

# UNIVERSITY OF GUELPH

ATLAS ZERO WASTE CAMPUS ASSESSMENT 2022



# TABLE OF CONTENTS

<b>Introduction</b>	<b>3</b>
<b>Zero Waste Scorecard</b>	<b>8</b>
<b>Program Scorecard</b>	<b>9</b>
<b>Summary Recommendations</b>	<b>11</b>
<b>Scope 1 - Hard Goods: Surplus &amp; Hard-to-Recycle Materials (HRM)</b>	<b>15</b>
Table 1: Campus Surplus Property Collection	<b>16</b>
Figure: HRM Collection Infrastructure	<b>18</b>
Table 2: Campus Aggregation of HRM	<b>20</b>
<b>Scope 2 - Soft Goods: Food, Plastic &amp; Compost</b>	<b>22</b>
Figure: Campus Dining Facilities and Food-Service Vendors	<b>23</b>
Table 3: Procurement Policies	<b>24</b>
Table 4: Reusable Dining Ware Infrastructure	<b>25</b>
Table 5: Food Recovery & Food Waste Reduction Programs	<b>26</b>
Table 6: Compostable Materials	<b>27</b>
Table 7: Paper Receipt Elimination	<b>28</b>
Table 8: Accessibility Policy	<b>28</b>
Table 9: To-Go Ware Collection Infrastructure	<b>29</b>
<b>Conclusion</b>	<b>30</b>
<b>Acknowledgements</b>	<b>31</b>

# INTRODUCTION

In Fall 2022, the University of Guelph worked with the Post-Landfill Action Network (PLAN) to support two Zero Waste Fellows, Youstina Makhoulf '21, Doctor of Veterinary Medicine (DVM) '25, and Sarah Kurtz '23, to conduct a holistic assessment of the campus' waste management system. Youstina and Sarah used PLAN's Atlas Zero Waste Program, a program designed to help campuses assess and streamline campus systems for materials management, to collect the information used to inform this report. This report offers a snapshot of existing policy, programs, and infrastructure, illustrates ideal material flows throughout a campus, and proposes a few broad recommendations to fill the gaps identified during the assessment.

Note: This report is being produced during the COVID-19 Pandemic, when most colleges switched to virtual learning. All systems were assessed as they were pre-pandemic. Concerns and questions about reuse programs and the COVID-19 Pandemic are addressed in [this fact sheet](#).

This report was prepared for the University of Guelph by the Post-Landfill Action Network, a non-profit zero waste advising organization based in Dover, New Hampshire. Any views, thoughts, or opinions expressed in the text belong solely to the Post-Landfill Action Network and do not reflect the views of the University of Guelph.

© 2023. Post-Landfill Action Network. All rights reserved.

# ASSESSMENT PROCESS

Youstina and Sarah were trained by PLAN’s Atlas team on the findings and theories that originally informed PLAN’s Atlas Zero Waste Program, and on the interview process central to the assessment. They used PLAN’s Atlas Stage 1 Campus Programs Checklist to complete in-depth interviews with 56 representatives from various campus departments, documenting and gathering data through a series of yes/no questions on the current infrastructure, policies, and communication channels related to the University’s waste mitigation and management. A complete list of the interviewed representatives can be found at the end of this report.

Following data collection, Youstina and Sarah scored the campus checklist - points are awarded in accordance with the zero waste hierarchy, with 3 points awarded for source reduction initiatives, 2 points for reuse initiatives, and 1 point for recycling/compost initiatives. The campus was awarded an overall score, scores for the two major systems of campus materials management described in the following section, and specific programmatic scores, which are all collectively used to guide this report.

## METHODOLOGY - MATERIAL MANAGEMENT SCOPES

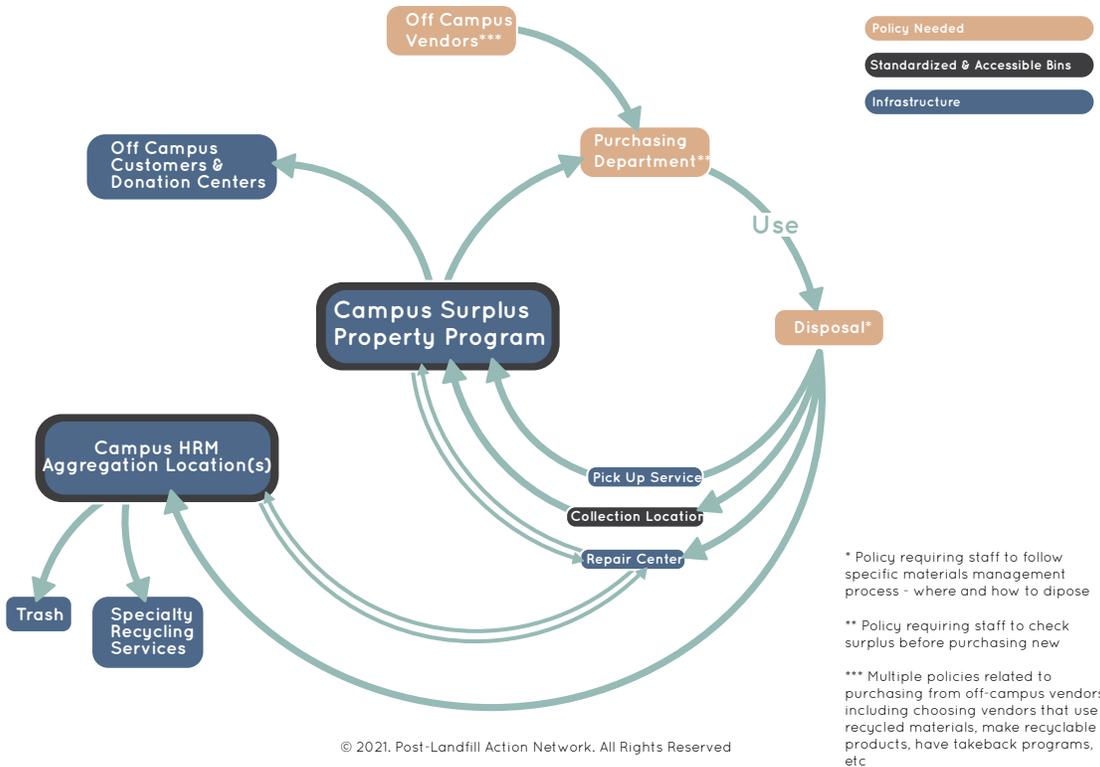
<b>SCOPE 1 HARD GOODS</b> Surplus Property and Hard-to-Recycle Materials  Materials the campus has direct control over	<b>SCOPE 2 SOFT GOODS</b> Food and Single-Use Materials  Materials the campus purchases, but has limited control over which bin the material is placed in
Electronics Furniture Office Supplies Lab / Art Equipment Vehicles / Tires / Oil Chemicals / EH&S material Facilities / C&D material	Food Waste Food Packaging Disposable Dishware Disposable To-Go Ware Compostable Dishware Compostable To-Go Ware Reusable Dishware Reusable To-Go Ware

[The Atlas Zero Waste Project](#) is unique in that it does not simply measure waste outputs, but instead looks holistically at the entire campus materials management system from purchase to use to collection to disposal.

In **Scope 1 - “Hard Goods”**: We assess the materials management system for all materials the campus has direct control over - namely, items that the campus purchases, manages, uses, and maintains ownership over, and is ultimately fully responsible for the method in which they are discarded. Below is an example of how a campus would manage materials in an ideal version of this system. You can also chart the path of this item through the idealized system map provided below.

A faculty member wants to **purchase** a file cabinet. First, per **campus policy**, they check the **campus surplus property program** and other local reuse facilities before buying a new item. When reuse isn't an option, the faculty member **purchases** the file cabinet following the campus's procurement policies. Years later, when the file cabinet is being discarded - the staff member contacts the **campus surplus property program** to schedule a **pick-up**, and the item is picked up for free. The item is **catalogued**, listed for sale on the **University's online surplus sale site**, and possibly also on sale at a **surplus storefront**. If the item goes unsold for weeks or months, the item is **donated to the community** or sent to the **campus aggregation point for hard-to-recycle materials** - where it is stripped into parts. In this case, the file cabinet parts would go to **industrial metal recycling**.

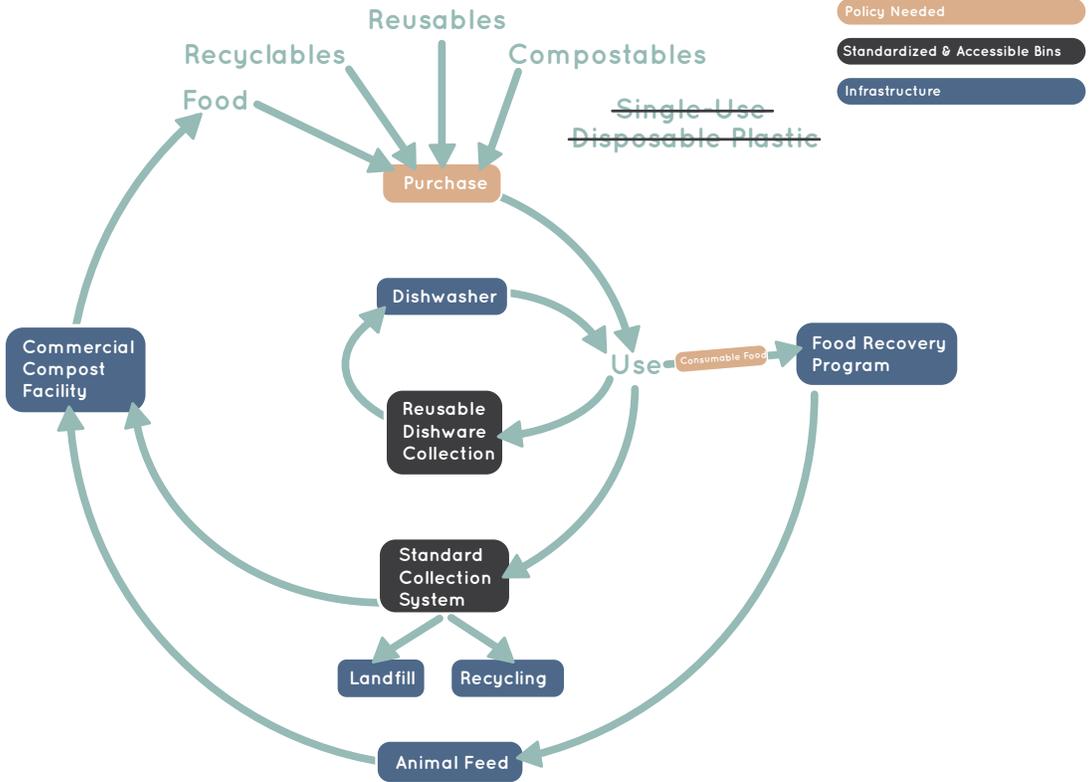
### Scope 1 - An Example of Material Flow Options through an Idealized Version of a Hard Goods System Map



In **Scope 2 - “Soft Goods”**: We assess the materials management system for all materials that the campus purchases, but ultimately wind up in the hands of individual users, leading to limited control over which bin the material is placed in. Below is an example of how a campus would manage materials in an ideal version of this system. You can also chart the path of this item through the idealized example of a system map provided below:

A student purchases a coffee from a coffee vendor on campus that is required to comply with the **campus procurement policy**. The student can either get the coffee in a **reusable to-go mug** or in a **compostable cup**. The student walks across campus with their coffee, and when finished, discards their coffee container in the **standardized collection bin** for either compostable materials or reusable dishware, available in every building on campus. If compostable, the material is collected and transported to an **industrial composting facility** (either on or off campus). If reusable, the dishes are taken to a **campus dishwasher** to be washed and re-distributed back to campus food vendors.

### Scope 2 - An Example of Material Flow Options Through an Idealized Version of a Soft Goods System Map



The Atlas Zero Waste project is designed to streamline campus material management systems, as illustrated by the example scenarios for Scope 1: “Hard Goods” and Scope 2: “Soft Goods.” Not addressed in this systemic analysis is a proverbial “Scope 3”, which would account for all items brought to campus (ie, not purchased by the campus) by individual consumers (faculty, staff, students, visitors, etc). We do not include these items in this assessment because the campus has no control over the purchasing of these items, and the ultimate management and disposal of these items falls under the parameters of Scopes 1 and 2. Therefore, effectively-designed Scope 1 & 2 systems will ultimately be capable of capturing Scope 3 materials. Below is an ideal version of how a Scope 3 material would be captured in this system.

A student living in a residential hall on campus discovers that their lamp is broken. They bring the lamp to the **campus repair center** (a facility assessed in **Scope 1**), where an attempt to repair the lamp is made. If the lamp cannot be repaired - the lamp is placed in a **standardized electronic waste recycling bin** which can be found in most buildings on campus.

## PROGRAM SCORING

**Program Scoresheet:** In addition to the Hard Goods and Soft Goods Material Scopes, and the Additional Programs groupings, all of the questions in the Campus Programs Checklist were also categorized by specific program, as seen in the included Program Scoresheet on page 9 (PDF linked [here](#)), such as reusable to-go ware or residential hall initiatives. Note that what is defined as “programs” are generally smaller-scale projects or components of large systems, and less so campus-wide infrastructure.

**Tables & Additional Programs:** The majority of the assessment’s findings are presented in tables and can be interpreted as shown below. The scores preceded by a “+” at the top of each section indicate “Additional Programs,” meaning that they are added as unweighted extra credit to the Hard Goods and Soft Goods scores. Additional Programs are defined as programs that go above and beyond standard waste management.

yes	full points awarded, i.e. 100% adoption across all facilities
partial	half points awarded, i.e. facilities are still in the process of adoption
no	no points awarded, i.e. facilities have not adopted this practice and are not in the process of adopting it
n/a	question is not asked or is not applicable to this facility
+0	no extra points awarded - this is an additional credit question
+number	extra points awarded - this is an additional credit question

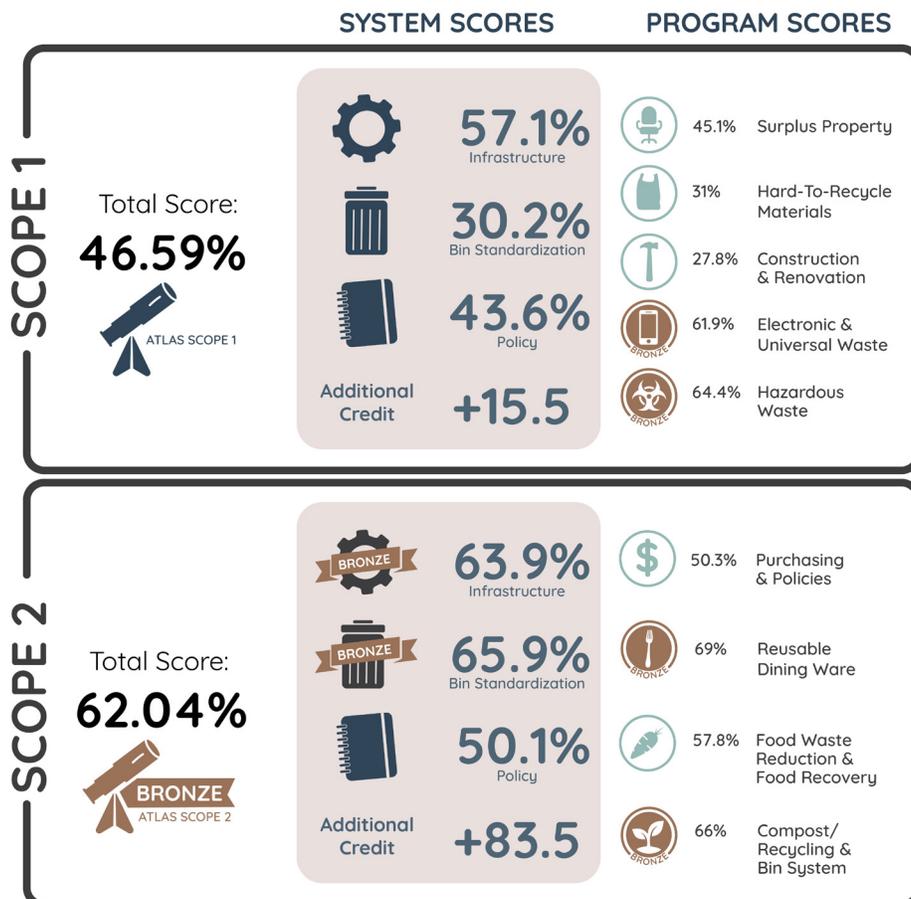
## UG'S ZERO WASTE SCORECARD

**University of Guelph**  
Fall 2022



**Zero Waste™ Certification**  
A Program of PLAN

Total Score: 56.33%



# PROGRAM SCORESHEET

	Points Earned	Points Possible	Points Earned	Points Possible
<b>Scope 1: Surplus Property &amp; Hard-to-Recycle Materials (HRM)</b>			<b>867</b>	<b>1842</b>

Surplus Property	165.5	367
Surplus Program Policies & Communication	62.5	153
Surplus Program & Managed Materials	57	114
Reuse & Repair of Departmental Surplus Items	24	53
Reuse & Sharing of Student Items	22	47

Hard-to-Recycle Materials (HRM)	195	630
HRM from Specialized Facilities	156	369
HRM Aggregation & Collection Point Accessibility	39	261

Construction & Renovation	17.5	63
Construction & Renovation Policies	17.5	63

Electronic & Universal Waste	363.5	587
Policy Requiring Staff to Send E-Waste to Surplus/Recycling	40.5	54
Procurement Policies for Purchase, Takeback & Recycling	4.5	24
Electronics Repair & Recycling	211	264
E-Waste Collection Infrastructure	107.5	245

Hazardous Waste Collection & Management	125.5	195
Hazardous Waste Collection & Management	125.5	195

Scope 2: Compost, Food, and Plastics	1256.75	2125.5
--------------------------------------	---------	--------

Purchasing & Policies	446	887
Adherence to Campus Procurement Policies	172	336
Policies That Favor Bulk Products Over Single-Use	173.5	318
Institutionalizing Zero Waste Goals & Plans	30	93
Paper Reduction & Reuse Initiatives	70.5	140

Compost/Recycling & Bin System	341.25	517
Composting Program	53.5	74
Compostable Dining Ware & Disposables	87	149
Bin Standardization	144.25	225
Recycling	56.5	69

Reusable Dining Ware & To-Go Ware	322	466.5
Accessibility Policy	9	19
Reusable Dining Ware at Sit-Down Eateries	137.5	178.5
Reusable To-Go Ware Program	112	175
Hydration Station Availability	37	42
BYO Program	11	25
Collection Locations for To-Go Ware	15.5	27

Food Waste Reduction & Food Recovery	147.5	255
Food Recovery Program	72.5	120
Food Waste Reduction Initiatives & Education	75	135

Additional Credit	99	364.5
Additional Credit - Surplus Sharing Initiatives	4	28
Additional Credit - Hard-to-Recycle Material	3	35
Additional Credit - Hard Goods Reuse	8.5	11
Additional Credit - Reusable Dishware, To-Go Ware, BYO	34.75	134
Additional Credit - Food Recovery & Waste Minimization	0.5	16
Additional Credit - Compost	0	13
Additional Credit - Education	38.5	85
Additional Credit - Soft Goods Policies	1.5	4
Additional Credit - Liquid Collection	8.25	38.5

PLAN's Atlas Zero Waste project has found so far that the average campus scores between 40-50%. As we expand this project to more campuses, we will continue to update [national scoring averages and standings](#) for how campuses compare with each other.

A detailed breakdown of the campus' points can be found in the Campus Programs Checklist.

# REVERSE PROGRAM SCORESHEET

	Points Earned	Points Possible	Points Remaining	% of Scope Score*	% of Total Score*
<b>Scope 1: Surplus Property &amp; HRM</b>	<b>867</b>	<b>1842</b>	<b>975</b>	<b>52.93%</b>	<b>26.00%</b>
<b>Surplus Property</b>	<b>165.5</b>	<b>367</b>	<b>201.5</b>	<b>54.90%</b>	<b>5.37%</b>
Surplus Program Policies & Communication	62.5	153	90.5	4.91%	2.41%
Surplus Program & Managed Materials	57	114	57	3.09%	1.52%
Reuse & Repair of Departmental Surplus Items	24	53	29	1.57%	0.77%
Reuse & Sharing of Student Items	22	47	25	1.36%	0.67%
<b>Hard to Recycle Materials (HRM)</b>	<b>195</b>	<b>630</b>	<b>435</b>	<b>69.05%</b>	<b>11.60%</b>
HRM from Specialized Facilities	156	369	213	11.56%	5.68%
HRM Aggregation & Collection Point Accessibility	39	261	222	12.05%	5.92%
<b>Construction &amp; Renovation</b>	<b>17.5</b>	<b>63</b>	<b>45.5</b>	<b>72.22%</b>	<b>1.21%</b>
Construction & Renovation Policies	17.5	63	45.5	2.47%	1.21%
<b>Electronic Waste</b>	<b>363.5</b>	<b>587</b>	<b>223.5</b>	<b>38.07%</b>	<b>5.96%</b>
Policy Requiring Staff to Send E-Waste to Surplus/Recycling	40.5	54	13.5	0.73%	0.36%
Procurement Policies for Purchase, Takeback & Recycling	4.5	24	19.5	1.06%	0.52%
Electronics Repair & Recycling	211	264	53	2.88%	1.41%
E-Waste Collection Infrastructure	107.5	245	137.5	7.46%	3.67%
<b>Hazardous Materials</b>	<b>125.5</b>	<b>195</b>	<b>69.5</b>	<b>35.64%</b>	<b>1.85%</b>
Hazardous Waste Collection & Management	125.5	195	69.5	3.77%	1.85%

	Points Earned	Points Possible	Points Remaining	% of Scope Score*	% of Total Score*
<b>Scope 2: Compost, Food, and Plastics</b>	<b>1256.75</b>	<b>2125.5</b>	<b>868.75</b>	<b>40.87%</b>	<b>23.16%</b>
<b>Purchasing &amp; Policies</b>	<b>446</b>	<b>887</b>	<b>441</b>	<b>20.75%</b>	<b>11.76%</b>
Adherence to Campus Procurement Policies	172	336	164	7.72%	4.37%
Policies That Favor Bulk Products Over Single-Use	173.5	318	144.5	6.80%	3.85%
Institutionalizing Zero Waste Goals & Plans	30	93	63	2.96%	1.68%
Paper Reduction & Reuse Initiatives	70.5	140	69.5	3.27%	1.85%
<b>Compost/Recycling &amp; Bin System</b>	<b>341.25</b>	<b>517</b>	<b>175.75</b>	<b>8.27%</b>	<b>4.69%</b>
Composting Program	53.5	74	20.5	0.96%	0.55%
Compostable Dining Ware & Disposables	87	149	62	2.92%	1.65%
Bin Standardization	144.25	225	80.75	3.80%	2.15%
Recycling	56.5	69	12.5	0.59%	0.33%
<b>Reusable Dining and To-Go Ware</b>	<b>322</b>	<b>466.5</b>	<b>144.5</b>	<b>6.80%</b>	<b>3.85%</b>
Accessibility Policy	9	19	10	0.47%	0.27%
Reusable Dining Ware at Sit-Down Eateries	137.5	178.5	41	1.93%	1.09%
Reusable To-Go Ware Program	112	175	63	2.96%	1.68%
Hydration Station Availability	37	42	5	0.24%	0.13%
BYO Program	11	25	14	0.66%	0.37%
Collection Locations for To-Go Ware	15.5	27	11.5	0.54%	0.31%
<b>Food Waste Reduction &amp; Food Recovery</b>	<b>147.5</b>	<b>255</b>	<b>107.5</b>	<b>5.06%</b>	<b>2.87%</b>
Food Recovery Program	72.5	120	47.5	2.23%	1.27%
Food Waste Reduction Initiatives & Education	75	135	60	2.82%	1.60%

<b>Additional Credit</b>	<b>99</b>	<b>364.5</b>
Additional Credit - Surplus Sharing Initiatives	4	28
Additional Credit - Hard-to-Recycle Material	3	35
Additional Credit - Hard Goods Reuse	8.5	11
Additional Credit - Reusable Dishware, To-Go Ware, BYO	34.75	134
Additional Credit - Food Recovery & Waste Minimization	0.5	16
Additional Credit - Compost	0	13
Additional Credit - Education	38.5	85
Additional Credit - Soft Goods Policies	1.5	4
Additional Credit - Liquid Collection	8.25	38.5

KEY to Colorcoding	
<span style="background-color: #f08080; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	<b>HIGH PRIORITY:</b> ≥5.0% of total points remaining
<span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	<b>MED PRIORITY:</b> 1.0-4.9% of total points remaining
<span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	<b>LOW PRIORITY:</b> ≤1.0% of total points remaining

# SUMMARY RECOMMENDATIONS

We recommend that the University of Guelph gather a Zero Waste Task Force (ZWTF) to review this report. Following that review, we recommend working collaboratively with all stakeholders in these groups to discuss and build a strategic vision to address system-wide solutions, using this report to inform a “Zero Waste Roadmap” that directly informs the University’s long-term strategic goals. The established vision may outline ambitious goals that require advanced long-term strategic planning and establishment of new campus infrastructure and systems, as well as policies and standard operating procedures that may differ from the way materials are currently managed. They may also require looking into organizational restructuring to relocate and redefine program management and responsibilities, which should be coupled with ample research to make decisions around management and costs. The ZWTF should aim to develop a timeline to achieve measurable progress towards the following recommendations:

## SCOPE 1

- Establish and communicate **sustainable procurement policies** to guide departments with purchasing hard goods.
  - Establish a policy requiring faculty and staff to **check surplus property** options before purchasing new items.
  - Establish and communicate sustainable procurement policies for electronics with language prioritizing:
    - EPEAT Products certified Bronze, Silver, or Gold
    - Leased equipment
    - Keeping current electronics in use over purchasing new
    - Partnering with an electronic waste recycler certified under the [e-Stewards](#) and/or the [Responsible Recycling \(R2\)](#) standard.
- Establish a policy requiring faculty and staff to utilize campus **electronic waste and universal waste recycling** programs, and increase accessibility and drop-off locations of these programs.

- We recommend standardizing and documenting the electronics recycling process and ensuring that all staff are well-informed of these expectations.
- Establish a **permanent surplus property facility** with a physical storefront, accessible to all students, staff, and faculty that has the capacity to handle large volumes of material flow during busy times of the year (move-out, large renovation projects, etc.).
  - Practice sustainable management of university property by **repairing** equipment instead of buying new, **sharing** materials across campus by listing available shared resources online, and **reusing** or **donating** equipment and materials off-campus or through surplus property.
  - Surplus facilities that follow best practices also offer educational and learning opportunities as a site of academic research and student jobs. An ideal space would have **repair stations**, electronics and furniture **deconstruction facilities**, art studio space, etc. The surplus facility should serve as a **sustainable materials management lab** to the campus community, and offer **workshops**, programs, and **educational tours**.
  - The University could hire additional staff to assist in properly managing, repairing, and donating a larger volume of surplus property.
- The University of Guelph should increase the accessibility of **hard-to-recycle material and e-waste collection** beyond just staff members by establishing year-round collection points in residence halls and other high-traffic areas for HRMs such as clothing, plastic films, electronics, and universal waste.
- Build upon existing sustainable **construction and renovation** policies to require the use of the campus surplus property and electronic waste recycling programs when discarding items, as well as when selecting furniture and equipment for newly renovated facilities.
  - Explore the addition of policy language to require reusable materials in construction - such as the reuse of previously deconstructed materials like brick, lumber, and installed fixtures.
  - Add language prioritizing on-campus reuse of building materials and establish systems to collect, aggregate, and recycle all non-reusable materials (i.e. wood, metal, paint, concrete, porcelain, etc.).

## SCOPE 2

- Continue to expand the already successful **reusable dishware and reusable to-go container program** to all facilities to eliminate as many single-use disposable and single-use compostable materials as possible
- Reusable to-go containers should be accepted at all food-service facilities. The University could explore best practices for tracking container returns and usage through an app or other barcode tracking technology.
  - Offer discounts for all **personal reusables** in all food service facilities.
    - Students are not allowed to bring their own reusable containers into most dining facilities on campus. The only locations where these are allowed are at the UC Chef's Hall, Starbucks, Bullring, and Tim Hortons. The University could consider formalizing a BYO program as a campus-wide policy, and expanding it to allow students to bring their own containers to all dining locations, Athletics, and on-campus events.
- Expand **compost collection** and switch all single use items (hairnets, food products, office supplies) to compostables to reduce single use plastics on campus.
  - Standardized compost bins should be accessible in both front-of-house and back-of-house across campus.
  - All on-campus eateries should be required to have front-of-house and back-of-house compost collection in accordance with bin standardization guidelines.
- Provide plastic straws when requested for those with physical disabilities.
- Increase **student involvement** in zero waste and waste reduction efforts around campus.
  - Increase the amount of student-held positions on campus for move-in, move-out, surplus property, environmental justice, and sustainability in all departments across campus.
  - Considering the campus-wide impact of current student organizations on The University of Guelph's campus and waste streams, the University should increase staff support and involvement in the initiatives. Furthermore, the campus should create additional **permanent staff positions** that work to strengthen their impact.

- Expand the existing sustainability and zero waste **curriculum** to familiarize students with the environmental, social, and economic effects of a linear consumption economy.
  - While education is extremely important in contributing to culture change, infrastructure change ultimately provides the greatest impetus for behavior change, so any educational campaigns must be coupled with the implementation of systems and programs to support long-lasting change.<sup>1</sup>
- Create more **compensated opportunities** for students to be involved in sustainability projects and planning committees.
  - Increase funding for waste reduction infrastructure and staffing.
  - Integrate a zero waste session for new students into orientation and continue creating academic curriculum that addresses zero waste.
- Require all facilities to participate in the **food recovery program**. Collection locations should be permanently placed in residence halls, nearby eateries, and other high traffic areas with clear and standardized signage.
  - Provide infrastructural support for the food recovery program (paid labor, kitchen space to re-package prepared food, support for transportation of food) to expand their efforts to collect prepared foods and items from all campus eateries to distribute to local partners.
- Further reduce food waste by expanding **food waste education** programming to regularly educate consumers on the problems with food waste and the strategies to reduce it.
  - Implement other food waste reduction strategies like running regular audits to examine purchasing and consumption patterns.
- Establish a **zero waste events guide** in line with the guidelines outlined in the Break Free From Plastic Pledge.<sup>2</sup>
- Pledge to eliminate single-use plastic and non-essential packaged items by signing the Break Free From Plastic Campus Pledge, including relevant language in existing green purchasing guidelines, and establishing systems for bulk service and bulk purchasing.

<sup>1</sup> See PLAN's blog post on why [Infrastructure Change Must Precede Behavior Change](#), which shares takeaways from other behavioral psychology experts.

<sup>2</sup> See PLAN's manual on [Zero Waste Events](#) as a guide.

Additional resources to aid your campus in zero waste programming can be found on [PLAN's website](#); these include manuals advising on waste reduction programs, case studies on best practices gathered from different campuses, Beyond Waste Leadership Certification training, partner discounts on products and services such as reusable to-go boxes and surplus property asset management platforms. Campuses that are interested in further exploring strategic planning around campus-wide zero waste are encouraged to consider a Stage 2 Atlas engagement with PLAN.

# SCOPE 1 - HARD GOODS: SURPLUS & HARD-TO-RECYCLE MATERIALS (HRM)

TABLE 1: CAMPUS SURPLUS PROPERTY COLLECTION

Table 1: Campus Surplus Property Collection	
Surplus Property	Collected by Campus for Reuse
Furniture	yes
Electronics (laptops, lab and medical, refrigerators, air conditioners, appliances, handheld devices, wires and cables)	yes
Mixed media (CD's, DVD's, etc.)	yes
Textiles (clothing, uniforms, etc.)	no
Reusable building fixtures (i.e lighting, HVAC systems, plumbing fixtures, doors, etc.)	partial
Construction & demolition material (brick, stone, tiles, wood, shingles, etc.)	no
Misc. household goods (dishware, decorations, school supplies, sporting equipment, etc.)	no
Campus vehicles	no
Books	yes
Paint & art supplies	yes
Lab equipment*	no
Medical supplies (e.g. crutches)*	no
Bikes & bike parts	partial

*\*can be collected for internal reuse by specific campus department*

The campus has the full capacity to collect and manage 5 of 13 assessed surplus property items for reuse. The surplus property program partially collects an additional 2 materials, depending on the appropriate circumstances. Those who knew of the program reported their discontent with not being able to see the items available for selection. A handful of stakeholders voiced strong interest in shopping surplus if the current barriers were addressed.

There is not a policy requiring staff to check surplus before purchasing new items, resulting in only 22 of the 56 stakeholders responding with a history of utilizing this program. An additional 8 stakeholders did not know of any program existing on campus. We recommend significantly expanding and improving the campus's capacity to manage surplus property by establishing a digital asset management system as well as a permanent central location for the physical management of these materials.

We recommend establishing and communicating policies that require all staff utilize these programs, and requiring all reusable construction and demolition materials and fixtures (lighting, HVAC, plumbing fixtures, and doors) to be sent to surplus.

Further recommendations on surplus expansion are provided in the summary recommendations section above.

# HRM COLLECTION INFRASTRUCTURE

This table shows what types of HRM are generated and collected at each facility and is intended to serve as a starting point for streamlining HRM collection across the entire campus.

HRM Type	Aggregation Point?	SF: Ag Center	KEY														
			SF: AG: Ontario Crop Research - Elora	SF: AG: Ontario Crop Research - Bradford	SF: AG: Arkeil Research Facility	SF: AG: UofG Phytron (CBS)	SF: AG: Ontario Crop Research - Emo	SF: AG: Aquaculture Research Centre	SF: LAB: Summerlee Science Complex (CBS)	SF: LAB: Guelph Turfgrass Institute	SF: LAB: Hagen Aquatub (CBS)	SF: LAB: Biodiversity Institute of Ontario (CBS)	SF: LAB: Animal Health	SF: LAB: Animal Biosciences and Nutrition (OAC)	SF: LAB: Food Science Building (OAC)		
Lab plastics	partial			Thrown Away	Thrown Away				Thrown Away	Accessible Drop-Off Point	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	
Lab glass	partial			Thrown Away		Internally Recycled or Reused			Thrown Away	Accessible Drop-Off Point	Internally Recycled or Reused	Thrown Away	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Internally Recycled or Reused	
Lab plastics (items like pipette tips, etc are usually not placed in a normal recycling bin)	no			Thrown Away	Thrown Away				Thrown Away	Accessible Drop-Off Point	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	
Styrofoam and packing peanuts	no			Thrown Away	Thrown Away	Thrown Away			Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	
Rigid plastics (e.g., tubes, planting pots, pesticide containers)	no	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Thrown Away	Thrown Away	Internally Recycled or Reused	Thrown Away	Thrown Away	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	
Rubber gloves	partial	Accessible Drop-Off Point	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Accessible Drop-Off Point	Thrown Away	Accessible Drop-Off Point	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	
Textiles (e.g., rags, clothing, draperies, etc.)	no	Accessible Drop-Off Point		Thrown Away	Thrown Away		Accessible Drop-Off Point	Thrown Away				Thrown Away					
Mattresses	no			Thrown Away													
Plastic signage (e.g., vinyl banners, plastic corrugated signs)	no	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused			Accessible Drop-Off Point	Thrown Away	Thrown Away				Thrown Away	Thrown Away	Thrown Away		
Wood pallets	no	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Thrown Away	Thrown Away			Thrown Away	Accessible Drop-Off Point			Internally Recycled or Reused	
Cooking oil	yes			Thrown Away												Thrown Away	
HVAC air filters	no	Accessible Drop-Off Point		Thrown Away	Thrown Away		Accessible Drop-Off Point	Thrown Away					Thrown Away				Internally Recycled or Reused
<b>Construction Material</b>																	
Scrap metal	yes	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Thrown Away	Accessible Drop-Off Point	Thrown Away	Thrown Away			Accessible Drop-Off Point			Thrown Away	Thrown Away	
Wood and/or sawdust	no	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Thrown Away	Thrown Away	Accessible Drop-Off Point	Thrown Away	Thrown Away			Thrown Away					
Concrete	yes			Thrown Away					Thrown Away								
Brick	no			Thrown Away					Thrown Away								
Drywall	no			Thrown Away					Thrown Away								
Roof shingles	no			Thrown Away					Thrown Away								
Porcelain (e.g., sinks, toilets, tubs)	no			Thrown Away													
Carpet	no			Thrown Away													
<b>Electronic &amp; Universal Waste</b>																	
Laptops/computers	yes	Internally Recycled or Reused		Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point
Lab and medical electronic equipment	yes	Internally Recycled or Reused		Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point
Freon-containing equipment (e.g., refrigerators, air conditioners)	yes			Accessible Drop-Off Point		Thrown Away		Thrown Away	Internally Recycled or Reused		Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point
Microwaves	yes			Accessible Drop-Off Point				Thrown Away	Accessible Drop-Off Point				Internally Recycled or Reused	Internally Recycled or Reused			
Household appliances (e.g., fans, vacuum cleaners, anything with a cord or battery)	yes			Accessible Drop-Off Point				Thrown Away	Accessible Drop-Off Point		Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused			
Handheld electronics	yes	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused		
Wires and cables	yes	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Thrown Away	Thrown Away		Accessible Drop-Off Point
CD's and DVD's	yes	Thrown Away		Thrown Away			Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Accessible Drop-Off Point				
Batteries	yes	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Thrown Away	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point
Lightbulbs	yes	Thrown Away		Accessible Drop-Off Point	Thrown Away	Thrown Away	Thrown Away	Thrown Away	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused		
Mercury-containing equipment (e.g., thermometers, thermostats, fluorescent bulbs, ink cartridges)	yes		Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point			Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point
<b>Hazardous Waste</b>																	
Tires	no		Accessible Drop-Off Point														
Paints and oil-based supplies (e.g., paint thinner)	partial	Internally Recycled or Reused		Accessible Drop-Off Point	Accessible Drop-Off Point		Internally Recycled or Reused	Thrown Away		Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused		Accessible Drop-Off Point
Lab chemicals or radiological waste	yes			Internally Recycled or Reused					Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused		Accessible Drop-Off Point
Waste oil (e.g., from vehicles)	yes	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point			Internally Recycled or Reused						Accessible Drop-Off Point				
Pesticides	partial	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Thrown Away		Internally Recycled or Reused							
Fertilizer	partial		Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point					Internally Recycled or Reused						
Propane and propane tanks	no		Accessible Drop-Off Point	Accessible Drop-Off Point									Accessible Drop-Off Point	Thrown Away			
Custodial chemicals	no							Thrown Away				Accessible Drop-Off Point	Thrown Away				
Sharps	yes			Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point		Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point

To view HRM Collection Infrastructure in more detail, click [here](#).

HRM Type	Aggregation point?	SF: LAB: Pathobiology	SF: Art Studio	SF: Theater	SF: Music	SF: OVC Health Centres	Central Receiving	Mail Services	Childcare	Library	Bookstore	Co-Op Bookstore	Admin: Long School of Business and Economics	Admin: College of the Arts	Admin: College of Social & Applied Human Sciences	Admin: Ontario Agricultural College	
Lab plastics	partial	Thrown Away				Thrown Away		Internally Recycled or Reused									
Lab glass	partial	Internally Recycled or Reused					Thrown Away										
Lab plastics (items like pipette tips, etc are usually not placed in a normal recycling bin)	no	Thrown Away				Thrown Away		Internally Recycled or Reused									
Styrofoam and packing peanuts	no	Thrown Away	Thrown Away	Internally Recycled or Reused		Internally Recycled or Reused	Internally Recycled or Reused	Internally Recycled or Reused			Thrown Away	Thrown Away					
Rigid plastics (e.g., tubes, planting pots, pesticide containers)	no	Accessible Drop-Off Point	Thrown Away	Internally Recycled or Reused	Thrown Away	Thrown Away	Thrown Away	Internally Recycled or Reused			Internally Recycled or Reused				Internally Recycled or Reused		
Rubber gloves	partial	Thrown Away	Thrown Away	Thrown Away		Thrown Away	Thrown Away	Thrown Away	Thrown Away	Thrown Away					Thrown Away		
Textiles (e.g., rags, clothing, draperies, etc)	no		Thrown Away	Internally Recycled or Reused			Thrown Away		Internally Recycled or Reused	Thrown Away		Internally Recycled or Reused			Thrown Away		
Mattresses	no						Thrown Away										
Plastic signage (e.g., vinyl banners, plastic corrugated signs)	no	Thrown Away		Internally Recycled or Reused	Thrown Away	Thrown Away	Thrown Away	Thrown Away			Internally Recycled or Reused				Thrown Away	Thrown Away	
Wood pallets	no			Accessible Drop-Off Point		Internally Recycled or Reused	Thrown Away	Internally Recycled or Reused		Internally Recycled or Reused		Accessible Drop-Off Point					
Cooking oil	yes						Accessible Drop-Off Point										
HVAC air filters	no						Thrown Away	Internally Recycled or Reused									
<b>Construction Material</b>																	
Scrap metal	yes	Thrown Away	Thrown Away	Accessible Drop-Off Point		Internally Recycled or Reused	Thrown Away				Internally Recycled or Reused						
Wood and/or sawdust	no		Thrown Away	Accessible Drop-Off Point		Internally Recycled or Reused	Thrown Away										
Concrete	yes						Thrown Away	Thrown Away									
Brick	no						Thrown Away	Thrown Away									
Drywall	no						Thrown Away	Thrown Away									
Roof shingles	no						Thrown Away										
Porcelain (e.g., sinks, toilets, tubs)	no						Thrown Away	Thrown Away	Thrown Away								
Carpet	no			Internally Recycled or Reused			Thrown Away			Internally Recycled or Reused							
<b>Electronic &amp; Universal Waste</b>																	
Laptops/computers	yes	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point		Internally Recycled or Reused	Accessible Drop-Off Point	
Lab and medical electronic equipment	yes	Internally Recycled or Reused				Accessible Drop-Off Point	Accessible Drop-Off Point								Internally Recycled or Reused		
Freon-containing equipment (e.g., refrigerators, air conditioners)	yes	Internally Recycled or Reused				Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused					Internally Recycled or Reused		
Microwaves	yes	Internally Recycled or Reused				Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused					Internally Recycled or Reused		
Household appliances (e.g., fans, vacuum cleaners, anything with a cord or battery)	yes	Internally Recycled or Reused			Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point		Accessible Drop-Off Point	Internally Recycled or Reused		Internally Recycled or Reused			Internally Recycled or Reused		
Handheld electronics	yes	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Internally Recycled or Reused		Internally Recycled or Reused	Accessible Drop-Off Point		Internally Recycled or Reused		
Wires and cables	yes	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused			Thrown Away	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point
CD's and DVD's	yes		Thrown Away		Thrown Away	Accessible Drop-Off Point	Thrown Away				Thrown Away		Thrown Away	Internally Recycled or Reused	Internally Recycled or Reused		
Batteries	yes	Internally Recycled or Reused	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Internally Recycled or Reused	Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point	Accessible Drop-Off Point
Lightbulbs	yes	Internally Recycled or Reused	Accessible Drop-Off Point		Internally Recycled or Reused	Internally Recycled or Reused	Thrown Away	Internally Recycled or Reused	Accessible Drop-Off Point	Internally Recycled or Reused		Accessible Drop-Off Point	Internally Recycled or Reused		Internally Recycled or Reused		
Mercury-containing equipment (e.g., thermometers, thermostats, fluorescent bulbs, ink cartridges)	yes	Internally Recycled or Reused	Accessible Drop-Off Point		Internally Recycled or Reused		Thrown Away	Accessible Drop-Off Point	Accessible Drop-Off Point	Internally Recycled or Reused					Internally Recycled or Reused		
<b>Hazardous Waste</b>																	
Tires	no																
Paints and oil-based supplies (e.g., paint thinner)	partial		Internally Recycled or Reused	Thrown Away			Thrown Away			Internally Recycled or Reused							
Lab chemicals or radiological waste	yes	Internally Recycled or Reused				Accessible Drop-Off Point											
Waste oil (e.g., from vehicles)	yes																
Pesticides	partial																
Fertilizer	partial																
Propane and propane tanks	no																
Custodial chemicals	no									Internally Recycled or Reused							
Sharps	yes	Internally Recycled or Reused		Accessible Drop-Off Point		Accessible Drop-Off Point	Thrown Away		Accessible Drop-Off Point	Internally Recycled or Reused	Accessible Drop-Off Point						Accessible Drop-Off Point

## TABLE 2: CAMPUS AGGREGATION OF HRM

Table 2: Campus Aggregation of HRM	
Hard-to-Recycle Materials (HRM)	Collected at a Campus Aggregation Point
Lab plastics (Items like pipette tips, etc are usually not placed in a normal recycling bin.)	partial
Lab glass (Lab glass is Borosilicate glass and is usually not placed in a normal recycling bin.)	partial
Plastic film & bags (Items like bubble wrap, plastic wrap, air packages are usually not placed in a normal recycling bin.)	no
Styrofoam & packing peanuts	no
Rigid plastics (e.g. tubes, pots, pesticide containers)	no
Rubber gloves	partial
Scrap metal	yes
Wood and/or sawdust	no
Concrete	yes
Brick	no
Drywall	no
Roof shingles	no
Porcelain (e.g. sinks, toilets, tubs, etc.)	no
Textiles	no
Carpet	no
Mattresses	no
Plastic signage	no
Wood pallets	no
Cooking oil	yes
HVAC air filters	no
<b>Electronic Recycling</b>	
Laptops/computers	yes
Lab & medical electronic equipment	yes
Freon-containing equipment (refrigerators, A/C)	no
Microwaves	yes
Household appliances (fans, vacuums, anything w/cord or battery)	yes
Handheld electronics	yes
Wires and cables	yes
Mixed media (CD's and DVD's)	yes
Batteries	no
Lightbulbs	no
Ink & toner cartridges	yes
Mercury-containing equipment (thermometers, fluorescent bulbs, etc.)	no
<b>Hazardous/Regulated Waste</b>	
Tires	no
Paints and oil-based supplies	partial
Lab chemicals or radiological waste	yes
Waste oil	yes
Pesticides	partial
Fertilizer	partial
Propane and propane tanks	no
Custodial chemicals	no
Sharps	yes

This section measures the campus's capacity in terms of infrastructure, services, and staff to fully capture hard-to-recycle materials (HRM) from all departments and locations on campus with the intended purpose of aggregating those items for economical recycling of them through industrial facilities. HRMs exist in different pockets and departments of UG's campus, and are more efficient and cost-effective to manage at campus-scale via a campus-wide system.

The campus has the capacity to collect 14 of the 40 assessed materials for specialized recycling or disposal. An additional 6 materials are partially captured across campus. There is evidence of disjunctive disposal of materials. Some facilities have specific drop-off locations for materials, while others dispose of the same material through reuse and recycling or sending it to a landfill. For example, while the campus does not coordinate any HRM collection of rigid plastics, 7 facilities reported using an accessible drop-off point; 9 facilities reported that they collect this material internally for small-scale reuse or possible recycling. An additional 8 facilities reported that these items were regularly thrown away.

With the various labs at the University of Guelph, facilities have created internal and external ways of coordinating their waste management. For example, the Turfgrass Institute and the Hagen Aqualab reported that they coordinate with the Environmental Health & Safety department to have their hazardous waste collected, once EH&S is advised on which materials need to be disposed of. The Pathobiology lab disposes of their own chemical waste through their biological waste stream. As well, biohazard waste is autoclaved in-house.

E-waste, on the other hand, is disposed of through a 3rd party contractor. Collection location should be expanded as well as made accessible to students. The University should prioritize high traffic areas, such as residence halls. The variety of materials collected should be expanded to include the following: freon-containing equipment (e.g, refrigerators, air conditioners, etc), batteries, lightbulbs, and mercury-containing equipment (e.g, thermometers, thermostats, fluorescent bulbs, etc). To assist students and the greater Guelph campus community, e-waste drives should be hosted throughout the year.

In order to emphasize a focus on upstream solutions, the campus should require all construction and demolition projects to reuse all viable materials and fixtures. Looking at downstream solutions, a handful of C&D materials are recycled when possible: carpet, metal, concrete, and brick. The campus should expand the recycling of C&D materials to include paint, wood, drywall, and porcelain.

# SCOPE 2 - SOFT GOODS: FOOD, PLASTIC & COMPOST

## CAMPUS DINING FACILITIES & FOOD-SERVICE VENDORS

For the purposes of this assessment, we divide dining facilities and campus vendors into assessment categories based on the style of food service (dine-in vs. to-go), and group facilities based upon management. We choose to include Events within Dining Facilities because in order to achieve Zero Waste Events, the same systems that service all dining facilities (e.g. reusable dining ware, food recovery, bin standardization, etc.) must be set up to also serve events. The following tables depict our findings of all assessed dining facilities.

<b>Campus Dining Halls</b>	Locations with buffet style service in an enclosed setting. May be "all you can eat" or food court style with multiple stations, but under one facility.	- N/A
<b>Restaurants</b>	Locations with full sit-down service in an enclosed setting.	- Bullring - Brass Taps - Craft Kitchen & Ale House - The Lookout: Patio & Lounge
<b>Casual Sit-Down Eateries</b>	Locations that have seating for customers but may not be fully enclosed locations (i.e. may share seating with common area seating), with both dine-in and to-go options.	- Mountain - Prairie Dining - UC Chef's Hall - Lennox/Addington - Creelman Hall - OVC Cafeteria
<b>Grab &amp; Go</b>	Locations that primarily serve food for take-out. May have some seating but majority of food is to-go.	- Pizza Pizza - KFC - ChaTime - Subway - Tim Hortons - Booster Juice - Planet Bean
<b>Convenience Stores</b>	Locations that sell primarily pre-packaged food that generally do not prepare food on-site.	- East Variety - LA
<b>Athletics</b>	Concessions stands within Athletics Facilities; also includes tailgates and catering for traveling athletes.	- Concessions
<b>Events</b>	Food served outside of the above locations provided by catering or off-campus vendors.	- Catering

### TABLE 3: PROCUREMENT POLICIES

Table 3: Procurement Policies								
	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit- Down: Mountain	Casual Sit- Down: Prairie Dining	Casual Sit- Down: UC Chef's Hall	Casual Sit- Down: Lennox/Addi- ngton	Grab & Go: Starbucks	Grab & Go: Subway
<b>Procurement Policies</b>								
Vendor required to comply with campus procurement policies	yes	yes	no	partial	no	yes	no	no
Reusable gloves/aprons/hairnets	yes	yes	yes	yes	partial	partial	partial	partial
Eliminated plastic bags	yes	yes	yes	yes	yes	yes	yes	yes
Eliminated sales of bottled water	partial	partial	no	no	no	no	no	no
<b>Bulk Procurement</b>								
Eliminated unnecessarily wrapped single-serve items	partial	partial	yes	yes	partial	partial	no	no
Snacks and sides in bulk	yes	yes	n/a	n/a	partial	partial	no	no
Beverages in bulk dispensers	yes	yes	yes	yes	partial	no	no	yes
Eliminated K-Cups and plastic-wrapped tea bags	yes	yes	yes	yes	n/a	n/a	no	n/a
Bulk dispense creamers, condiments, butters, jellies	yes	yes	yes	yes	partial	partial	no	n/a
	Grab & Go: Tim Hortons	Grab & Go: Booster Juice	Grab & Go: Planet Bean	Convenience Store: East Variety	Convenience Store: LA	Athletics	Events	
<b>Procurement Policies</b>								
Vendor required to comply with campus procurement policies	no	no	yes	yes	yes	yes	yes	
Reusable gloves/aprons/hairnets	partial	partial	yes	partial	partial	n/a	n/a	
Eliminated plastic bags	yes	yes	yes	yes	yes	n/a	n/a	
Eliminated sales of bottled water	n/a	no	no	no	no	n/a	no	
<b>Bulk Procurement</b>								
Eliminated unnecessarily wrapped single-serve items	no	no	partial	partial	partial	n/a	yes	
Snacks and sides in bulk	no	no	no	partial	partial	n/a	yes	
Beverages in bulk dispensers	yes	no	no	no	no	n/a	yes	
Eliminated K-Cups and plastic-wrapped tea bags	n/a	no	yes	n/a	n/a	n/a	partial	
Bulk dispense creamers, condiments, butters, jellies	yes	n/a	yes	no	no	n/a	yes	

As seen in **Table 3**, not all campus vendors are required to comply with campus procurement policies. Only Mountain, Prairie Dining, and Planet Bean have eliminated unnecessarily wrapped single-serve items, such as K-Cups, tea bags, beverages, and condiments. The campus could look to the [Break Free From Plastic Pledge](#) for a full list of single-use plastic items that we recommend phasing out. All of these facilities have eliminated the sale of plastic bags, in accordance with Canada’s single use plastic ban. Plastic water bottles are being sold or distributed at all eateries and events, aside from Brass Taps and The Lookout: Patio & Lounge. Zero waste efforts are scattered across the board with the University’s eateries. We recommend establishing thorough policies and guidelines for all eateries to comply with.

## TABLE 4: REUSABLE DINING WARE INFRASTRUCTURE

Table 4: Reusable Dining Ware Infrastructure															
	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit- Down: Mountain	Casual Sit- Down: Prairie Dining	Casual Sit- Down: UC Chef's Hall	Casual Sit- Down: Lennox/Addi- ngton	Grab & Go: Starbucks	Grab & Go: Subway	Grab & Go: Tim Hortons	Grab & Go: Booster Juice	Grab & Go: Planet Bean	Convenience Store: East Variety	Convenience Store: LA	Athletics	Events
Dishwasher	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	n/a	n/a	n/a	yes
Reusable Dishes															
Plates	yes	yes	yes	yes	yes	yes	+0	+0	+0	+0	+0	n/a	n/a	n/a	yes
Bowls	no	no	yes	yes	yes	yes	+0	+0	+0	+0	+0	n/a	n/a	n/a	yes
Utensils	yes	yes	yes	yes	yes	yes	+2	+2	+2	+2	+2	n/a	n/a	n/a	yes
Mugs/cups	yes	yes	yes	yes	yes	no	+0	+2	+0	+0	+0	n/a	n/a	n/a	yes
Straws*	+0	+0	+0	+0	+0.25	+0.25	+0	+0	+0	+0	+0	n/a	n/a	n/a	n/a
Napkins*	+0	+0	+0	+0	+0	+0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	yes
Reusable To-Go Ware															
Clamshell	yes	no	yes	yes	yes	yes	no	no	n/a	no	no	n/a	n/a	+0	+0
Soup	no	no	yes	yes	yes	yes	n/a	n/a	n/a	n/a	n/a	yes	yes	+0	+0
Utensils	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	n/a	n/a	+0	+0
Mugs/cups	no	no	yes	yes	yes	no	no	yes	no	no	no	n/a	n/a	+0	+0
Containers for bulk items*	n/a	n/a	+0	+0	+0.5	+0.5	+0	+0	+0	+0	+0	+0	+0	+0	+0.5
Customers Allowed to BYO Containers	yes	yes	yes	no	no	n/a	yes	no	yes	no	yes	n/a	n/a	n/a	n/a
Bring Your Own Discount															
Containers*	+0	+0	+0	+0	+0	+0.5	+0	+0	+0	+0	+0	+0.5	+0.5	+0	+0
Mugs/cups*	n/a	n/a	+0.5	+0.5	+0.5	+0.5	yes	no	yes	no	yes	+0.5	+0.5	+0	+0
Bags*	+0	+0	+0	+0	+0	+0	no	no	no	no	no	+0	+0	+0	+0
Utensils*	n/a	n/a	+0	+0	+0	+0	no	no	no	n/a	no	+0	+0	+0	+0
Bulk bins*	n/a	n/a	+0	+0	+0	+0	no	no	no	n/a	no	+0	+0	+0	+0

\*Additional Credit question

\*Additional Program questions that are eligible to be added as unweighted extra credit to a campus' total Scope 1 or Scope 2 score.

As shown in **Table 4**, reusable dishware is available at all campus eateries, aside from Grab & Go locations (Starbucks, Subway, Tim Hortons, Booster Juice, and Planet Bean). Planet Bean offers reusable dishware despite not having a dishwasher in their facility. The used dishware is sent to UC Chef's Hall to be cleaned. The Grab & Go locations earned additional credit for offering reusable utensils. A handful of these eateries offer a Bring Your Own discount for containers (Lennox/Addington and the LA and East Variety convenience stores) and mugs/cups (Mountain, Chef's Hall, Lennox/Addington, Starbucks, Tim Hortons, Planet Bean, and the LA and East Variety convenience stores). We recommend expanding the BYO container discount to include all eateries; this project could be a great student-led initiative.

We recommend expanding the reusable to-go container program to all food-service facilities. The University could explore best practices for tracking container returns and usage through an app or other barcode tracking technology.

**TABLE 5: FOOD RECOVERY & FOOD WASTE REDUCTION PROGRAMS**

	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit- Down: Mountain	Casual Sit- Down: Prairie Dining	Casual Sit- Down: UC Chef's Hall	Casual Sit- Down: Lennox/Addi ngton	Grab & Go: Starbucks	Grab & Go: Subway
<b>Food Recovery Program</b>	yes	yes	partial	partial	yes	yes	no	no
<b>Food Waste Reduction</b>								
Run audits	yes	yes	yes	yes	yes	yes	yes	yes
Purchase gleaned	partial	partial	partial	partial	yes	no	no	no
Food waste education	no	no	no	no	no	no	no	no
Trayless dining	n/a	n/a	no	no	no	yes	n/a	n/a

	Grab & Go: Subway	Grab & Go: Tim Hortons	Grab & Go: Booster Juice	Grab & Go: Planet Bean	Convenience Store: East Variety	Convenience Store: LA	Athletics	Events
<b>Food Recovery Program</b>	no	no	no	yes	yes	yes	no	partial
<b>Food Waste Reduction</b>								
Run audits	yes	yes	yes	yes	yes	yes	n/a	yes
Purchase gleaned	no	no	no	no	no	no	n/a	n/a
Food waste education	no	no	no	no	no	no	n/a	n/a
Trayless dining	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

As seen in **Table 5**, 7 facilities, being Brass Taps, The Lookout: Patio & Lounge, Chef’s Hall, Lennox/Addington, Planet Bean, and the LA and East Variety convenience stores, take part in a food recovery program. There is also an on-campus food pantry, which students can rely on for their needs. The MealCare fridges only accept pre-packaged food with safety in mind. Currently, food recovery collection locations pop up throughout the year in various locations. Ideally, there are numerous standardized collection locations that are routinely taken to the Food Pantry.

There are multiple food waste reduction efforts at the University of Guelph. All facilities run food purchasing to examine food consumption habits and reduce food waste. Despite this, none of the eateries have food waste educational programs. We recommend implementing food waste education programs and marketing in all eateries to share information about back-of-house practices, strategies for reducing food waste, and the connections to food security and environmental sustainability.

## TABLE 6: COMPOSTABLE MATERIALS

Table 6: Compostable Materials										
	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit-Down: Mountain	Casual Sit-Down: Prairie Dining	Casual Sit-Down: UC Chef's Hall	Casual Sit-Down: Lennox/Addi ngton	Grab & Go: Starbucks	Grab & Go: Subway	Athletics	Events
<b>Compostable Ware</b>										
Plates/bowls	yes	yes	yes	yes	yes	n/a	n/a	n/a	n/a	no
Hot bowls	yes	no	no	no	no	n/a	n/a	n/a	n/a	no
Utensils	no	no	yes	yes	yes	yes	no	n/a	n/a	no
Cups/mugs	partial	partial	no	yes	no	n/a	no	no	n/a	no
Straws	yes	yes	yes	yes	n/a	yes	yes	n/a	n/a	no
Napkins	yes	partial	yes	yes	yes	yes	yes	yes	n/a	yes
To-go ware	n/a	n/a	yes	yes	yes	n/a	no	yes	n/a	n/a
Miscellaneous packaged food items (e.g. sushi boxes)	n/a	no	n/a	no	partial	no	no	yes	n/a	no
Single-use creamers, condiments, butters, etc.	yes	yes	n/a	n/a	yes	yes	no	n/a	n/a	no
Containers for bulk items	n/a	n/a	n/a	n/a	yes	partial	no	no	n/a	n/a
Recyclable/compostable gloves/aprons/hairnets*	+0	+0	+0	+0	+0	+0	+0	+0	+0	n/a
<b>Compost Program</b>										
Food waste as feedstock for agriculture*	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0.5
Back-of-house collection	yes	yes	yes	yes	yes	yes	yes	yes	n/a	yes
Front-of-house collection	no	no	no	no	yes	yes	yes	yes	n/a	partial

As seen in **Table 6**, compost collection is partially present in both front-of-house and back-of-house capacities on campus. Furthermore, there are varying degrees of compostable dining ware being used. Aside from the facilities who do not use plates and bowls in their service, all eateries have compostable plates and bowls.

Compost is currently being hauled from campus by the City of Guelph. The University could consider using the University’s compost by-product, fertilizer, to support the various current agricultural operations.

We recommend reducing the contamination of waste, recycling and compost streams by establishing a system that is standardized across campus, is simple to navigate, and reduces confusion. This means that all disposable products should be switched to reusable or compostable wherever possible, **all “recyclable” products should be free of food contamination, and all other single-use disposable products should be eliminated wherever possible.**

## TABLE 7: PAPER RECEIPT ELIMINATION

Table 7: Paper Receipt Elimination								
	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit-Down: Mountain	Casual Sit-Down: Prairie Dining	Casual Sit-Down: UC Chef's Hall	Casual Sit-Down: Lennox/Addington	Grab & Go: Starbucks	Grab & Go: Subway
Transitioned from paper receipts to electronic	partial	yes	yes	partial	no	no	no	no
Can turn off paper receipts	partial	partial	no	no	no	yes	no	no

Grab & Go: Tim Hortons	Grab & Go: Booster Juice	Grab & Go: Planet Bean	Convenience Store: East Variety	Convenience Store: LA	Athletics	Bookstore	Co-op Bookstore
no	yes	no	no	no	yes	no	no
no	no	yes	yes	yes	yes	yes	yes

As seen in **Table 7**, only 4 facilities (The Lookout: Patio & Lounge, Mountain, Booster Juice, and Athletics) have fully transitioned from paper receipts to electronic. All of the facilities are typically able to turn off paper receipts, but as a result of technical difficulties experienced at the time of the assessment, many facilities are unable to turn off paper receipts.

## TABLE 8: ACCESSIBILITY

Table 8: Accessibility							
	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit-Down: Mountain	Casual Sit-Down: Prairie Dining	Casual Sit-Down: UC Chef's Hall	Casual Sit-Down: Lennox/Addington	Grab & Go: Starbucks
Plastic straws still accessible	partial	partial	no	no	yes	no	yes

Grab & Go: Subway	Grab & Go: Tim Hortons	Grab & Go: Booster Juice	Grab & Go: Planet Bean	Convenience Store: East Variety	Convenience Store: LA	Athletics	Events
no	no	yes	yes	no	n/a	n/a	yes

In line with the Break Free From Plastic Pledge, we assess plastic straw accessibility in the policy section because it is imperative that straws are still available for those who need straws for accessibility reasons. All dining locations on campus have plastic straws available to those who require them. We recommend adding language (sample language provided in the [BFFP Pledge](#)) into Dining or general Procurement policies to ensure that this is understood by all eateries.

## TABLE 9: TO-GO WARE COLLECTION INFRASTRUCTURE

Table 9: Reusable To-Go Ware Collection										
	Restaurant: Brass Taps	Restaurant: The Lookout: Patio & Lounge	Casual Sit-Down: Mountain	Casual Sit-Down: Prairie Dining	Casual Sit-Down: UC Chef's Hall	Casual Sit-Down: Lennox/Addington	Grab & Go: Starbucks	Grab & Go: Subway	Grab & Go: Tim Hortons	Grab & Go: Booster Juice
To-go ware collection	yes	no	yes	yes	yes	yes	no	no	no	no
Grab & Go: Planet Bean	Convenience Store: East Variety	Convenience Store: LA	Athletics	Events	Res Halls	Library	Admin: Lang School of Business and Economics	Admin: College of Arts	Admin: College of Social & Applied Human Sciences	Admin: Ontario Agricultural College
yes	yes	yes	n/a	no	yes	no	no	no	yes	yes

As seen in **Table 9**, the campus has not expanded reusable to-go ware collection drop-off bins to all facilities. We recommend expanding collection sites so that the program is more accessible and to increase the rate of return for reusable dishes and containers.

# CONCLUSION

The recommendations outlined above are just the beginning in a multi-stage zero waste planning process. We have provided recommendations based on best practices from campuses across the country, but the next step in zero waste planning is to identify the feasibility of these recommendations at the University and to strategize with PLAN's Atlas team to vision and develop a Zero Waste Task Force and subsequent Zero Waste Roadmap specific to the University of Guelph. This will require the collaboration between students, staff, and administration.

We encourage the campus to develop a goal that incorporates data from previous waste characterizations and quantitative measurements like diversion, reduction, and recycling, as well as qualitative goals to develop campus-wide service models for sustainable materials management and program areas such as engagement and education. For the University of Guelph to achieve zero waste, there will need to be financial support behind campus-wide infrastructure changes and administrative support for campus-level policies. The University should utilize this report as a wayfinding tool to benchmark and track progress on the remaining opportunities for waste reduction.

# ACKNOWLEDGEMENTS

## Contributors

**Author:** Grace Bowden, Atlas Zero Waste Coordinator, PLAN

**Report Design:** Alex Freid, Senior Director of Atlas Consulting, PLAN

**Stage 1 Fellows:** Youstina Makhoulf '21, Doctor of Veterinary Medicine (DVM) '25 and Sarah Kurtz '23, University of Guelph

## Special Acknowledgements

**Natalie Vasilivetsky:** Sustainability Coordinator, Sustainability Office

## List of Stakeholders

Adrian Hollingbury - Manager, Creelman Hall, Hospitality Services

Alanna Wylie - Food Bank Coordinator, Central Student Association

Alicja Zachertowska - Senior Health and Safety Consultant (Laboratory), Environmental Health and Safety

Barbara Merrill - Academic Program Assistant (Graduate & Undergrad), School of Fine Art and Music

Bonnie Thomson - Production Coordinator, School of English and Theatre Studies

Brandon Raco - Sustainability Manager, Sustainability Office

Bruce Collett - Manager (LA Café & Starbucks, Planet Bean Science, OVC Café, East Café and Grocery), Hospitality Services

Christine Zulauf - Special Events Manger, Hospitality Services

Daina Rau - Administrative Officer, Animal Biosciences

Dave Kells - Manager (Elora Crops Research Centre), Office of VP Research - OMAFRA Research Stations

Dave Vandenberg - Manager (Arkell Equine Research Station, Arkell Swine Research Station, Ontario Poultry Research Centre), Office of VP Research - OMAFRA Research Stations

David Horne - Stockroom Manager, Physical Resources

David Marom - Laboratory Technician, Pathobiology

David Scott - Shipping and Receiving, University Centre

Daymon Wells - Manager, Craft Ale & Kitchen

Elyse Serediuk - Childcare Cook, Child Care & Learning Centre

Emily Perreault - Administrative Assistant, College of Biological Science Dean's Office

Eric Lyons - Guelph Turfgrass Institute Director, Plant Agriculture

Erica Gunn - Research Assistant, Guelph Turfgrass Institute, Plant Agriculture

Erin Levesque - Administrative Assistant, OAC Dean's Office

Frank Cain - Facility & Business Development Manager, Athletics  
Hayley Mcnamara - Residence Programme Coordinator, Student Housing Services  
Hillary Lo - Student President, MealCare  
Hui Zhu - Purchasing Services Assistant Manager, Financial Services  
J.M. "Mike" Calvert - Operations Manager, University Centre Administration (Brass Taps Pub, The Lookout: Patio & Grad Lounge)  
Jamie Jones - Department Support, Molecular and Cellular Biology  
Jane Hawkes - Administrative Assistant, College of Arts - Dean's Office  
John Reinhardt - Manager, Grounds  
John Watson - Research Technician, G.M. Frost Centre Laboratory  
Justin Selby - Associate Director, Capital Development  
Kate Mooibroek - Administrative Assistant, Engineering & Physical Science - Dean's Office  
Katherine McColl - Manager (UC Chef's Hall, Starbucks, KFC, Pizza Pizza, Subway, Chatime, Tim Horton's), Hospitality Services  
Katrina Lindsay - General Manager, Bullring  
Kevin Ecott - Mail Services Assistant Manager, Financial Services  
Kim Thorne - Facilities and Operations Manager, Music  
Kimberly Jo Bliss - Research Technician, Ontario Crops Research Centre (Emo)  
Kirk Sprague - Facilities Manager, McLaughlin Library  
Kirsten Middleton - Manager, Coop Bookstore  
Leona Varga - Financial Clerk & Department Secretary, Food Science  
Louise McIntyre - Administrative Officer, Gordon S. Lang School of Business and Economics  
Marcia Chiasson - Manager (Ontario Aquaculture Research Station), Office of VP Research - OMAFRA Research Stations  
Maria Spinato - Director, Animal Health Laboratory  
Mark Kaufman - Assistant Manager (The University Bookstore), Hospitality Services  
Mark Kenny - Procurement Manager, Hospitality Services  
Matt Cornish - Coordinator, Hagen Aqualab  
Michael Mucci - Phytotron Coordinator, Advanced Analysis Centre  
Michael Smith - Guelph Centre for Urban Organic Farming Coordinator, Plant Agriculture  
Noorain Mamdani - Student President, MealCare  
Paige Quinn - Bike Centre Coordinator, Central Student Association  
Ray Kaczmarek - Manager (Ontario Crops Research Centre-Simcoe), Office of VP Research - OMAF Research Stations  
Samantha Casey - Digital Communications & Engagement Coordinator, Sustainability Office  
Sara Stricker - Communications and Outreach Coordinator, Guelph Turfgrass Institute  
Sara Watson - Manager (UC Chef's Hall, Starbucks, KFC, Pizza Pizza, Subway, Chatime, Tim Horton's), Hospitality Services  
Sharri Norton - Manager (Planet Bean Science, OVC Café), Hospitality Services  
Shawn Janse - Manager (Ontario Crops Research Centre-Bradford), Office of VP Research - OMAF Research Stations

Stephanie de Waard - Laboratory Manager, Biodiversity Institute of Ontario  
Sue Couling - Growth Facilities Technician, Plant Agriculture  
Tania Archbold - Administrative Officer, College of Social & Applied Human Sciences  
Dean's Office  
Tracy Trurow - Manager, Transportation Services  
Victoria Wentzell - Projects and Administration Assistant Manager, Ontario Veterinary  
College Health Sciences Centre