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Waste Minimization and Diversion Plan

IOWA STATE UNIVERSITY
FACILITIES PLANNING AND MANAGEMENT
RECYCLING SERVICES







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EXECUTIVE SUMMARY

Iowa State University (ISU) is known for its commitment to sustainability, including constantly seeking better practices of managing waste generated on campus.

The University 2021-2025 Strategic Plan for Sustainability in Operations commits to reducing carbon emissions, reducing energy consumption, and applying sustainable procedures to day-to-day operations. The waste section of the plan focuses on waste minimization and diversion. Non-hazardous construction and demolition waste along with non-hazardous solid waste, including food and compostable material are focus areas within this plan. This plan seeks a 40% per capita solid waste generation reduction relative to a 2012 baseline and 85% waste diversion by year 2025. That is, waste generation is reduced by an additional 10% from the 30% reduction reported in 2012 and 85% of campus waste is diverted and does not enter a landfill or is incinerated. These goals are based on reporting in the Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment and Rating System (AASHE STARS) for Waste Minimization and Diversion.

This waste minimization and diversion plan cannot be achieved without the engagement and support of campus stakeholders and a “systems thinking” approach. The complexities of managing waste on our campus requires an approach which views campus as a “system,” an interconnected community. Therefore, this plan requires multi-layered solutions to effectively manage the waste the campus produces.

University departments and units included in this plan provided contributions by focusing on the goals of increasing waste reduction by 10% and achieving 85% waste diversion from landfilling and incineration by 2025. Strategies and action items are identified, with timelines, resources needed and potential roadblocks or challenges.

The following are benefits from adopting this waste minimization and diversion plan:

- Improving university sustainability performance as measured in AASHE STARS toward becoming a platinum ranked institution
- Alignment with the Iowa Department of Natural Resources (IDNR)'s “Sustainable Materials Management – Vision for Iowa” that redefines transition from the present solid waste management policies and infrastructure to a comprehensive system to better protect public health, safety and the environment of Iowans
- Savings in cost of disposal
- Engage the entire campus community in sustainability initiatives relating to waste



PLAN OVERVIEW

To support the University's Strategic Plan for Sustainability in Operations, this waste minimization and diversion plan has been assembled to support the goal to "improve the sustainability of day-to-day operations and maintenance of campus facilities with focus on waste and recycling".

To achieve this, campus units and departments are encouraged to reduce waste generation and increase waste diversion. This practice includes advancing waste prevention, diverting non-hazardous solid waste, including food and compostable materials, and pursuing opportunities toward 40% per capita waste reduction relative to a 2012 baseline and 85% waste diversion from landfilling and incineration by year 2025. Although not included in the Strategic Plan, this plan also includes continuing and improving diversion of non-hazardous waste generated by construction and demolition projects.

In addition, these goals align with the following AASHE STARS credits:

- OP 18: Waste Minimization and Diversion
 - Part 1. Reduction in total waste per person by 50% or more. ISU reported a 27% reduction in 2022.
 - Part 2. Total waste generation per person is up to 90% less than 0.5 tons. ISU reported 0.17 tons in 2022, 66% less than 0.5 tons.
 - Part 3. Diversion of up to 100% of waste from landfill or incineration. ISU reported 16% in 2022.
- OP-19: Construction and Demolition Waste Diversion. Divert up to 100% of construction and demolition waste from landfill or incineration. ISU reported 76.97% in 2022.

In pursuit of these goals and with support from all campus key stakeholders, the development of the plan adopted a "system thinking" approach which involves the

"willingness to see a situation more fully, to recognize that we are interrelated, to acknowledge that there are often multiple interventions to a problem, and to champion interventions that may not be popular"

(The Systems Orientation: From Curiosity to Courage).

This plan has been developed with contributions from various campus departments and units and is categorized under the two targeted goals.





CAMPUS UNITS

WASTE MINIMIZATION AND DIVERSION PLAN

All departments and units involved contributed to the plan with strategies and actions that support the overall goals, implementation timelines, as well as resources needed and potential roadblocks and challenges.



Recycling Services Campaign magnets for 2022.



FACILITIES PLANNING AND MANAGEMENT (FPM)

Capital Projects

Timeline: FY24

Maximize Construction Waste Diversion

Strategy: *Develop Construction Project Contract Language*

- **Action Item One:** Inclusion of standard contract language related to construction activities and contractor construction waste and recycling requirements and documentation
- Aim to salvage or recycle construction material waste consistent with adopted Leadership in Energy and Environmental Design (LEED) certification standard - diversion by a minimum of 75 percent, and a goal of 95 percent by weight
- Expand the construction waste management requirements in contract documents to provide protocols, recycling and salvage goals, recording requirements and waste management planning
- **Resources Needed**
 - Internal staff: time to complete contract language, including time to evaluate against current best practices and local market capability to meet revised requirements

Maximize Diversion

Strategy: *Augment Facilities Design Manual Specifications*

- **Action Item One:** Incorporation of requirements for recycled content, reuse of items and space layout considerations for recycling operations within capital projects design specifications
- **Action Item Two:** Coordinate product standards selection with both Custodial and Recycling Services where applicable
- **Action Item Three:** Similar specifications used by Facilities Design and Construction for their project designs



FACILITIES PLANNING AND MANAGEMENT (FPM)

Custodial Services

Minimize Waste

Timeline: FY25

Strategy: *Reduce or eliminate floor stripping and waxing to reduce waste materials*

- **Action Item One:** Strip floors and use Ultra Durable floor finishes to eliminate need to wax floors regularly. (where possible – depending on floor type)
- **Action Item Two:** Work with FPM Capital Projects and Facilities Design and Construction to change how floors are treated prior to or at installation depending on type of flooring
 - Create standard that floors are left unfinished for Ultra Durable floor finishes.
- **Resources Needed**
 - Custodial training
 - Contractor training
 - Initial cost differential is recouped over lifetime of Ultra Durable floor finish.
- **Roadblocks**
 - Cost of applying Ultra Durable floor finishes
 - Customer buy-in
 - Staff buy-in

Maximize Diversion

Strategy: *Implement Trash and Recycling Stations*

- **Action Item One:** Create trash and recycling stations in new and existing buildings serviced by FPM Custodial.
 - Determine types of receptacles
 - ° Consult with Facilities Design and Construction
 - ° Consult with Central Stores/Procurement on pricing, availability, etc.
 - Determine and create appropriate signage
 - ° Consult with Facilities Design and Construction
 - ° Obtain pricing from Printing Services



FACILITIES PLANNING AND MANAGEMENT (FPM)

- Determine number and location of trash and recycling stations per building
 - Work with Building Supervisors and Custodial Supervisors to identify locations
 - Develop communication plan to building occupants
- **Action Item Two:** To encourage greater recycling in administrative office areas:
 - Offer a collection system in which FPM custodial staff will pick up recycling at individual offices and workstations, and occupants will become responsible for disposing of their trash at a trash and recycling station.
 - FPM custodial staff will remove materials from trash and recycling stations
- **Resources Needed**
 - Assistance for developing a communication/marketing plan
 - Employee training, particularly during on-boarding
 - Funding to cover incremental cost increases of supplies and operations
- **Roadblocks**
 - Cost of new receptacles; estimate more than 450 trash centers
Projected Cost is \$450,000 (two stream stations)
 - Cost of signage, effectiveness of signage to reduce contamination
 - Signage estimate- \$4500
 - Agreement on most effective type of receptacle vs. aesthetic appeal
 - Staff buy-in and customer buy-in



FACILITIES PLANNING AND MANAGEMENT (FPM)

Recycling Services

Timeline: FY24

Minimize Waste

Strategy: *Work with Building Supervisors on Waste Reduction and Diversion Initiatives*

- **Action Item One:** The University Recycling Coordinator will coordinate with Building Supervisors waste reduction and recycling information and opportunities for building occupants.
- **Action Item Two:** The University Recycling Coordinator will communicate with Building Supervisors to actively determine appropriate locations for waste stations (recycling and trash bins) in campus buildings.

Maximize Diversion

Strategy: *Work with Building Supervisors and building occupants to help eliminate contamination in the Single Stream Recycling Bins.*

- **Action Item One:** The university recycling coordinator will help building occupants understand the simplicity of Single Stream Recycling and help them understand the liability of contaminating the recycling stream with poor placement of liquids or food stained paper.
- **Action Item Two:** The university recycling coordinator will provide an eye catching campaign to help all building occupants understand and help pitch in with recycling and developing proper placement of waste and recycling.
- **Resources Needed**
 - Engagement with students, faculty and staff
 - Finances for printing and campaign promotional products
 - Social media and stills for video and slideshows on advertising screen across campus
 - Time to create Virtual Reality opportunities for waste and recycling innovation
 - Volunteers or student employees to help carry out the tasks
- **Roadblocks**
 - Customers who are reluctant to participate in recycling efforts
 - Time and effort to cover such a large campus



FACILITIES PLANNING AND MANAGEMENT (FPM)

Procurement Services

Timeline: FY24

Minimize Waste

- **Action Item One:** Adopt an Environmentally Preferred Purchasing (EPP) guideline or policy.
- **Action Item Two:** Collaborate with online suppliers to move green products or package free products higher up in search results in ISU internal shopping catalogs.
- **Action Item Three:** Collaborate with online suppliers to offer additional sustainable products available on the market but not currently available in ISU internal shopping catalogs.
- **Action Item Four:** Identify purchases appropriate for reduced packaging. Procurement Services pledges to identify and track purchases requested to be reduced or free of packaging.

Maximize Diversion

- **Action Item One:** Provide additional training to Procurement Agents on waste reduction and prevention by following procurement best practices to divert waste streams from the landfill to circular, re-use, and energy models.
- **Action Item Two:** Implement a preferred Supplier Sustainability Standards Manual that ensures sustainability practices and efforts are utilized and reflected by ISU vendors.
- **Action Item Three:** Partner with university units to identify opportunities to collaborate on diversion of landfill waste streams to a sustainable circular, re-use, and energy recovery models. Procurement pledges to identify and/or collaborate on at least one such opportunity per fiscal year.
- **Action Item Four:** Identify any opportunities for buy-back or supplier returns on goods not appropriate or pre-mandated to go to Surplus.
- **Action Item Five:** Create a data tracking system to report purchase of Environmentally Preferred Products and to report Sustainable practices more efficiently.



FACILITIES PLANNING AND MANAGEMENT (FPM)

- **Resources Needed**

- Procurement Service initiatives will benefit from increased marketing and education promoting the ISU Minimum Waste and Maximum Diversion campaign
- An agreed upon plan for preferred purchasing
- Conversation with suppliers about green products and package free products and how to make them more visible and customer aware in catalogs
- Tracking system to follow reduced or package free purchase requests

- **Roadblocks**

- Buy-in or sense of responsibility from suppliers
- Willingness of companies to see the need for green products/packaging



Dining/Catering Services

Minimizing Waste

Strategy: *Reduction of Food Waste*

This is inherent through good recipe creation and menu forecasting, but the effort can go beyond that.

- **Action Item One:** Contract with food waste program (Lean Path) to expose ISU Dining's key areas for food waste. This method is an in-depth approach for staff at all levels to learn where food and dollars are lost through production.

Resources Needed

- Estimated contracted service of this nature is ~\$30,000
- Moving bid forward creation, interest
- Delays with bidding/contract process

Strategy: *Transition to More Compostable Containers or Reduce Packaging*

ISU Dining has already made strides transitioning single use containers to compostable has made strides transitioning single use containers to compostable options; with progress to go.

- **Action Item One:** Review current non-compostable single use containers.
- **Action Item Two:** Work with team for biggest impact items.

Resources Needed

- Availability and selection with vendors
- Inventory levels of selection would need to be built to prevent shortages
- Cost typically increases with these alternate products. Estimate \$11,000 cost increase for all items per year

Timeline:

Phase One | FY23;

Phase Two | FY24



DINING/CATERING SERVICES

Strategy: *Proactively Collect Data from Donation Volumes to Food Recovery Organizations (FRO)*

Phase One

When asked to provide poundage of donations recently, accurate numbers were not readily available.

- **Action Item One:** Create process/standards for document and recording donations into FSS menu management system as they occur.
- **Action Item Two:** FSS should convert these entries into weights
- **Action Item Three:** Create some system, reminders for management to perform this task.
- **Action Item Four:** Reports should run by Assistant Directors to see where excess waste/ordering occurs and follow through with staff to make reductions.

Resources Needed

- Team understanding importance and benefit of action
- Time

Strategy: *Reduce Printing of Materials*

Phase One

ISU Dining supplies 1,800+ student employees a student handbook. Additional printed materials are in the form of menu management documents (recipes, menu tracking forms, etc.).

- **Action Item One:** Review as a department what is printed.
- **Action Item Two:** Consider necessity
- **Action Item Three:** Encourage student employees to access and refer to on-line format of student handbook.
- **Action Item Four:** Consider purchase of iPad for use in kitchen versus printed materials.

Resources Needed

- Staff comfort/habits
- Costs related to tablet purchase
- Potential conversion of FSS formatting in tablet view



DINING/CATERING SERVICES

Maximize Diversion

Phase One

Strategy: Increased Capture of Compostable Waste at Friley Windows

In Fiscal Year 18, compostable waste was captured at Friley Windows but due to staff safety issues this ceased.

- **Action Item One:** Conduct a dock study internally with FP&M and/or consultant to determine ways to safely space all desired collection dumpster

Resources Needed

- Space restrictions
- Staff safety
- Cost for consultant if deemed necessary
- Potential construction costs

Strategy: Increase Capture of Recyclable Materials in Production Location

Currently ISU Dining recycles cardboard waste at all production locations and collects plastic and metal at Kropp-Storms Complex (CSC and Bakery).

Phase One and two increasing locations by 1-2 each fiscal year.

- **Action Item One:** Conduct dock study/review and when complete, add/increase dumpster for additional items. Work closely with ISU Recycling Services for logistics.

Resources Needed

- Dock space
- Staff education
- Slight additional cleaning process of containers, i.e. labor

Strategy: Education to Staff of Actions Within Office Spaces of Recycling Opportunities

Phase One

- **Action Item One:** Educate and inform of single stream recycling on campus and audit participation.

Resources Needed

- Collection bins
- Signage
- Set expectations/policies
- Develop educational program



Department of Residence

Document ID: F124

Minimizing Waste

Strategy: *Support Waste Reduction Programs*

Empower community advisors (CAs) and student sustainability coordinators within the residence halls to provide leadership in the areas of sustainability & recycling to further promote waste reduction within the on-campus communities. This will be achieved through regular trainings.

Maximize Construction Waste Diversion

Strategy: *Develop Project Contract Language*

- **Action Item One:** Inclusion of standard contract language related to waste material recycling requirements and documentation for life-cycle capital improvement projects.

Maximizing Diversion

Strategy: *Support Waste Diversion Initiatives*

- **Action Item One:** Always preference reuse over landfill when discarding unwanted materials (e.g. discarded furniture to be sold to private parties for reuse; recover old soft seating to give new life).
- **Action Item Two:** End of the academic year collection efforts include partnership with Goodwill /United Way to collect donations for local food pantries and for students to be able to donate/recycle re-usable items.
- **Action Item Three:** Provide recycling bins in all residence hall rooms with educational/how-to signage attached to bins.
- **Action Item Four:** Educational content delivered to students via social media, newsletters and other marketing material throughout the year.



DEPARTMENT OF RESIDENCE

- **Action Item Five:** Share global campus sustainability messages via our communication channels as applicable.
- **Action Item Six:** Single stream recycling is provided in Fredrickson Court/SUV on-campus apartment communities. Apartment facility staff are currently working with student leadership in SUV to increase the availability of recycling dumpsters in SUV.
- **Action Item Seven:** Ensure recycling documentation for replacement of items such as mattresses are a requirement in any successful bid for such materials.
- **Action Item Eight:** Partner with Office of Sustainability and Recycling Services to coordinate volunteers to divert cardboard boxes from the landfill during move-ins.
- **Action Item Nine:** Continue and expand community composting program in apartment residences starting with Frederiksen Court and expanding to SUV Apartment Community.



Athletics Department

Timeline
Phase One | FY24;
Phase Two | FY25

Minimize Waste

Strategy: *Coordinate Waste Reduction Efforts with Relevant Campus Stakeholders*

Phase One

- **Action Item One:** Recycling Coordinator and The Office of Sustainability work with Athletics to communicate waste reduction standards to vendors and encourage choosing more sustainable alternatives.
- **Action Item Two:** Recycling Coordinator and the Office of Sustainability will collaborate with Athletics and Procurement Services in developing contract language and messages for concession vendors regarding reusables and eliminating packaging and disposable serving ware from the waste stream as much as possible. Encourage use of biodegradable, compostable food containers for serving in the concession areas. The plastic bowls, plates and utensils that are used contain less plastic by volume, which also reduces waste.
- **Action Item Three:** Encourage fans to bring reusable water bottles to refill with water by using any of the bottle fillers and water fountains throughout the stadium.

Strategy: *Digitalized Ticketing and Programs at Home Athletic Events*

Phase One

- **Action Item One:** Ensure fans receive both football tickets and parking passes electronically via mobile app, eliminating paper tickets.
- **Action Item Two:** Implement digital programs at home football games by allowing fans scan a QR code at their seat to pull up the digital program, eliminating paper programs.
- **Action Item Three:** Implement digital programs for other athletic events.



ATHLETICS DEPARTMENT

Maximize Diversion

Strategy: *Develop a Poster Inventory System to Reduce Waste*

Phase One

- **Action Item One:** Donate or re-purpose any unused posters to other units on campus or community organizations instead of throwing them away.

Strategy: *Investigate Additional Sustainability Engagement Opportunities*

Phase One

- **Action Item One:** Begin multi-stakeholder discussions related to other potential engagement opportunities on the waste minimization and diversion plan i.e. game day athletics events and fan communication.
- **Action Item Two:** Recycling Coordinator and the Office of Sustainability will collaborate with Athletics and Procurement Services in developing contract language and messages for concession vendors regarding reusables and eliminating packaging and disposable serving ware from the waste stream as much as possible. Encourage use of biodegradable, compostable food containers for serving in the concession areas. The plastic bowls, plates and utensils that are used contain less plastic by volume, which also reduces waste.

Resources Needed

- Increased wages needed to hire more staff
- Space/Location in the tailgating areas for waste/recycling containers
- Monitors for dumpsters in parking lots during the game
- Additional staff/volunteers which are not currently available to monitor the dumpsters
- Additional fundraisers. Programs are often sold as a fundraiser to the sponsorship team and athletics may not be able to give up the revenue from those program sales
- Additional Water filling stations; currently too few to keep lines short and get fans back to watching the game

Roadblocks

- Lack of enough custodial crew on game day
There will be need to nearly double workforce to manage trash and recycling on game day
- Extra custodial crew who currently struggle to keep up with trash collection at games



Recreation Services

Minimize Waste | Maximize Diversion Education

Timeframe: FY24

Strategy: *Develop Staff and Student Employee Education Plan for All Recreation Facilities to Support Minimal Waste Generation and Maximum Waste Diversion.*

- **Action Item One:** Go over minimal waste, maximum diversion plan during staff trainings
- **Action Item Two:** Utilize student employee e-mail of printing notices to promote minimal waste, maximum diversion initiatives.
- **Action Item Three:** Promote Minimal Waste - Maximum Diversion through encouraging and supportive conversation with both staff and student employees.
- **Action Item Four:** Place waste reduction and diversion goals on promotional TV's and kiosks in all facilities.
- **Action Item Five:** Ensure all head supervisors mention/remind clients in small group training sessions.
- **Action Item Six:** Promote through Recreation Services social media outlets such as Instagram, Twitter and Facebook

Resources Needed

- Informative/Educational material to share
- Training manual for leadership
- Videos and fun interactive promotional "advertisements"
- Social Media Guru to create blurbs for social media outlets
- Advocate signs to promote Minimal Waste, Maximum diversion

Roadblocks

- Time, to create, train and educate team
- Material; lack of universal informative/educational material
- People power, need creative types to take the lead



Student Engagement Center | Memorial Union Event Management Office

Minimize Waste | Maximum Diversion Education

Strategy: *Educate Stakeholders*

Timeline: FY24

- **Action Item One:** Promote the Zero Waste Event Toolkit as a resource on the Student Activities Center and Event Management Offices' website and in the bi-weekly newsletter to student organization officers, News-line etc.
- **Action Item Two:** Incorporate waste reduction and diversion education into the mandatory president training for student organizations and create a separate minimal waste, maximum diversion module in the student organization database that provides further information about best practices and resources on campus.
- **Action Item Three:** Train the Leadership and Service Center consultants on the Zero Waste Event Toolkit so that they can present the information to other student organizations and spread awareness.
- **Action Item Four:** Offer engagement opportunities focused on learning more about waste reduction and diversion through Campus Service Council, Alternative Breaks, and assist with the promotion of similar events across campus.
- **Action Item Five:** Establish an "Outstanding Commitment to Sustainability Award" as part of Student Activities' annual Student Organization Awards program to incentivize waste reduction efforts as well as other sustainable practices.

Strategy: *Strategic Communication to Student Organizations, Departments and Third-Party Vendors*

Timeline: FY24

- **Action Item One:** Periodically promote the Zero Waste Event Toolkit and other sustainability resources in News-line, the bi-weekly newsletter for student organizations.
- **Action Item Two:** Periodically promote waste reduction and diversion resources on the digital displays throughout the Memorial Union with a link/QR code for students and external vendors to find more information.



Minimize Waste and Maximize Diversion

Strategy: *Operations*

- **Action Item One:** During the event authorization review processes, ask students/departments/ third parties to specify what measures they are putting into place to reduce waste at their event and provide links to campus resources.

Strategy: *Purchasing*

- **Action Item One:** Create a resource of things to consider/questions to ask when deciding which vendors to utilize. Student organizations have more flexibility than ISU departments in choosing the vendors they would like to do business with.

Strategy: *Make the Zero Waste Event Toolkit a Requirement for Student Clubs and Organizations "Event Authorization Process"*

- **Action Item One:** Promote the existence of the Zero Waste Event Toolkit to clubs and organizations.
- **Action Item Two:** Create an incentive program for clubs/organizations who incorporate the toolkit into their events and can provide evidence of use.
- **Action Item Three:** Make "waste reduction;" using the minimal waste, maximum diversion event toolkit, as one of the requirements for organization event approval.



STUDENT ENGAGEMENT CENTER | MEMORIAL UNION EVENT MANAGEMENT OFFICE

Strategy: *Develop Club President's Training Module on How to Be Sustainable and Host a Sustainable Event*

- **Action Item One:** Implement section in the Club President's Training module on the student organization website that discusses how to be more sustainable as an organization and provides links to resources to help the transition.
- **Action Item Two:** Include information about the Green Initiatives Fund in the Treasurer's Training module as well as the Zero Waste Event Toolkit. The Green Initiatives Fund encourages students to make sustainable impacts while at Iowa State University. Facilitated through the ISU Student Government Sustainability Committee, the plan focuses on reducing consumption and waste production, while encouraging ISU and the City of Ames to become more sustainable in their waste practices.
- **Action Item Three:** Develop a sustainability training module that all student organization members must take.

Strategy: *Develop Resource (guides/materials, such as minimum waste, maximum diversion event toolkit) for Student Organizations/Clubs*

- **Action Item One:** Work with FPM Recycling Services to develop sustainable item lists, guides and materials that will help student organizations and clubs be more sustainable and provide information on Student Engagement website.



Information Technology Services

Minimize Waste

Timeline: FY24

Strategy: *Support Waste Reduction*

- **Action Item One:** Leveraging on Information Technology (IT) Contracts Across Campus
 - Opportunities through capital projects and smaller IT infrastructure and Audio Visual (AV) E.g. buying cabling in 1000' spools and having scrap of <100' or sections of cable tray or conduit sections leftover
 - AV team might be able to reuse sections of lower length cable from contractors
 - Review contracts with major IT suppliers (Dell, and Apple) that supplies other regent universities and identify other sources of waste
- **Action Item Two:** Buy in bulk and avoid vendor packaging when sending large quantities.
- **Action Item Three:** Coordinate with all IT vendors, distributors and manufacturers to reduce plastic and packaging materials as much as possible.
- **Action Item Four:** Reduce Paper Printing
 - Get a baseline through PaperCut, number of pages printed in past years to measure progress
 - Standardize costs per page across colleges and removing a home-grown ITS solution will enable efficiencies and reduce the amount of printing Remove college subsidy printing for students in order to re-incentivize students and reduce amount of printing Change printing from default to double-sided. Adopt the use of UI/prompt to encourage users to print drafts double sided, or even to use digital markup technology for drafting (Word or pdf comments instead of printing and marking up)
 - Reduce the need to print drawings, schematics or other capital projects printings



INFORMATION TECHNOLOGY SERVICES

Maximize Diversion

Strategy: *Conduct an Audit to Baseline What is Sent to the Landfill*

- **Action Item One:** Audit procedure and methods determined in conjunction with FPM Recycling Services.
- **Action Item Two:** Define IT waste sources, flows and pathways across campus

Strategy: *Promote Reuse and Recycling Initiatives within IT Operations*

- **Action Item One:** Scrap / small sections of bulk material used in large projects.
- **Action Item Two:** Shred hard drives and send metals to ISU Surplus for precious metal recycling. Provide support to campus customers by informing them to coordinate services with ISU Surplus for disk destruction and recycling.

Schedule of Timeline: FY24 (July 2023- June 2024)

Implementation timelines are set based on strategies and action items applicable to each operation.

FQ1 (July – September)

- Define sources & diagram (material/waste flow)
- Define entry/ingest and exit/egress points (from ITS perspective) of material/waste sources
- 6-12 working groups (weekly/bi-weekly)
- Set up points for measurement
 - Asset Recovery keeps numbers
 - ITS set up statistical sampling points (at egress points) to indicate how much waste is being sent to its destination

FQ2 (October - December)

- Take baseline measurements at key points on material/waste flow
- 6 measurement days (bi-weekly)
- Use EPA Weight – volume conversion table
- Take sample measures from sources identified and project over year basis
- Identify / translate percentage goals into weight/volume goals to be able to track against each other



INFORMATION TECHNOLOGY SERVICES

FQ3 & 4 Reduction of 30 percent from FY22 baseline during all Fiscal Quarters, in addition the above, limit/redirect waste whenever encountered, but make sure to record the baseline.

FY24: reduction of 30% from FY23 baseline

FY25: reduction of 25% from FY24 baseline

Resources Needed

- Staff and time needed
- Tools

Roadblocks/Potential Challenges

- Difficulty in getting accurate measurements i.e. time of taking measurement, data inconsistencies due to potential building remodeling that may increase waste
- Lack of consistent measurement and implementation schedule



Logistics and Support Services

Minimize Waste:

Timeline: FY25

Strategy: *Adopt a Goal to Reduce the Overall Size/Amount of Product Packaging*

- **Action Item One:** Review total amount of product packaging generated for inbound and outbound materials at central stores and central receiving.
- **Action Item Two:** For inbound materials, work with upstream vendors to identify materials that may have excessive or unnecessary packaging and find a solution to eliminate or reduce the packaging.
- **Action Item Three:** For outbound materials, work with manufacturing, operations and/or packaging departments (if any) to identify opportunities to reduce internally generated packaging materials.

Strategy: *Document Pallet and Shipping Container Reuse*

The intention is to quantify reuse activity and reduce the need for new pallet and/or shipping container purchase.

- **Action Item One:** Determine the needs of the operation and identify where used pallets and shipping containers can be used.
- **Action Item Two:** Identify the flow of used pallets and containers into and out of central stores, central receiving and warehouses.
- **Action Item Three:** Develop a tracking system to record numbers of pallets and containers reused each month and determine estimated or actual weights.
- **Action Item Four:** Establish process to track and document the reuse of pallets, incoming shipping containers and outgoing shipping containers.
- **Action Item Five:** Develop a methodology to quantify the number and monthly volume by weight of reused pallets and containers.



Conference Planning and Management

Minimize Waste

Timeline: FY24

Strategy: *Incorporate Zero Waste Event Toolkit in All On-Campus Event Planning Contracts*

- **Action Item One:** Identify, where applicable, areas (conferences, events etc.) where the Zero Waste Event toolkit can be incorporated into contract documentation.

Maximum Diversion

Strategy: *Communicate Minimum Waste, Maximum Diversion Expectations to All Clients/Stakeholders*

- **Action Item One:** Engage all clients and stakeholders with Zero Waste Event Toolkit expectations and each understands their roles. This should include working with catering vendors to support Iowa State waste diversion goals by reducing single-use items.
- **Action Item Two:** Share Iowa State acceptable recycling signage with vendors before the start of events.
- **Action Item Three:** Include information about Zero Waste Events on the event invitation to inform all attendees that event will be a Zero Waste Event.

Strategy: *Coordinate with Facilities Planning and Management (FPM) for Minimal Waste, Maximum Diversion Logistics*

- **Action Item One:** Connect with FPM for Zero Waste Event support logistics (bins, signage, pickups etc.)



Veterinary Medical Center/ Veterinary Diagnostic Laboratory

Minimize Waste

Timeline: FY24

Strategy: *Collaborate with ISU Purchasing to Encourage Bulk Purchasing and Discourage Packing Materials from Vendors to Reduce Waste Generation.*

- **Action Item One:** Ensure and purchase items in bulk as much as possible. Purchasing Department must ensure that vendors do not ship items individually packaged through contract agreements.

Maximum Diversion

Strategy: *Support Waste Diversion Across the Facility*

- **Action Item One:** Continue to participate in the single stream recycling, electronics, furniture reuse program (through ISU Surplus) confidential document destruction, cardboard recycling, waste bedding composting to a private firm, glass diversion, sharps and hazardous collection and restroom paper towel diversion programs. Other programs to support waste diversion is the chemical reclaim and chemical bottle diversion program run through EHS.
- **Action Item Two:** Reuse expired surgical products by students for practice in Clinical Skills labs.
- **Action Item Three:** Pallets are collected by ISU and recycled, reused or scrapped for other use.
- **Action Item Four:** Wood chips in the waste animal bedding are sent to the University Compost Facility.
- **Action Item Five:** Excess food from the Café in the building are donated for community program support daily.
- **Action Item Six:** Clothing, food and necessities collections are coordinated by students very often during the semester for donation to human and animal shelters.



VETERINARY MEDICAL CENTER | VETERINARY DIAGNOSTIC LABORATORY

Resources

- Reuse of waste bedding from Vet Med for compost is a potential but will need testing and verifying scientifically that such waste is a not threat to the dairy cattle at the composting facility

Roadblocks

- Most of waste from VDL are not recycled due to contamination issues
- Lots of labor per day to separate cardboard from Styrofoam shipping boxes
- Lots of autoclave waste is trained
- The Hospitals generate lots of trash and cannot do much about what's hermetically sealed individually wrapped products
- IT/ AV departments generate a great deal of trash with boxes and shipping packaging which protects the contents of the package in a safe shipping practice
- Limited options for other generated waste materials in Vet Med





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