by the USGBC.
- The library was partly retrocommissioned in December 2015.
- Electricity meters have been installed in 12 campus buildings.
- LED bulbs are installed in lighting fixtures as they are replaced.
- Interface flooring was standardized as Lawrence's preferred flooring provider (2018)
- The Career Services re-design was furnished with used commercial furniture.
- The Brokaw build-out included the conversion of steam heat to a ventilation system with a furnace and air conditioning. The added ventilation will improve indoor air quality and increase occupant comfort.
- Pre-owned, refurbished office chairs are now standardized for replacement chairs across campus (2018).
- When possible, a glue-less floating floor system is used, eliminating VOC's and improving air quality.
- VOC free paint is used in all campus buildings.

#### IV. Key Stakeholders

- Vice President for Finance and Administration
- Director of Facility Services
- Construction Manager
- Designer and Project Manager

### Transportation

#### I. Introduction:

There are many private and university-owned vehicles that are used for college business, commuting to work by faculty and staff, and for student travel on a regular basis. Vehicles powered by gasoline or diesel fuels emit greenhouse gases, particulate matter, and contribute to smog. Decreasing the number of vehicles and amount of emissions produced by vehicles used by faculty, staff, and students will promote a healthy campus community and decrease Lawrence's environmental footprint.

#### II. Goals:

Goals	Strategies & Tactics
Increase the percentage of students, faculty and staff that use public or alternative forms of transportation from 2019-20 figures	<ul style="list-style-type: none"><li>• Develop a partnership with Valley Transit that provides a discount for Lawrence students and employees</li><li>• Develop permanent and noteworthy bike infrastructure</li><li>• Develop and administer a transportation survey to discover campus community commuting habits</li></ul>

#### III. Context and Past Successes:

There are many services provided by Lawrence or the local municipality for students to travel about the Fox Valley. Lawrence provides both a shopping shuttle on a regular schedule and a volunteer shuttle as needed. Students can request an Enterprise rent-a-car by the hour to travel anywhere they choose. There is an active Bike Club on campus and there has been engagement around conversations of bike infrastructure. The City of Appleton does have a public bus system through Valley Transit that students can use with the purchase of a daily or monthly pass.

There are approximately 50 passenger and service vehicles in Lawrence's fleet. All of these operate on gas or diesel fuel. Lawrence should strive to track the keeping of mileage on these vehicles in order to track reduction efforts. There are over 900 vehicles registered to Lawrence faculty and staff. This does not reflect the number of cars on campus every day as many people have registered more than one car. With that being said, there is limited information on how faculty and staff are commuting to work. The Sustainability Steering Committee plans to introduce questions regarding transport on an bi-annual survey to increase our knowledge in this area. This survey will be administered for the first time in Fall of 2019. Other types of university travel include airline travel for events and conferences, athletics travel, academic travel (e.g. field trips), and travel for student organizations. These types of travel have not been included in

our goals as they are difficult to track and there are limited alternatives. Another challenge for Lawrence is that seasonal variation (e.g. winter) does not encourage alternative modes of transportation such as walking or biking year round. Additionally, transportation resources at Lawrence are decentralized. Bike infrastructure, student shuttle services, enterprise rent-a-car and the university fleet, are all managed by separate entities. This makes it challenging to find information on how to get around at Lawrence.

Given the lack of data on how students, faculty and staff commute to and from campus, and data on fleet vehicle usage, we are unable to set a concrete reduction goal at this time. However, after obtaining data from the 2019 survey, we feel that through educational efforts Lawrence will be able to increase the number of alternative transportation users by 2025.

#### IV. Key Stakeholders

- Campus Life
- Director of Campus Services

### Dining

#### I. Introduction:

Lawrence’s dining staff feeds 1,500 people every day with each menu decision having some form of environmental impact. Lawrence cannot grow all of the food necessary to feed campus on its own grounds and must therefore make decisions of how best to source food to minimize the environmental impact of its dining operations. Lawrence can do this by prioritizing foods that are grown locally, decreasing the frequency in which high impact foods are served, using energy and water saving kitchen appliances, and diverting food waste from the landfill.

#### II. Goals:

Goals	Strategies & Tactics
Source 30% local food according to Bon Appetit’s Farm-to-Fork program guidelines	<ul style="list-style-type: none"> <li>• Work with Bon Appetit to identify local food options</li> </ul>
Develop a procedure for more regularly tracking pre and post-consumer food waste	<ul style="list-style-type: none"> <li>• Work with Bon Appetit to develop a waste reduction program for pre-consumer waste</li> <li>• Work with Food Recovery Network to increase volunteers</li> <li>• Work with Bon Appetit to divert food waste from the landfill through on campus infrastructure (ex: biodigester)</li> </ul>
Eliminate single-use plastics in campus dining operations	<ul style="list-style-type: none"> <li>• Reduce or replace plastic packaging of to-go items</li> <li>• Eliminate plastic bags in Kate’s Corner Store</li> <li>• Provide new employees with a reusable clamshell</li> </ul>

### **III. Context and Past Successes:**

The Warch Campus Center, which would become the new home of Lawrence's dining operations, opened in 2009-10. This presented an opportunity to reimagine the campus dining experience. A key component of the RFP for a food service provider was a conscious commitment to sustainable dining. Bidders were required to uphold commitments to (1) not selling bottled water (2) implementing a tray-less dining experience and (3) increasing the amount of food sourced locally. That process helped us choose a sustainable dining partner, Bon Appetit Management Company.

Bon Appetit sets its own sourcing policies, requiring chefs to source at least 20% of their ingredients from small, owner-operated farms, ranches, and artisan producers within 150 miles of their kitchens. The Bon Appetit staff at Lawrence is currently sourcing 25% of ingredients from local sources. A mutually beneficial relationship between Bon Appetit and SLUG involves Bon Appetit purchasing seeds to be planted and grown in the SLUG garden. After the food is harvested, Bon Appetit buys the produce from SLUG at farmer's market prices. All pre-consumer kitchen waste is then given back to SLUG to be used for compost. Programmatic efforts have also been implemented to encourage students, faculty and staff to make more sustainable dining choices. For example, a discount is available for bringing a reusable coffee mug and reusable clamshells are available to rent.

A chapter of the national student group, the Food Recovery Network, works to recover prepared food that is then donated to local community organizations. Lawrence can work to divert even more food from the landfill by considering ways to manage plate scrapings. Possible options include dehydrating food waste so that it can be composted on campus or sending plate scrapings to a local biodigester facility.

Due to regular conversation with Bon Appetit about sustainability practices, and given Bon Appetit's commitment to sustainability values, we feel as though we can achieve these goals of sourcing 30% of food locally, minimizing food waste, and eliminating single use plastic in our food operations by 2050.

#### Additional Achievements

- Annual participation in the "Eat Local Challenge" (a meal that consists of 100% locally sourced food).
- Bon Appetit's operation of a "batch kitchen" in which food is prepared in batches as needed rather than all at once before the meal period.
- Commitment to serve seafood rated as Best Choice or Good Alternative according to Monterey Bay Aquarium's Seafood Watch® guidelines.
- Commitment to purchasing milk and yogurt from cows that have not been treated with artificial bovine growth hormones.
- The distribution of 200-250lbs of uneaten, prepared food donated to the community every week thanks to efforts of the Lawrence Food Recovery Network.
- A re-usable clamshell program for "to go" food.
- Elimination of plastic straws in campus dining operations (2018).
- Transition to all cage-free eggs (shell and liquid).

- Transition away from gestation crates for pork and battery cages for hens.
- Converting used fryer oil into bio fuel.

#### **IV. Key Stakeholders**

- Bon Appetit
- Campus Life

## Appendices

### Appendix Item No. 1: Sustainability Committee Charge

*Members:* A Chair, appointed by the president; Sustainability Coordinator who will serve as Vice-Chair; two faculty members representing different divisions of the University, one of which must be in a tenure-line; two staff members appointed by the President, one of whom shall be a representative from Student Life and one of whom shall be a representative from Financial Services; two student representatives appointed by LUCC; and the Director of Facility Services. If the Chair of the Sustainability Committee is a faculty member then their involvement would count as one of the two faculty members. This will be an open committee that welcomes the participation of any individual to participate and may request participation of individuals with specific expertise or significant interest on an *ad hoc* basis.

*Purpose:* To instill a culture of sustainable long-range planning throughout the University by promoting sustainability in planning, development, and operation of the campus environment and facilities. The Sustainability Committee will recommend policies and practices which best reflect the university's commitment to sustainability, help coordinate campus sustainability initiatives and promote a thriving, environmentally conscious community.

The Sustainability Committee will:

1. Identify and address environmental sustainability opportunities for Lawrence University;
2. Develop procedures for periodic review and revision of environmental sustainability goals;
3. Report to the Lawrence community and external agencies on the state of environmental sustainability at Lawrence;
4. Promote student, faculty, and staff engagement in improving the environmental sustainability of Lawrence;
5. Recommend policies and practices to the Financial and Physical Planning Committee for capital projects when relevant;
6. Review proposals for the Student Sustainability Fund.

## Appendix Item No. 2: Sustainable Building Policy (2011)

“Ongoing building maintenance and operation as well as renovation shall incorporate principles of sustainable design, building, and operation including energy efficiency, indoor air quality, water conservation, construction site and waste management, and use of local materials. All new construction shall be designed to meet or exceed LEED Silver standards or at an equivalent level to those of a comparable rating system.”

## Appendix Item No. 3: Solid Waste Management Policy

### **I. Policy Scope**

The Lawrence University Solid Waste Management Policy (SWMP) is intended to provide operational guidance for the safe, responsible, and environmentally sound management of institutional solid waste. Solid waste management employs three fundamental strategies – reduction, reuse, and recycling – to decrease and divert the amount of landfill material generated by university operations and the portion of that waste that must be disposed of in a landfill. The SWMP supports Lawrence University’s sustainability efforts.

This document is intended to provide strategic recommendations to reduce waste as well as procedural instructions for campus personnel responsible for handling recyclable and compostable materials. The purpose is to define standardized handling procedures and disposal methods for materials generated on campus including: standard recycling and trash, ongoing consumables, durable goods, facility alterations & additions, batteries, and mercury-containing lamps. The categories listed above are based on the LEED for Existing Buildings v4 (2018): Operations and Maintenance Solid Waste and Recycling requirements.

### **II. Performance Goals**

Lawrence University has committed to achieving the following goals by 2025

- Increasing our waste diversion<sup>2</sup> to 50%.
- Composting 70% of all dining and catering waste.
- Diverting at least 70% of waste (by weight or volume) generated by facility alterations and additions.
- Properly disposing of 100% of discarded batteries.
- Properly disposing of 100% of all mercury-containing lamps.
- Establishing a method of record-keeping and monitoring.

### **III. Responsible Parties**

Several institutional departments share responsibility for proper waste management, including Facilities Services, Residence Life, and the Sustainability Steering Committee. Lawrence University shall implement this policy in coordination with the appropriate organization personnel, including but not limited to: facility managers, custodial staff, and any contracted

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<sup>2</sup> Defined as weight (or volume) of recyclables divided by the sum of waste and recycling weights (or volumes).

waste haulers. Lawrence University will coordinate training, education, and outreach programs throughout the organization, with the aim of promoting and maintaining the goals of this policy. Employees will receive instruction and orientation regarding their responsibility to participate in campus waste diversion programs.

<b>Regarding</b>	<b>Contact</b>
Recycling questions regarding routine consumable waste and general inquiries regarding sustainable practices and training	Sustainability Coordinator: Kelsey McCormick: (920) 832-7404 <a href="mailto:kelsey.m.mccormick@lawrence.edu">kelsey.m.mccormick@lawrence.edu</a>  Custodial Services Supervisor: Trevor OBrien: (920) 832-6602 <a href="mailto:trevor.j.gray@lawrence.edu">trevor.j.gray@lawrence.edu</a>
Trash and recycling for outdoor events	Bob Guzman: (920) 832-6602 <a href="mailto:robert.l.guzman@lawrence.edu">robert.l.guzman@lawrence.edu</a>
Pick-up of metal, pallets, refrigerators, microwaves, furniture or other large waste items	Bob Guzman: (920) 832-6602 <a href="mailto:robert.l.guzman@lawrence.edu">robert.l.guzman@lawrence.edu</a>
Inquiries regarding hazardous materials and hazardous waste management	Chemistry Stock Room: Daniel Martin (920) 832-6728 <a href="mailto:daniel.e.martin@lawrence.edu">daniel.e.martin@lawrence.edu</a>
Composting	Sustainable Lawrence University Gardens (SLUG)
Food donations	Lawrence University Food Recovery Network
Maintenance of large exterior trash and recycling dumpsters	Bob Guzman: (920) 832-6602 <a href="mailto:robert.l.guzman@lawrence.edu">robert.l.guzman@lawrence.edu</a>
Maintenance of small exterior trash and recycling containers	James Sternat: (920) 832-6602 <a href="mailto:james.sternat@lawrence.edu">james.sternat@lawrence.edu</a>
Electronic waste	Technology Services: Steve Armstrong (920) 832-6769 <a href="mailto:steven.m.armstrong@lawrence.edu">steven.m.armstrong@lawrence.edu</a>
Paper use	Financial Services for paper volume Kay Guilette: (920) 832-7205 <a href="mailto:kay.a.guilette@lawrence.edu">kay.a.guilette@lawrence.edu</a>

	Technology Services for printer management Steve Armstrong (920) 832-6769 <a href="mailto:steven.m.armstrong@lawrence.edu">steven.m.armstrong@lawrence.edu</a>
Batteries and CFLs	Warch Campus Center Info Desk (920) 832-7000
Construction debris	Construction Manager Joe King (920) 832-7462 <a href="mailto:joseph.m.king@lawrence.edu">joseph.m.king@lawrence.edu</a>

#### IV. Solid Waste Reduction

The first step in any waste management plan is to reduce the amount of materials purchased or produced. The university is taking steps to reduce material purchases/production as outlined in the following categories:

##### A. Food Service

- a. Lawrence University contracts with Bon Appetit Management Company for its food service needs. BA is committed to spending 20% of the food dollar within a 150-mile radius of campus through its Farm to Fork program. Bon Appetit at Lawrence University has achieved a 25% spend and will achieve a 30% spend by start of academic year 2020.
- b. BA carefully tracks purchases to minimize food waste using an internal program called Café Manager. This program tracks all spend, Farm to Fork spend, Low Carbon Lifestyle Waste Commitments and vegan, vegetarian, and in-balance offerings available in each café.
- c. BA uses fresh whole foods in production, thereby minimizing additional packaging.
- d. BA shall provide records to the sustainability committee regarding their suppliers, including amounts purchased.

##### B. Printing and Copying

- a. All campus entities with printing or copying responsibilities, including printing services and academic and administrative offices, are responsible for:
  - i. providing education and support in the operation of all copying and printing devices to promote sustainable practices (e.g., to assist in double-sided copying).
  - ii. identifying and eliminating excessive distribution of campus publications, and taking steps to educate publishers to reduce or eliminate excess distribution.
  - iii. paper purchasing: All copy and print paper shall be at least 30% post-consumer content and/or FSC certified.
- b. Campus printers and copiers shall be set to double-sided as the default setting.
- c. Print release stations or equivalent print control shall be implemented in all major computer labs and other areas where deemed appropriate.
- d. Faculty and staff shall be encouraged to use electronic media for most forms of communication, and in the case of faculty, for course assignments when appropriate.
- e. Commonly used paper forms (e.g. those from the Registrar, Provost, and Financial Services offices) be replaced with electronic equivalents whenever possible.

- f. Outside suppliers and consultants shall be encouraged to submit electronic copies of correspondence or to print proposals and reports on both sides, using recycled content paper.
- B. Publications and Mailing Lists
  - a. Campus newsletters, magazines, and other publications shall be printed using at least 30% recycled content paper and/or FSC certified products. This choice shall be printed on or within the publication in small font. When feasible departments should use electronic publications in lieu of printing.
  - b. All print publications should move toward an electronic publication alternative and a clear method for allowing subscribers to opt out of hard copy delivery.

## V. Material Reuse

In conjunction with reducing the amount of materials used on campus, reusing and repurposing existing materials is an excellent way to reduce our overall consumption. The following guidelines and initiatives can help in this regard.

- A. Food Service: Prepared food that does not make it to the service line shall be saved and distributed to local charities by the Food Recovery Network.
- B. Printing: The university print shop reuses trimmings and other appropriate print jobs to make scratch pads. For more information or to get pads, call Debbie Gibbons at 832-7028.
- C. Furniture reuse: office and dormitory furniture that is no longer in use and in useable condition shall be either sold to the community or donated to local charities. If furniture has passed its useful life, it shall be disposed of in an environmentally responsible manner.

## VI. Recycling and Composting

Standardized equipment assists the campus community in achieving our 50% diversion rate goal. Having a consistent look and feel to the receptacles around campus reinforces positive behavior and makes it easier for the campus community to learn about and support our waste diversion efforts. To that end, the following procedures are to be followed.

- A. Interior:
  - a. Centralized indoor recycling on campus will utilize the Max-R dual stream management system.
    - i. Each floor in academic buildings shall have one dual stream receptacle; all other waste and recycling bins, such as trash cylinders and recycling totes, shall be removed from hallways.
    - ii. Main entryways and high traffic areas in residence halls and other campus buildings shall also have dual stream receptacles.
    - iii. The dual sort stations shall be top loading 22-gallon capacity as shown below.

- iv. Instructions for recycling shall be posted on the containers as shown below.
- b. All faculty and staff offices, student residential rooms, and computer labs and print



stations shall have one 7-gallon “recycle” blue receptacle and one 7-gallon black/gray trash bin. These shall be made of #4 LDPE plastic.

- c. Laboratories
  - i. All computer labs with printers shall have a clearly marked recycling receptacle.
- ii. All wet science laboratories with a printer shall have a clearly marked recycling receptacle. Markings shall indicate no materials used in wet lab activities/experiments can be recycled.
- iii. All laboratories shall have at least one trash receptacle for common refuse destined for the landfill.
- iv. Materials contaminated by wet lab activities/experiments shall be placed in designated containers for chemical waste disposal unless deemed nonhazardous and safe for the landfill. Contact the Chemistry stockroom for assistance.
- v. Where required, laboratories shall have glass disposal receptacles.
  1. Broken glass receptacles shall consist of cardboard boxes lined with thick plastic to contain shards.
  2. If glassware is contaminated with hazardous materials, contact the Chemistry Laboratory Supervisor for disposal.
  3. When glass disposal containers are full, seal the boxes by taping the lid securely to the box and then place in regular trash.
- vi. Where required, laboratories shall have sharps containers.
  1. Sharps contaminated with human fluids are considered a biohazard and shall be placed in designated biohazard sharps containers obtained from the Wellness Center. Full containers shall be returned to the Wellness Center for disposal.
  2. Non-biohazard sharps containers shall consist of clearly marked, heavy plastic containers.
  3. When non-biohazard sharps containers are full, they shall be sealed and disposed of in the regular trash.
- d. Receptacles in common areas of academic buildings, residence halls, and other major campus buildings shall be lined with the proper-sized black bags for trash and blue bags for recycling.
- e. Small recycling receptacles (e.g. 7-gallon) in offices and student rooms do not need bags.
- f. Recyclables shall not be bagged (i.e. they must be loose) when placed in the large exterior receptacles for collection as per our waste haulers’ requirements.
- g. Where possible, trash and recycling receptacles shall be removed from classrooms and users directed to centralized locations in the hallways.

B. Exterior:

- a. Building entrances: In general, buildings with interior dual stream receptacles located near entryways shall not have external receptacles.
- b. Pathways and Open Spaces: Locations and the number of outdoor receptacles are to be determined by the Assistant Director of Campus Services – Grounds in consultation with the Sustainability Steering Committee.
  - i. These containers shall be the Max-R dual sort 32-Gallon containers with spring doors and a cambered room as shown below.
- c. Outdoor events/sports:



- i. Recycling receptacles should be provided at all outdoor special events.
- ii. Compostable food service utensils, plates, cups, napkins and containers to support waste reduction efforts are available through Bon Appetit at every catering event. Pack-outs are also provided with compostable service ware. Compostable serviceware may be purchased from Bon Appetit – through catering – for any outdoor event.
- iii. Event organizers shall be informed of these choices when registering an event through the Residence Life Office.

C. Composting:

- a. Food
  - i. All fruit & vegetable pre-production kitchen waste, coffee grounds, and eggshells produced by Bon Appétit shall be saved for composting.
  - ii. SLUG shall pick up the material several days a week throughout the year (academic and summer) to build windrows of compost at the garden site.
  - iii. Facilities Services shall provide a vehicle to SLUG for transportation of material from WCC to the garden.
  - iv. The finished compost shall be used in the garden to rebuild soil nutrients.
- b. Landscape trimmings and leaves should be collected and composted at SLUG or another suitable location.
- c. Plant material from the greenhouse can be composted if it has not been subject to herbicides, pesticides, or non-organic fertilizers.

## VII. Procedures for Other Waste Streams

The following section describes the general collection and handling procedure of recovered materials at Lawrence University that are not part of standard trash and recycling.

## A. Ongoing Consumables

### 1. Batteries

Alkaline batteries can be disposed of in the trash. It is against state law for other types of batteries (e.g. lithium, NiCd, or rechargeable) to be placed in the garbage. These may be dropped off at the Chemistry Department Stockroom, at the Warch Campus Center information desk, the Mudd Library, or the Conservatory Administrative Offices for proper disposal.

### 2. Toner and Inkjet Cartridges

Cartridges can be recycled around campus in academic support offices and other central print locations. Toner and inkjet cartridge manufactured by companies with cartridge return programs will be sent back to the company for recycling or remanufacturing. In addition, *Staples* delivery drivers will pick up used printer cartridges (purchased through *Staples*) to be recycled.

### 3. Mercury-Containing Lamps

Institutional lamps and bulbs containing mercury shall be collected and disposed of by Facilities Services according to best environmental practices. Campus residents may dispose of CFLs at the Warch Campus Center information desk, the Mudd Library, or the Conservatory Administrative Offices for proper disposal.

## B. Durable Goods

### 1. Furniture

Useable furniture shall be stored for future use, sold to the community, or donated to local charities. If furniture is deemed unusable, it will be disposed of in an environmentally responsible manner.

### 2. Electronic Waste

Electronic waste includes computers, monitors, copiers, printers, scanners, fax machines, external power adapters, television, audiovisual equipment, wires, compact discs, etc. Used and broken electronics items in these categories should be brought to Technology Services for proper disposal.

3. Other electronic durable goods such as refrigerators, dishwashers, and microwaves shall be handled by Facilities Services and either repurposed or properly disposed of according to state and federal laws using best environmental practices.

## C. Facility Alterations: Construction waste shall be handled in accordance to LEED O+M

(Operations and Maintenance) policy, including the following provisions:

1. At least 70% of waste (by weight or volume) generated by facility alterations and additions shall be diverted from landfills.
2. Materials from alterations include wall studs, insulation, doors, windows, panels, drywall, trim, ceiling panels, carpet and other flooring material, adhesives, sealants, paints and coatings.
3. The materials that can be recovered should be recycled or reused. Hazardous material should be disposed of responsibly using best environmental practices.
4. It is the responsibility of the construction project manager to ensure that these guidelines are followed.

D. Hazardous Waste and Chemical Disposal: This policy specifically covers solid waste and does not include liquid wastes.

1. Solid hazardous waste and chemicals generated in the science cluster shall be brought to the Chemistry Stockroom for proper disposal.

2. Other solid-phase chemicals shall be disposed of responsibly by Facilities Services.

### **VIII. Record-Keeping and Management**

- A. The custodial supervisor and staff under the direction of the Director of Campus Services shall devise a methodology for measuring the waste that leaves campus including standard garbage and recycling, durable goods, and facilities operations.
- B. These data shall be kept by the Sustainability Coordinator and used to calculate the total diversion rate at the end of the fiscal year (July 1–June 30). These data shall be reported through AASHE’s STARS tool.
- C. Campus personnel shall attempt to record data as accurately as possible.
- D. A waste audit shall be conducted every 3 years to measure the composition of the waste stream and the amount of contamination between recyclables and waste.

### **IX. Time Period**

This Solid Waste Management Policy shall be effective at the time of posting and will continue indefinitely until it is replaced by a revised version. Compliance with the stated goals shall be measured by the figures stipulated under the “Performance Goals” section and shall be monitored by the relevant groups defined under “Responsible Parties” using the procedures described in this document.

### **X. References and Related Policies**

LEED v4 for Building Operations and Management (2018)