



# Proposed Zero Waste STRATEGY REPORT

## And Implementation Plan

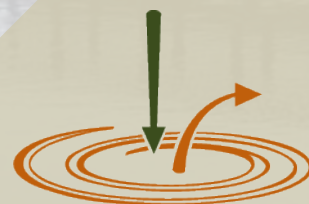
Alachua County & City of Gainesville, Florida  
April 2021

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# Table of Contents

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Executive Summary.....	iii
Section 1 Introduction .....	1
1.1 Purpose.....	1
1.2 Report Structure.....	1
Section 2 Zero Waste in Alachua County .....	2
2.1 General Understanding of Zero Waste .....	2
2.2 Defining Zero Waste.....	3
2.3 History of Zero Waste in Alachua County .....	4
Section 3 Current Waste System.....	5
3.1 Current Policies and Programs .....	5
3.2 Current Infrastructure .....	8
3.3 Waste Characterization and Generation.....	13
Section 4 Key Findings & Proposed Strategies.....	17
4.1 Evaluation Process.....	17
4.1.1 Strategy Identification and Selection .....	17
4.2 Potential Zero Waste Strategies.....	17
4.2.1 General Strategies .....	18
4.2.2 Organic Material Recovery .....	19
4.2.3 Recyclables and C&D Recovery .....	21
Section 5 Stakeholder Engagement .....	25
5.1 Stakeholder Priorities and Recommendations.....	25
5.2 Additional Modifications Proposed by Stakeholders.....	27
Section 6 Implementation Plan & Next Steps .....	29
6.1 Implementation Plan .....	29
6.2 Next Steps.....	31
Appendices.....	33
Appendix A: Baseline Assessment Memo.....	34

Appendix B: Stakeholder Engagement Memo.....	35
Appendix C: Additional Resources .....	36

## Tables

Table 1: Alachua County Collection Facilities .....	9
Table 2: Alachua County C&D Recycling and Reuse .....	10
Table 3: Alachua County Compost (Food and Yard Waste) Recycling .....	10
Table 4: Alachua County Additional Recycling Opportunities .....	11
Table 5: 2019 Tonnage Data by Material Type .....	15
Table 6: Selected General Strategies .....	18
Table 7: Selected Organic Material Recovery Strategies .....	19
Table 8: Selected Recyclables and C&D Recovery Strategies .....	21
Table 9: Strategies and Related Recommendations Identified as Most Important .....	25
Table 10: Strategy Proposed for Removal .....	27
Table 11: Additional Proposed Strategies and Recommendations .....	27
Table 12: Recommended Phase I Zero Waste Strategies .....	29
Table 13: Recommended Phase II Zero Waste Strategies .....	30
Table 14: Recommended Phase III Zero Waste Strategies .....	31

## Figures

Figure 1: Circular Economy .....	2
Figure 2: Phases of Zero Waste Strategies.....	3
Figure 3: Eco-Industrial Resource Recovery Park .....	4
Figure 4: Residential Collection.....	5
Figure 5: Gainesville PAYT Garbage Cart Sizes .....	6
Figure 6: UF’s Bigbelly Smart Waste and Recycling .....	7
Figure 7: Alachua BioDiesel Initiative.....	8
Figure 8: Alachua County Recycling Facilities .....	9
Figure 9: Alachua County Waste Diversion and Disposal Trends .....	14
Figure 10: Alachua County Recycling Trends by Sector .....	14
Figure 11: 2019 Composition of Recycled Material in Alachua County .....	15
Figure 12: 2016-2019 C&D and Yard Waste Recycling Trends .....	16

# Executive Summary



## Purpose of the Report and Implementation Plan

In 2018, Alachua County (County) retained Kessler Consulting, Inc. (KCI) for professional services to develop a community-wide Zero Waste Strategy Report and Implementation Plan (Report) in coordination with the City of Gainesville (City). The analysis was designed to evaluate the County and City's existing materials management system, supporting community Zero Waste initiatives, and evaluate policies and programs to maximize reuse and recovery.

This Report presents key findings from the analysis, potential strategies accompanied by their associated review from the community during stakeholder engagement, as well as the final implementation plan recommended for adoption. All strategies have been reviewed by the administrative management of both the County and City.

Since the inception of this project, the County and City have initiated strategies to reduce waste, improve the circular economy, and set the community on a path towards reaching their objectives. Where applicable, these have been noted within the Report and recommended implementation plan.

## Zero Waste is Local

The movement towards Zero Waste in Alachua County has been active for several years and has continued to gain momentum from the public, private, and non-profit sectors. As with all integrated material management systems, identifying actions that can lead to Zero Waste requires a thorough assessment of the local community, existing programs, policies, and systems. This includes an accepted definition of Zero Waste for a community, as discussed in Section 2.

Alachua County has yet to adopt a definition of Zero Waste. Results from the stakeholder engagement process conducted during this project indicate the following definition embraces the community's vision and is recommended by County and City staff moving forward:

*The conservation of all resources by means of responsible production, consumption, reuse and recovery of products, packaging, and materials by minimizing discharges to land, water, or air that threaten the environment or human health.*

## Guiding Principles

The County and City project team identified five guiding principles for evaluating Zero Waste strategies to increase material recovery rates and foster reuse throughout the community.



They are as follows:

- *Keep Resources Local*
- *Foster Job Growth*
- *Emphasize and Support Upstream Solutions*
- *Mitigate Climate Change*
- *Address Environmental Justice and Create Equity of Service*



## Understanding the Current System

Combined, the County and City spent over \$12.4 million collecting and managing over 800,000 tons of solid waste during fiscal year (FY) 2018 and over 560,000 tons in FY2019. This equated to 1.5 tons of waste per capita (per person), collected and processed. With direction from the County and City project team, KCI performed an initial baseline assessment of current practices, infrastructure, programs, and policies. The baseline assessment also documented the current public and private sector resources and programs available in the region to identify potential areas for improving material recovery and reuse.

## Key Findings

Results from the assessment identified the need for a cross jurisdictional Zero Waste goal and timeline to drive policies and programs. The City established a goal of 90% waste reduction by 2040 and the County plans to formally adopt a goal and associated procurement policy after the release of this Report. It is recommended this be a first step for the County in moving forward with any Zero Waste implementation.

In the County and City, solid waste and recyclables collection services are contracted with the private sector. These contracts can be designed to foster increased recovery rates from all material streams collected. Additionally, results identified the need for increased processing and reuse infrastructure to support greater material diversion and to support the Zero Waste policies and programs sought by the community.

Overarching key findings for consideration by the County, City, and stakeholders include:

- High public support for investments necessary to support Zero Waste infrastructure.
- Community-wide support for material bans.
- Expansion of reuse programming is viable through public and private sector infrastructure.
- Potential to improve recycling capture rates and divert more material from landfills.
- Significant community interest in diverting organics through compost processing.
- Potential to improve construction and demolition (C&D) debris material from landfills.

## Recommended Implementation Plan

KCI and the project team developed a Preliminary Report released to key stakeholders in 2021. This Preliminary Report presented results from the baseline assessment and identified potential Zero Waste strategies for inclusion in the final implementation plan. All potential strategies were divided into three categories: General Strategies, Organic Material Recovery, and Recyclables and C&D Recovery.

Modifications to the original stakeholder engagement process were devised due to COVID-19 restrictions. This led to a virtual presentation and workshop with the opportunity to comment through multiple electronic and online platforms as further described in Section 5. Results from stakeholder engagement were utilized to develop the plan presented below.

It is recommended the County and City consider a phased approach for implementing Zero Waste strategies. This will allow for identifying the costs and associated funding mechanisms necessary for the infrastructure projects recommended within this plan, as well as the ability to ensure adequate facilities for supporting any policy or programmatic changes.

### Recommended Phase I: Alachua County / City of Gainesville Implementation Plan

Strategies defined for Phase I will ensure the necessary policies and infrastructure needs for capturing organic materials are in place. Diversion of organic and compostable wastes were deemed a priority during the stakeholder engagement process.

During the analysis of this project, the County and City have continued to implement actions designed to support community-wide Zero Waste. Where applicable, these have been noted in the following table.

Phase I	
<b>Section 1.</b>	<b>General Recommendations</b>
<i>In Progress</i>	Establish a Solid Waste Reduction Goal and Formalize by Adopting a Resolution on Zero Waste.
<i>In Progress</i>	Implement Zero Waste Procurement Policy.
<i>In Progress</i>	Reduce Single-Use Accessories in Dining, Take-Out and Delivery of Prepared Meals.
<i>In Progress</i>	Establish Public and Private Partnerships to Facilitate Innovative Research and Develop New Technologies for Managing Solid Waste in Alachua County and City of Gainesville.
	Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program.
	Revise Future Contracts and Franchise Agreements with Collections and Processing Vendors to Include Requirements and Incentives Addressing Zero Waste.
<b>Section 2.</b>	<b>Organic Material Recovery</b>
<i>In Progress</i>	Develop a Plan to Phase Organics from Garbage Collection.
<i>In Progress</i>	Expand Food Recovery Networks to Include Alachua and Gainesville Food Pantries.
	Add Incentives to Current Residential Backyard Composting Programs and Expand.
	Establish the Processing Infrastructure Necessary for Diverting Organic Materials from the Waste Stream.

Phase I	
<b>Section 3.</b>	<b>Recyclables and C&amp;D Material Recovery</b>
<i>In Progress</i>	Ban Single-Use Plastics and Polystyrene on City and County Properties and at City and County Events.
<i>In Progress</i>	Expand Existing Mandatory Commercial Recycling Ordinance.
<i>In Progress</i>	Establish Uniform Multi-family Recycling.
<i>In Progress</i>	Expand Existing Mandatory Commercial Recycling Ordinance.
	Conduct an Analysis of Recycling and Disposal Fees to Identify Methods for Discouraging the Landfill of Material.
	Expand the Reach of the Business Recycling Toolkit to all Municipalities within the County.
	Support Organizations Working on the Implementation of Take-Back Programs.

### Recommended Phase II: Alachua County / City of Gainesville Implementation Plan

The recommended strategies for Phase II build upon those implemented during the initial phase and increase the infrastructure, policies, and programs necessary to increase diversion and reuse, while fostering a more circular economy. As stated above, strategies currently in progress in the County and City have been noted.

Phase II	
<b>Section 1.</b>	<b>General Recommendations</b>
	Develop a Community-Wide Zero Waste Recognition and Certification Program.
	Provide Clear, Concise and Consistent Educational Messaging Across the County and City for All Zero Waste Strategy Approaches.
	Evaluate the Waste Reduction Impacts & Potential Capacities for Expansion within Existing Reuse Infrastructure.
<b>Section 2.</b>	<b>Organic Material Recovery</b>
<i>In Progress</i>	Develop Infrastructure for the Collection of Organic Materials.
	Build Upon Recycling Outreach and Education Programming to Include Organic Material Diversion.
<b>Section 3.</b>	<b>Recyclables and C&amp;D Material Recovery</b>
	Revise Building Code Standards or Green Building Ordinances to Address Zero Waste Initiatives for C&D Material Diversion.
	Foster the Expansion and New Development of C&D Reuse and Recycling Facilities for the Region.
	Foster the Development of Regional Reprocessing Facilities.
	Conduct Operational Analysis of Current Material Recovery Facilities (MRFs) to Ensure High Performance Rates that Support Zero Waste.
	Establish Uniform Recycling Messaging and Improve Coordination (during events such as student move-out).



## Recommended Phase III: Alachua County / City of Gainesville Implementation Plan

Strategies identified for the final phase were either deemed sequentially necessary for implementing last or defined as a lower priority during the planning process.

Phase III	
<b>Section 1.</b>	<b>General Recommendations</b>
	Create Incentives for Businesses and Institutions to Adopt Policies Focused on Reduction of Problematic Materials.
<b>Section 2.</b>	<b>Organic Material Recovery</b>
	Market Final Compost Product Throughout Community and Provide Education on Importance of Soil Restoration.
<b>Section 3.</b>	<b>Recyclables and C&amp;D Material Recovery</b>
	Adopt New Ordinances Banning Specific Recyclables from Entering Local Transfer Stations, Landfills, and Incinerators.
	Adopt an Ordinance to Incorporate Reusable and Recyclable Materials into Local Government Road Construction and Maintenance Projects.
	Conduct a Feasibility Study on the Development of a Regional Center for Hard to Recycle Materials (CHaRM) Facility for Processing Bulky Materials.
	Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams.
	Adopt a Single-Use Plastic Bag Ban.
	Create a Single-Use Plastics Ban (plastic food ware, Styrofoam) and Litter Reduction Ordinance.
	Create Processes for Stakeholder Involvement Throughout Decision Making and Implementation Phases.
	Establish Dedicated Staff for Zero Waste Outreach and Education Activities at the City and County.

Various proposed material bans were recommended by stakeholders. These bans have all been scheduled in Phase III due to Florida Statute (F.S.) 403.7033 which regulates the management of recyclable materials on a state-wide level. The County and the City both attempted to set such bans in 2019 but repealed them due to requests from the Florida Retail Federation.

## Next Steps

As the County and City move forward, KCI recommends adoption of the implementation plan within this Report. Upon adoption, it is recommended the County and City work with KCI to identify any strategies requiring financial and waste reduction modeling. This would include a review of community benefits such as job growth, equal distribution of services, and climate mitigation and resilience measures, as well as assist in defining measurable outcomes for strategies where applicable. This process will allow for an understanding of costs and associated funding mechanisms for incorporation into capital improvements and comprehensive planning processes.

It is also recommended the County and City proceed with their planned Waste Composition Study to assist in further baselining current material flows across the community. There have been numerous changes to waste stream programs and policies, packaging materials, and community

demographics since the completion of the last study in 2010 to now. An updated baseline measurement for calculating the successful implementation of certain strategies will be beneficial.

Finally, KCI recommends the County and City continue to engage the community in implementation to ensure adequate support and guidance for policies and programs that will help the community reach their Zero Waste goals. This may include the expansion of efforts to additional businesses in the private sector, as well as stakeholders that are often marginalized during planning processes.

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# Section 1 Introduction

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## 1.1 Purpose

The movement towards Zero Waste in Alachua County (County) has been active for several years and continues to gain momentum from the public, private, and non-profit sectors. In 2018, the County retained Kessler Consulting, Inc. (KCI) for professional services to develop a community-wide Zero Waste Strategy Report and Implementation Plan (Report) in coordination with the City of Gainesville (City).

This Report presents key findings from the analysis, potential strategies accompanied by their associated review from the community during stakeholder engagement, as well as the final implementation plan recommended by KCI and County and City staff for adoption.

Since the inception of this project the County and City have initiated strategies to reduce waste, improve the circular economy, and set the community on a path towards reaching their objectives. Where applicable, these have been noted within the Report.

## 1.2 Report Structure

This Report documents findings from the study and stakeholder engagement process, as well as outlines recommended strategies with a phased approach for implementation. The following provides an overview of each section:

- **Section 2: Zero Waste in Alachua County**  
*Describes the general concept of Zero Waste and provides background on initiatives currently underway throughout the community.*
- **Section 3: Current System**  
*Establishes a baseline of policies, programs and infrastructure within the current system and includes community-wide Zero Waste initiatives.*
- **Section 4: Key Findings & Proposed Strategies**  
*Summarizes findings from the study based upon analysis of the current system and presents proposed strategies that were shared with stakeholders for comment.*
- **Section 5: Stakeholder Engagement**  
*Provides an overview of the process, modifications taken to meet COVID-19 restrictions, and an analysis of comments received.*
- **Section 6: Implementation Plan & Next Steps**  
*Presents the recommended implementation plan categorized by phases and next steps the County and City may take.*

# Section 2 Zero Waste in Alachua County

## 2.1 General Understanding of Zero Waste

Many Zero Waste principles are rooted in conservation and reuse practices that predate the current industrial, consumer-based economy of the past three decades. This social movement expands beyond the concepts of source reduction and recycling that originated in the 1970s, and embodies ideas of changing lifestyles, personal habits, and producer responsibility.

This whole-system approach is based upon repositioning disposal and reuse opportunities. Through this process, less raw materials are consumed for production, more manufactured materials remain in use, and commodities are recycled to continue to maximize the value of material.<sup>1</sup> These are all part of the Zero Waste concept known as a *Circular Economy*, as depicted in Figure 1. This concept allows resources to have a continuous life cycle through multiple uses and purposes, rather than limiting their life space to simple production that results in waste. The four main stages include:

**Figure 1: Circular Economy**



Source: U.S. Public Interest Research

1. *Production* – The conversion of raw or recycled materials into usable products.
2. *Reduction* – Limiting the need for as much raw or recycled material in the economy stream.
3. *Reuse and Repair* – Fostering the repair of commodities or the reuse of materials instead of disposal.
4. *Recycling and Composting* – Breaking commodities down to their raw state or re-producing them for another use.

Strategies for reaching Zero Waste goals are often categorized based on when they impact resource management. The Solid Waste Association of North America (SWANA) and the California Resource Recovery Association (CRRA) utilize the planning categories noted in Figure 2 in their Zero Waste training to illustrate the stages that strategies can impact.

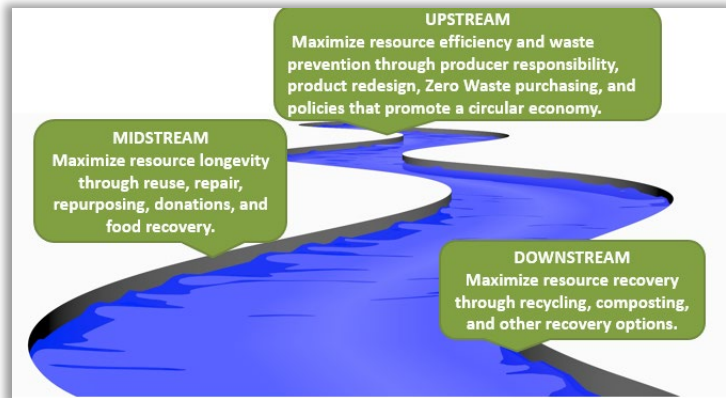
Examples of each phase include, but are not limited to the following:

- *Upstream Strategies* – Producer responsibility covenants, Zero Waste purchasing policies, use of recycled materials and content, packaging changes, and local economic growth incentives.

<sup>1</sup> “Zero Waste: Principles and Practices – Zero Waste Training Program,” SWANA, CRRA, KCI, 2018.

- **Midstream Strategies** – Promotion of repairs for household electronics and other commodities, donation bins and systems to reuse clothing and household items, and food recovery programs for restaurants and grocery stores to support local feeding programs.
- **Downstream Strategies** – Resource recovery facilities for recycling and composting, facilities for the break down and recycling of difficult recyclable materials, hazardous and electronic waste recycling facilities, and more.

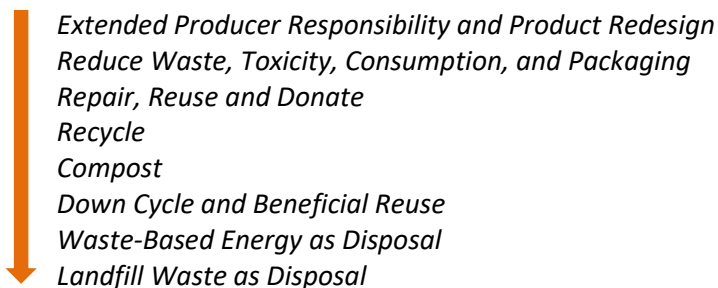
**Figure 2: Phases of Zero Waste Strategies**



Source: "Three Categories of Zero Waste Solutions" SWANA, CRRRA Zero Waste Training Program (Developed by Kessler Consulting, Inc. – 2018)

## 2.2 Defining Zero Waste

Zero Waste is a relatively new concept in the waste management field and its definition varies. In 2017, the City of Gainesville adopted Resolution No 170386 defining Zero Waste and a set of Zero Waste principles that recognizes a hierarchy of material management in coordination with the U.S. Conference of Mayors. This hierarchy is as follows:



Alachua County has yet to adopt a definition of Zero Waste. Results from the stakeholder engagement process conducted during this project indicate the following definition embraces the community's vision and is recommended by County and City staff moving forward:

*The conservation of all resources by means of responsible production, consumption, reuse and recovery of products, packaging, and materials by minimizing discharges to land, water, or air that threaten the environment or human health.*

## 2.3 History of Zero Waste in Alachua County

The movement towards Zero Waste in Alachua County has been active for several years and continues to gain momentum from the public, private, and non-profit sectors. The City of Gainesville has set a goal to divert 90% of its waste by 2040 and established a Zero Waste Subcommittee to assist in driving initiatives. In addition, Zero Waste is a forefront topic for the County and City's Joint Water and Climate Committee. Both the County and City have begun implementation of Zero Waste policies to reduce single-use items and promote waste reduction strategies within their daily operations.

In addition to policy initiatives designed to reduce waste, both the County and City governments have multiple public outreach programs as further described in Section 3. These include dedicated staffing, public education campaigns, and outreach tools available through their websites, targeted business solid waste guides, and the Eco-Industrial Resource Recovery Park (a 37-acre resource recovery space and innovation hub for waste-related material research and business incubation).

The Resource Recovery Park, planned to be an innovative long-term collaboration between the University of Florida (UF) and the County, will offer extensive opportunities for growing a circular economy for the area.

UF's commitment to be a *Zero Waste Campus*, and initiatives through the Office of Sustainability and Facilities Services, provides additional support, educational opportunities, and general motivation that will bolster successful waste reduction outcomes. Additionally, growing momentum from Zero Waste Gainesville and The Repurpose Project has pushed forward the concepts of Zero Waste to governmental entities, residents, and businesses in the community.

**Figure 3: Eco-Industrial Resource Recovery Park**



Source: Alachua County





## Section 3 Current Waste System

An assessment of the current conditions in the County and City was critical for an accurate understanding of potential strategies. This section explains existing solid waste financial requirements, policies, programs, and infrastructure, as well as an overview of the waste characterization and generation for the community.

### 3.1 Current Policies and Programs

Combined, the County and City spent over \$12.4 million collecting and managing over 800,000 tons of municipal solid waste and yard waste during fiscal year (FY) 2018 and over 560,000 tons in FY2019. This equated to 1.5 tons of waste per capita (per person) in FY2019, collected and processed.<sup>2</sup> There are multiple programs and policies outlined within both community's solid waste ordinances that govern the management methods and educational opportunities currently in place. These are further described below.

#### Material Bans: Alachua County

Effective January 1, 2020, the City implemented a ban on plastic straws and stirrers. The City Attorney is currently drafting an ordinance to restrict the use and distribution of single-use plastic polystyrene on City property. Additionally, the City is considering adding requirements to event permits and contractual language that would restrict the distribution of single-use plastic polystyrene to the extent legally feasible. On February 25, 2020, Alachua County approved a plastic straws and stirrers ban similar to the City's ban. The State of Florida currently restricts the ability for local governments to ban recyclable materials from waste streams such as plastics due to F.S. 403.7033 that restricts local management of such materials.

#### Residential Collection Service: Alachua County

Waste collection for residents within the County varies based upon location. The County provides weekly waste and recycling collection to designated unincorporated residential areas. Garbage cart

**Figure 4: Residential Collection**



sizing is currently a Pay-As-You-Throw (PAYT) rate structure with annual costs ranging from \$184.73/yr. (20-gallon) to \$322.68 (96-gallon). Recycling is collected utilizing a dual stream system in orange and blue 18-gallon bins to separate recyclables as seen in Figure 4. Educational programs and materials are provided through the County's Solid Waste and Resource Recovery Department. Recycling collection service at apartment complexes is mandatory and is arranged by the

<sup>2</sup> Per capita rate excludes construction and demolition materials.

manager or owner of the complex with services provided by private collection companies.

Municipalities offering single stream curbside collection include the Cities of Alachua, Archer, Hawthorne, La Crosse, Micanopy, and Newberry. Residents of subscription-only areas may subscribe to curbside pickup through private services with Waste Corporation of America (WCA) or utilize the Rural Collection Centers (RCCs) or the Leveda Brown Environmental Park and Transfer Station.

The RCCs positioned throughout the County offer recycling (plastic, metals, glass, mixed paper, cardboard), household hazardous waste disposal, yard waste recycling, bulk material disposal, and garbage waste disposal. The Environmental Park accepts recycling (plastic, metals, glass, mixed paper, cardboard), scrap metal, tires, yard waste, and household hazardous wastes; garbage disposal, and provides further educational outreach to the community. Residential composting education and supplies are currently offered through the Alachua County Solid Waste Department.

Presently there is no mandate on the recycling of green (yard) waste nor construction and demolition (C&D) materials. Curbside collection of yard waste is currently offered within the County and is accepted at the RCCs. At this time, the RCCs nor Environmental Park accept commercial C&D material (although small amounts of residential C&D debris may be accepted). Private outlets exist for the recovery of both yard waste and C&D materials.

Currently, the County and City are working with local haulers on a voluntary program to standardize recycling language and provide educational stickers on recycling containers for apartments and commercial entities. In addition, the County is initiating a pilot program to separate recyclables in apartment units to reduce contamination levels and increase participation rates.

### **Residential Collection Service: City of Gainesville**

The City provides curbside waste and recycling collection to single-family homes within the City limits. Weekly curbside collection includes garbage, dual stream recycling, bulk items, and yard waste. Recycling for the City is separated into two streams: 1) Containers (plastic bottles, aluminum cans, steel cans, glass bottles, and cartons); and 2) Papers (cardboard, paperboard, newspapers, magazines, office paper, junk mail, phone books, and brown paper bags). Clearly defined educational materials that include pictures and descriptions are provided for residents via the City's website.

Garbage cart sizing is currently a PAYT rate structure and varies from \$18.50/month (20-gallon) to \$37.00/month (96-gallon) as seen in Figure 5. Yard waste collection is unlimited but must be set out according to guidelines, which includes no plastic bags. Large appliances and electronics collections are scheduled by appointment only. Recycling is required for all multi-family units over five and must be coordinated by the building manager or

**Figure 5: Gainesville PAYT Garbage Cart Sizes**



property owner through private collection companies. The City is in the process of creating an exclusive solid waste franchise to allow for uniformity in multi-family recycling and foster cooperation between the City and contractor to further waste reduction goals.

### **Commercial Collection Service: Alachua County**

In 2011, Alachua County updated their existing ordinance mandating commercial recycling. Per the ordinance, collection services are provided by an open franchise system. Businesses in the County are required to recycle the following materials: steel cans, aluminum cans, glass containers, plastic containers, magazines, newspapers, office paper, and corrugated cardboard. A plastic stirrer and straw ban became active on March 10, 2020. Private hauler databases, educational materials and staff support are available to assist businesses in implementing the mandate. There is currently no mandate requiring the diversion of yard waste or C&D materials from the landfill.

### **Commercial Collection Service: City of Gainesville**

Waste collection and recycling within the City limits is mandated per ordinance as specified in the City's non-exclusive franchise policies. All commercially collected waste generators in the City of Gainesville are required to recycle designated materials as specified by the City's Mandatory Commercial Recycling Ordinance. Any business generating 15% or more by volume of the designated recyclable materials in their waste stream are required to separate and recycle these materials. Designated Commercial Recyclable Materials are: 1) Papers (cardboard, paperboard, newspaper, magazines, office paper, and junk mail); and 2) Containers (plastic bottles, aluminum cans, steel cans, glass bottles, and cartons). Several private collection companies service the area and can easily be found on the City website. City staff are available to provide information and technical support to any business on this recycling mandate, as well as support for developing workplace recycling programs.

### **Community Policies, Programs, and Policy Drivers**

#### *University Collection Services: University of Florida*

In striving to be a *Zero Waste Campus*, UF offers numerous waste management alternatives to students, staff, and operational programs of the university. These include a wide array of recycling options and food waste composting, as well as other waste reduction programming as depicted in

**Figure 6: UF's Bigbelly Smart Waste and Recycling**



Figure 6 with UF's smart waste and recycling partnership with Bigbelly. Additional initiatives include the UF Surplus Property (reclaiming and distributing useable materials such as electronics and office furniture), Print Smart Initiative (reducing paper consumption by providing departmental assessments for faxing, scanning, printing and copying), Reusable Coffee Mugs and To-Go Containers (reducing single-use containers by providing discounts for

bringing reusable mugs, cups, and containers), Housing Move-Out Recycling Program (partnership with local charities for redistributing furniture and supplies left during move-out), Housing Compost Initiatives (composting paper towels), and Collection Day (open to faculty, students, and staff to drop off unwanted items to be recycled, donated or responsibly disposed).

### *Further Circular Economy Opportunities and Policy Drivers*

In addition to the strategies described above, Alachua County has the following resources:

- *Food Waste Diversion* – As previously noted, the UF food waste and composting program, as well as the County’s composting education program, are generating awareness about alternatives to food waste from the larger stream. Additionally, several residential and small business private food waste pickup/composting services exist. This includes Beaten Path Compost. The County also provides waste-to-energy opportunities with the conversion of vegetable oil to a fuel source as presented in Figure 7. In addition, the County and City are currently assisting a food waste processor with siting a potential composting facility within the County and evaluating contractual specifications for curbside collections once the facility is operational. Finally, the City of Gainesville has implemented an 18-month food waste pilot reduction program for a limited amount of selected residents for participation.
- *Construction & Demolition Diversion* – In addition to multiple private C&D hauling and recycling companies, several reuse stores and facilities exist in Alachua County. Additionally, the City’s Green Building Ordinance incentivizes the reuse and recycling of construction materials.
- *Hazardous Waste Diversion* – The Alachua County Hazardous Waste Collection Center properly disposes and recycles several household hazardous wastes. These include household chemicals, auto fluids and batteries, paints and solvents, pesticides and corrosive chemicals, electronic scrap, and fluorescent and other mercury containing bulbs.

**Figure 7: Alachua BioDiesel Initiative**



## 3.2 Current Infrastructure

Strategically addressing Zero Waste for a community requires an examination of infrastructure that includes the traditional facility model of managing wastes, as well as the full circularity of material generation. The following compilation of existing infrastructure provides a foundation for understanding opportunities and potential needs within the County and City.



## Solid Waste Disposal – Landfill, Transfer, Waste-to-Energy and Facilities

In 1998, the Alachua County Landfill was closed. Upon closure, the County determined it in the best interest of the community to outsource landfill disposal. The County currently contracts to dispose of waste at the New River Regional Landfill in Raiford, Florida. In FY2018-2019 the County and its municipalities expended over \$6 million in tip fees to dispose of waste at the facility at a rate of \$28 per ton. It is important to note, the minor increases of recycling and usage of combustion in the past three years has resulted in decreasing landfill disposal costs. Further examination on the waste characterization and tonnage data of materials being disposed may be found in Section 3.3.

Prior to disposal, collected waste is transported to the Leveda Brown Environmental Park and Transfer Station in Gainesville. Materials are screened for prohibited waste and hazardous materials to include tires, medical waste, and industrial appliances before being compacted and transported to the landfill facility (70.6 miles round trip). Approximately 36 loads of waste are transported to the New River Regional Landfill daily.

## Resource Recovery and Recycling Facilities

### Recycling Centers

While curbside recycling collection is offered in multiple areas throughout the County, rural, unincorporated areas are serviced by multiple RCCs as seen in Figure 8. Additionally, the County offers collection services at the Leveda Brown Environmental Park and Transfer Station. These collection facilities are listed in Table 1 and accept the following recycled materials: mixed paper, glass, plastic, metal, white goods and other large metals, household hazardous waste, oil filters, fluorescent lamps, rechargeable batteries, vehicle/boat batteries, computer equipment, electronics, up to five gallons of waste oil, and old paint. Multiple locations also accept gently used items such as toys, pots, pans, furniture, clothing, household goods, and school supplies as noted in Table 1.

**Figure 8: Alachua County Recycling Facilities**



**Table 1: Alachua County Collection Facilities**

Name	Address	Reuse Available
<b>Archer Rural Collection Center</b>	19401 SW Archer Road Archer, FL 32618	Yes
<b>Alachua/High Springs Rural Collection Center</b>	16929 NW Highway 441 High Springs, FL 32643	Yes
<b>Fairbanks Rural Collection Center</b>	9920 NE Waldo Road Gainesville, FL 32609	Yes
<b>North Central Rural Collection Center</b>	10714 N SR 121 Gainesville, FL 32653	Yes
<b>Phifer Rural Collection Center</b>	11700 SE Hawthorne Road Gainesville, FL 32640	Yes
<b>Leveda Brown Environmental Park and Transfer Station</b>	5115 NE 63 <sup>rd</sup> Avenue Gainesville, FL 32609	No

The recycling of debris from C&D activities remains vital for areas of significant growth, like the County and City. Linking the sorting and processing of mixed C&D to programs and policies for job-site separation and prohibition are central to a Zero Waste system. Currently there are several private facilities accepting C&D materials as depicted in Table 2.

**Table 2: Alachua County C&D Recycling and Reuse**

Name	Address	Private / Public	Options
<b>Florence Recycling &amp; Disposal</b>	3222 SE Hawthorne Road Gainesville, FL 32641	Private	Recycling Landfill Transfer Station
<b>Florida Concrete Recycling, Inc.</b>	930 SW 3 <sup>rd</sup> St Gainesville, FL 32601	Private	Glass Recycling Concrete Recycling Asphalt Recycling
<b>Habitat for Humanity ReStore</b>	2317 SW 13 <sup>th</sup> St Gainesville, FL 32608	Private	Material Reuse Appliance Reuse
<b>The Repurpose Project – Reuse Store</b>	1920 NE 23 <sup>rd</sup> Ave Gainesville, FL 32609	Private	Material Reuse Scrap Wood
<b>Watson C&amp;D</b>	12890 NE SR 24 Archer, FL 32618	Private	C&D Material Recycling

*Note: List is subject to change and may not be all inclusive.*

#### *Organic Waste Collection*

Limited waste diversion opportunities exist for residents of Alachua County to compost yard waste and food waste. These are comprised of both public and private methods as outlined in Table 3. Note, no option currently provides curbside collection for food waste.

**Table 3: Alachua County Compost (Food and Yard Waste) Recycling**

Name	Address	Private / Public	Material
<b>Alachua County RCCs</b>	Multiple - See Table 1	Public	Yard Waste
<b>Beaten Path Compost</b>	Multiple Drop Off Locations	Private	Food Waste Yard Waste
<b>Gaston's Tree Debris Removal</b>	9333 NW 13 <sup>th</sup> St Gainesville, FL 32653	Private	Yard Waste
<b>UF Student Compost Cooperative</b>	Energy Research and Ed Park Gainesville, FL 32608	Private	Food Waste Yard Waste
<b>Watson Greener Landscaping</b>	12890 NE SR 24 Archer, FL 32618	Private	Yard Waste

*Note: List is subject to change and may not be all inclusive.*

#### *Additional Community Resources to Support a Circular Economy*

When assessing the multiple avenues for creating a circular economy, there are other facilities and businesses that can assist by accepting gently used materials or providing additional community-wide recycling services. These are identified in Table 4. In addition to these businesses, the Gainesville Recycling Resource Guide is an updated, informational directory to assist residents and



businesses with finding local options to recycle, donate, compost, resell, repair, and properly dispose of various unwanted materials (<https://zerowastegnv.com/recycle/>). Please note, these opportunities link to many midstream and downstream initiatives and are considered an important variable for a Zero Waste community.

**Table 4: Alachua County Additional Recycling Opportunities**

Name	Address	Items Accepted
<b>Alachua Habitat for Humanity ReStore</b>	2317 SW 13 <sup>th</sup> St Gainesville, FL 32608	Clothing, Household Goods, Furniture, Appliances
<b>Batteries Plus Bulbs</b>	3318 SW 35 <sup>th</sup> Blvd Gainesville, FL 32608	Rechargeable Batteries
<b>Battery Land</b>	1535 NW 6 <sup>th</sup> St Gainesville, FL 32601	Rechargeable Batteries
<b>Battery Source</b>	4811 SW 34 <sup>th</sup> Ter Gainesville, FL 32608	Rechargeable Batteries
<b>Best Buy</b>	3520 SW 34 <sup>th</sup> St Gainesville, FL 32608	Electronics, Batteries, Wires, Cords, Cables, Plastic Bags
<b>Bj's Thrift Shop</b>	1847 S Main St Gainesville, FL 32601	Clothing, Household Goods, Electronics
<b>Cartridge World</b>	3501 SW 2 <sup>nd</sup> Ave, Suite N Gainesville, FL 32607	Printer Ink Cartridges and Toners
<b>CMC Recycling of Gainesville</b>	1508 NW 55 <sup>th</sup> Pl Gainesville, FL 32653	Aluminum Cans and Scrap, Auto Parts, Bikes, Brass, Cookware, Copper, Ferrous Metals, Garden Tools, Hardware, Lawnmowers, Metal Clothes Hangers, Metal Tags, Musical Instruments – Metal, Nonferrous Metals, Pipes, Radiators, Scrap Metal, Stainless Steel, Tools, Zinc
<b>Entenmanns Gainesville Thrift</b>	1124 SE 4 St Gainesville, FL 32601	Clothing, Household Goods
<b>eco ATM</b>	4010 W Newberry Rd Gainesville, FL 32607	Smartphones, Tablets, Cell Phones
<b>Flashbacks Recycled Fashions</b>	220 NW 8 <sup>th</sup> Ave Gainesville, FL 32601	Clothing
<b>Gainesville Junk Removal</b>	4010 W Newberry Rd Gainesville, FL 32607	Furniture, Appliances, Misc. Scrap Metal
<b>Gator Appliance Recycling</b>	3402 NE 2 <sup>nd</sup> St C Gainesville, FL 32609	Appliances
<b>Goodwill – Gainesville North</b>	1223 NW 23 <sup>rd</sup> Ave Gainesville, FL 32609	Clothing, Household Goods
<b>Goodwill – Gainesville South</b>	3520 SW 34 <sup>th</sup> St Gainesville, FL 32608	Clothing, Household Goods
<b>Haven – Attic Resale</b>	300 NW 8 <sup>th</sup> Ave Gainesville, FL 32601	Clothing, Household Goods
<b>Home Depot</b>	5150 NW 13 <sup>th</sup> St Gainesville, FL 32609 7107 NW 4 <sup>th</sup> Blvd Gainesville, FL 32607	Light Bulbs Rechargeable Batteries

Name	Address	Items Accepted
<b>Humane Society of North Central Florida Thrift Store</b>	4205 NW 6 <sup>th</sup> St Gainesville FL 32609	Clothing, Household Goods
<b>JCPenney</b>	6841 W Newberry Rd Gainesville, FL 32605	Plastic Bags #2 and #4
<b>Kohls</b>	3501 SW Archer Rd Gainesville, FL 32608	Plastic Bags #2 and #4
<b>Lowes</b>	15910 NW 144 <sup>th</sup> Ter Alachua, FL 32615 2564 Northwest 13 <sup>th</sup> St Gainesville, FL 32609 3500 SW Archer Rd Gainesville, FL 32608	Plastic Bags #2 and #4, Cell Phones, CFLs, Lead-acid Batteries, Lithium-ion Batteries, Nickel-cadmium Batteries, Nickel-metal Hydride Batteries, Nickel-zinc Batteries, Plastic Plant Materials (No Single-use Batteries)
<b>Melody's Memories</b>	5000 NW 34 <sup>th</sup> Blvd Suite 1 & 2 Gainesville, FL 32605	Clothing
<b>Office Depot</b>	1015 NW 13 <sup>th</sup> St Gainesville, FL 32601 6861 W Newberry Rd Gainesville, FL 32605	Ink and Toner Cartridges
<b>Office Max</b>	3642 SW Archer Rd Gainesville, FL 32608	Ink and Toner Cartridges
<b>Outreach Thrift</b>	2430 NW 6 <sup>th</sup> St Gainesville, FL 32609	Clothing, Household Goods
<b>Plato's Closet</b>	3441 W University Ave B Gainesville, FL 32607	Clothing
<b>Publix Super Markets</b>	All Locations	Plastic Bags #2 and #4, Plastic Egg Cartons, Paper Bags, Plastic Film #2 and #4
<b>Recycling Services of America</b>	2874 NE 1 <sup>st</sup> Ter Gainesville, FL 32609	Office Paper, Cardboard, Bottles, Cans
<b>Salvation Army</b>	55 NW 23 <sup>rd</sup> Ave Gainesville, FL 32609	Clothing, Household Goods
<b>Sam's Club</b>	2801 NW 13 <sup>th</sup> St Gainesville, FL 32609	Plastic Bags #2 and #4, Car Batteries, Marine Batteries
<b>Sandy's Savvy Chic Resale Boutique</b>	4148 NW 13 <sup>th</sup> St Gainesville, FL 32609	Clothing
<b>Sound Ideas</b>	3215 NW 13 <sup>th</sup> St Gainesville, FL 32609	Small Electronics
<b>Sprint Store</b>	3600 SW Archer Rd Gainesville, FL 32608	Cell Phones
<b>St. Patrick's Thrift Shop</b>	2010 NW 6 <sup>th</sup> St Gainesville, FL 32609	Clothing, Household Goods, Furniture
<b>St. Vincent De Paul Thrift Shop</b>	710 N Main St Gainesville, FL 32601	Clothing, Household Goods, Furniture
<b>Target</b>	3970 SW Archer Rd Gainesville, FL 32608	Plastic Bags #2 and #4, Cell Phones, Inkjet Cartridges, MP3 Players
<b>T-Cellular</b>	6419 W Newberry Rd Gainesville, FL 32605	Cell Phones

Name	Address	Items Accepted
<b>The ARC of Alachua County</b>	3781 NW 6 <sup>th</sup> St Gainesville, FL 32609	Clothing, Household Goods
<b>The Heart of Gainesville Thrift Store</b>	125 NW 23 <sup>rd</sup> Ave #5 Gainesville, FL 32609	Clothing, Household Goods, Furniture
<b>The Repurpose Project</b>	1920 NE 23 <sup>rd</sup> Ave Gainesville, FL 32609	Clothing, Household Goods, Furniture, Appliances
<b>Tools for Schools</b>	1147 SE 7 <sup>th</sup> Ave Gainesville, FL 32641	Office / Classroom Supplies
<b>Trademark Metals Recycling</b>	817 NE Waldo Rd Gainesville, FL 32641	Ferrous and Non-ferrous Metals, White Goods, and Appliances
<b>Uniquities Consignment Shop</b>	526 N Main St Gainesville, FL 32601	Furniture, Home Goods, Clothing
<b>Walmart</b>	All Locations	Plastic Bags #2 and #4, Car Batteries, Marine Batteries
<b>Watson C&amp;D</b>	12890 Northeast State Route 24 Archer, FL 32618	Aluminum Scrap, Asphalt, Brass, Brick, Carpet, Carpet Padding, Ceiling Tiles, Ceramics
<b>Whole Foods</b>	3490 SW Archer Rd Gainesville, FL 32608	Batteries, Corks, Plastic Bags, Brita Filters, Yogurt Cups and #5 Plastics
<b>WeeCycle of Gainesville</b>	1405 NW 23 <sup>rd</sup> Ave Gainesville, FL 32605	Clothing, Furniture, Household Goods

*Note: List is subject to change and may not be all inclusive.*

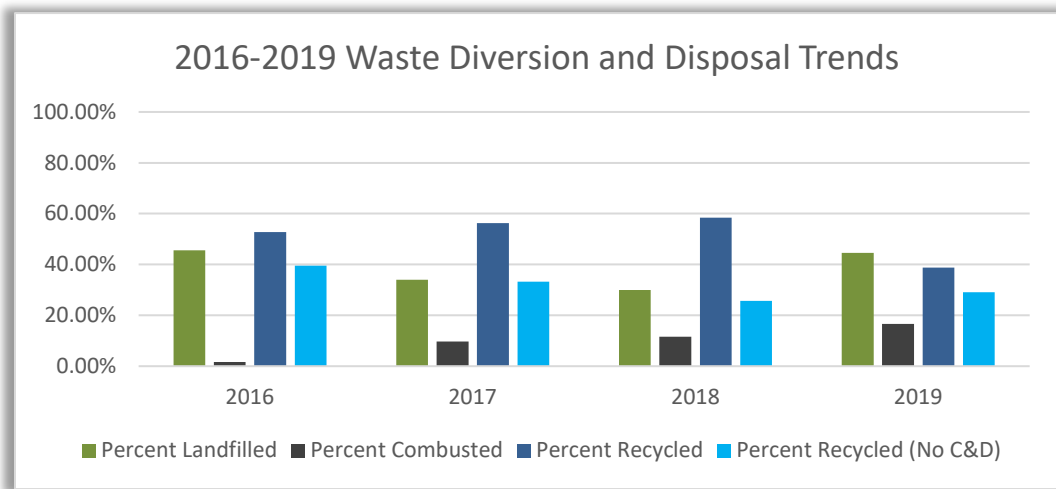
### 3.3 Waste Characterization and Generation

Defining Zero Waste strategies within a community requires knowing existing resources available for achieving a circular economy as presented in Section 2.2, as well as solid waste output in tonnages (recycled materials, landfilled, or combusted garbage), solid waste compositions, and trends over time. As the County and City move forward with implementing strategies identifies in Section 6, KCI recommends conducting a Waste Composition Study (WCS) to obtain greater accuracy for community-wide material streams. The last study was conducted in 2010 and was not referenced in this baseline assessment due to variations in demographics, differences in material categories due to changes in packaging materials, and other pertinent factors related to changes in the last decade. The County projects to complete an updated Waste Characterization Study in 2021.

According to the Florida Department of Environmental Protection (FDEP) annual reports, in 2019, the County and City managed over 560,000 tons of municipal solid waste with a recycling rate of 39%. It is important to note in the County and City, as in many growing jurisdictions, C&D waste constitutes a large portion of the materials managed. Isolating C&D and removing it from waste totals, reveals a decreasing long-term trend in municipal recycling in the County. In 2019, only 29% of materials other than C&D were recycled. This compares to 40% in 2016.<sup>3</sup> Figure 9 presents the waste diversion and disposal trends from 2016-2019.

<sup>3</sup> Annual Reporting of Materials Collected, Florida Department of Environmental Protection (FDEP), 2016-2019

**Figure 9: Alachua County Waste Diversion and Disposal Trends**

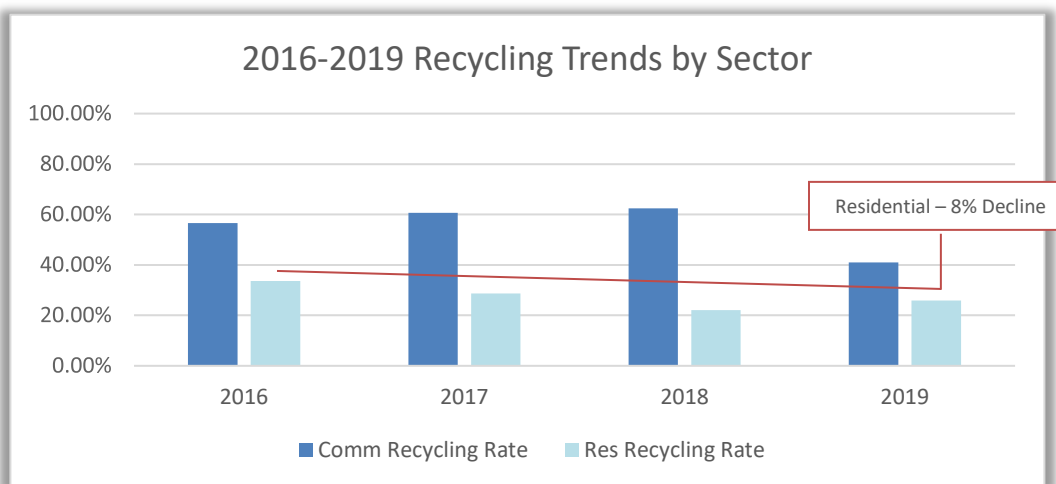


Data Source: FDEP Annual Reporting of Materials Collected (2016-2019).

Further analysis of recycling rates for the County and City reveal an increase in commercial recycling as noted in Figure 10. However, in 2019 the commercial recycling rate did drop to 41%. While this drop may reflect a reduced quantity of C&D materials for the year (as discussed later in this section) it may also reveal an area for increased outreach and education and should be tracked in future years.

Residential recycling rates steadily declined since 2016 with a 3% increase in 2019. Over 85,000 tons of residential solid waste was collected in 2019 with 26% recycled. As the County and City move forward with defining strategies for increasing diversion and meeting Zero Waste goals, public awareness on these recycling rates may reveal opportunities for increased education.

**Figure 10: Alachua County Recycling Trends by Sector**

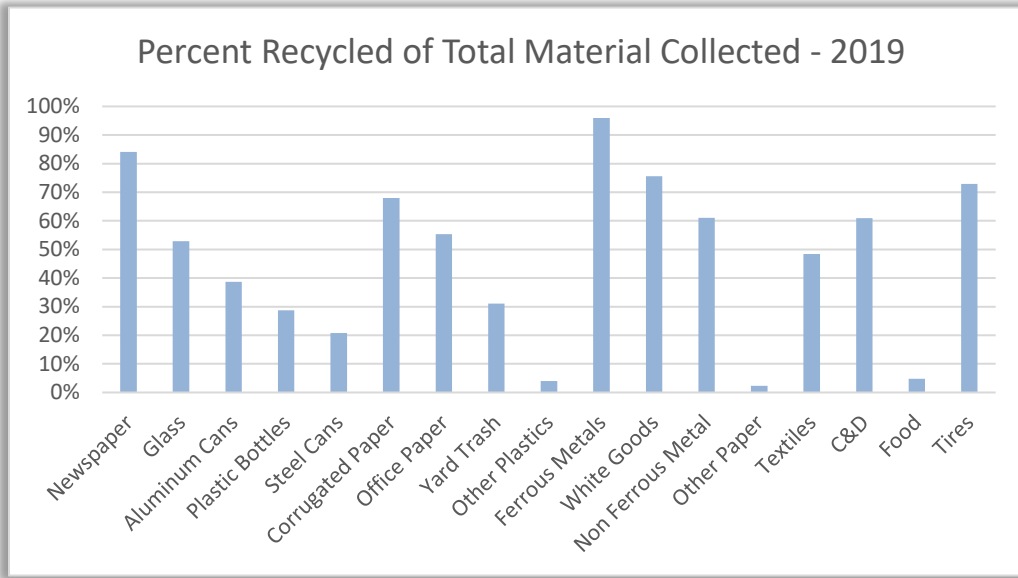


Data Source: FDEP Annual Reporting of Materials Collected (2016-2019).

Note: Large scale construction and development may have impacted commercial rates from 2018-2019.

Understanding commodities being recycled in comparison to total tonnages collected can assist in designing appropriate Zero Waste strategies for not only increasing diversion rates through recycling, but those that impact a circular economy. The most recent Waste Composition Study was performed in 2010. Figure 11 reveals the recycling rate of each material in 2019, exposing diversion potentials. Materials collected in the residential dual stream system that saw a less than 30% capture rate include plastic bottles and steel cans. Newsprint saw the highest diversion at 84%, a large increase from the 2018 percentage of 9%. Both glass and aluminum can recycling also increased in 2019 by 16% and 12%, respectively.

**Figure 11: 2019 Composition of Recycled Material in Alachua County**



Data Source: FDEP Annual Reporting of Materials Collected (2019).

Data represented in Figure 11 is further defined in Table 5. This reveals actual tonnages collected and recycled by material type in 2019.

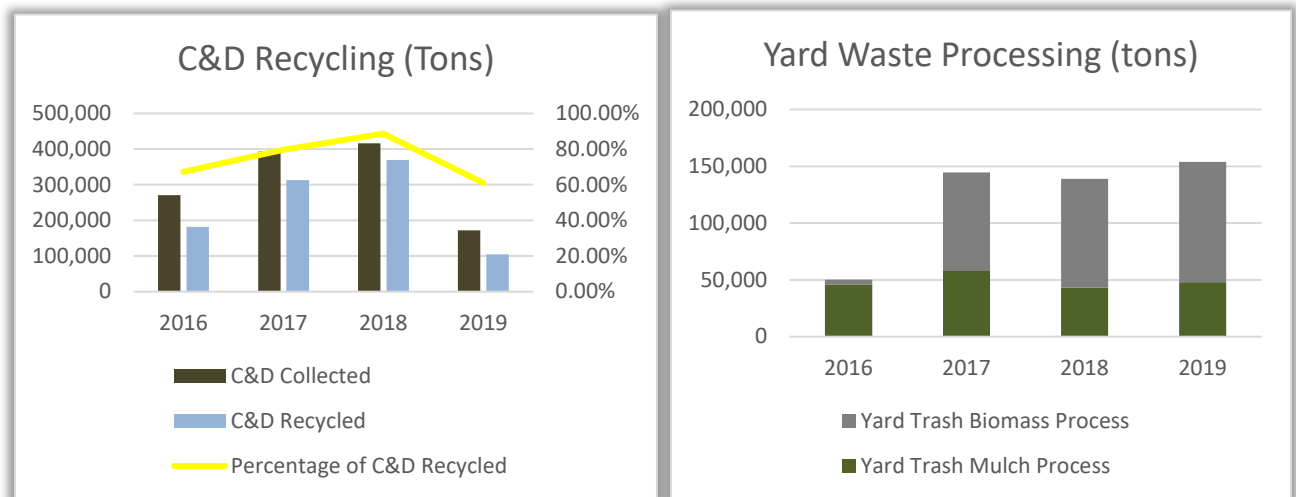
**Table 5: 2019 Tonnage Data by Material Type**

	Newspaper	Glass	Aluminum Cans	Plastic Bottles	Steel Cans	Corrugated Paper	Office Paper	Yard Waste
<b>Collected (tons)</b>	3,619	7,694	1,067	3,702	1,606	40,217	4,800	153,995
<b>Recycled (tons)</b>	3,043	4,072	413	1,063	334	27,363	2,657	47,826
<b>Percent Diverted</b>	84%	53%	39%	29%	21%	68%	55%	31%

	Other Plastics	Ferrous Metal	White Goods	Non-Ferrous Metals	Other Paper	Textiles	C&D	Food	Tires
<b>Collected (tons)</b>	24,242	14,496	3,590	2,384	42,737	8,530	171,838	27,847	2,801
<b>Recycled (tons)</b>	965	13,912	2,712	1,455	989	4,125	104,770	1,323	2,042
<b>Percent Diverted</b>	4%	96%	76%	61%	2%	48%	61%	5%	73%

Materials with the greatest diverted tons for 2019 include C&D (104,770 tons recycled) and yard waste (47,826 tons recycled). However, further analysis reveals a decreasing trend in the recycling rates of these materials as seen in Figure 12. The recycling of C&D materials trended towards greater diversion, until 2019. These rates may be monitored in the future to determine any lasting trends. Additionally, yard waste diversion has decreased by 30% since 2016.

**Figure 12: 2016-2019 C&D and Yard Waste Recycling Trends**



Data Source: FDEP Annual Reporting of Materials Collected (2016-2019).

Note: C&D tonnages can fluctuate for a community based upon large scale construction projects.

In addition to the potential for recycling yard waste as noted in Figure 12, food waste was one of the least diverted materials in trend data. In 2019, over 27,000 tons of food waste was collected in the County. As presented in Table 5, only 5% (or 1,300 tons) were recycled.

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## Section 4 Key Findings & Proposed Strategies

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KCI performed an opportunity and gap analysis utilizing baseline data presented in Section 3 to identify potential strategies to be considered by both the County and City.

### 4.1 Evaluation Process

Prior to conducting the research and analysis, the County and City project team identified five guiding principles for evaluating Zero Waste strategies. These were:

- *Keep Resources Local*
- *Foster Job Growth*
- *Emphasize Upstream Solutions*
- *Mitigate Climate Change*
- *Address Environmental Justice and Create Equity of Service*

The opportunity and gap analysis conducted during this study included utilization of a Zero Waste strategy planning tool issued by the United States Environmental Protection Agency (EPA). This spreadsheet tool titled *Managing and Transforming Waste Streams*<sup>4</sup> was revised by KCI to focus on initiatives necessary for the County and City to maximize their waste reduction and achieve their circular economy goals. See Appendix A.

Strategic planning for Zero Waste influences a variety of sectors and initiatives across a community. The County and City have several initiatives that fundamentally overlap with the goals and strategies for Zero Waste. The Solid Waste Element of the adopted 2019 Alachua County Comprehensive Plan defines multiple objectives and policies that are supported by the potential strategies identified in this section.

Resulting key findings and potential strategies the County and City may consider were categorized into the following:

1. *General Recommendations*
2. *Organic Material Recovery*
3. *Recyclables and C&D Material Recovery*

#### 4.1.1 Strategy Identification and Selection

KCI consulted with representative staff from the County's Solid Waste and Resource Recovery Department and the City's Public Works and Sustainability Departments to refine key findings from the baseline assessment and clarify identified strategies. Selected strategies were then evaluated for their advantages and disadvantages, estimated impacts on material reduction, diversion, and reuse, as well as overarching environmental impacts.

### 4.2 Potential Zero Waste Strategies

The sections below present the potential strategies resulting from the analysis.

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<sup>4</sup> EPA Website: <https://www.epa.gov/transforming-waste-tool/managing-and-transforming-waste-streams-tool>

## 4.2.1 General Strategies

The assessment process of baseline data revealed six general strategies for the County and City for fostering Zero Waste within their jurisdictions, as well as meeting their own internal operational Zero Waste goals. Table 6 defines each selected strategy and includes advantages and potential challenges for implementation.

**Table 6: Selected General Strategies**

Strategy	Category	Impact Area
<b>Establish a Solid Waste Reduction Goal and Formalize by Adopting a Resolution on Zero Waste.</b>	Policy	Upstream
<p><u><b>Description:</b></u> Utilizing strategies in this plan, develop a template Zero Waste resolution for use by the County and municipalities. Increase coordination with all municipalities (City of Alachua, City of Archer, City of Hawthorne, City of High Springs, Town of La Crosse, Town of Micanopy, City of Newberry, and City of Waldo) to ensure governments adopt a resolution to address Zero Waste and the final recommendations in the forthcoming Alachua County Zero Waste Strategic Plan.</p> <p><u><b>Advantages:</b></u> Establishes a formalized commitment and foundation for Zero Waste initiatives in the community. Ensures commitment from policy leaders in making Zero Waste a priority for the community.</p> <p><u><b>Potential Challenges:</b></u> Funding requirements to fulfill goal. Public support for initiative. Requires intergovernmental coordination.</p>		
<b>Implement a Zero Waste Procurement Policy.</b>	Policy	Upstream
<p><u><b>Description:</b></u> Adopt a policy for the procurement of services and materials that supports a circular economy (e.g., local products, required percentage of recycled content, biodegradable single-use products, precautionary principle for purchases, etc.).</p> <p><u><b>Advantages:</b></u> Supports the circular economy in the area and allows governments to lead by example.</p> <p><u><b>Potential Challenges:</b></u> Requires political motivation and financial resources. Additionally, locating the services and materials may initially be difficult.</p>		
<b>Revise Future Contracts and Franchise Agreements with Collections and Processing Vendors to Include Requirements and Incentives Addressing Zero Waste.</b>	Policy	Downstream
<p><u><b>Description:</b></u> Address waste diversion in the procurements of collections and processing contracts and include future opportunities for organics collection and other materials (e.g., performance linked renewals and extensions, additional payments for achieving targeted waste reduction, inbound tip fees).</p> <p><u><b>Advantages:</b></u> Can lead to higher diversion rates and the ability to meet established goals. Allows the County and City greater control of their procurements and may be linked to educational and outreach programming to increase public awareness.</p> <p><u><b>Potential Challenges:</b></u> Will require careful integration into the procurement process to minimize impacts to rates and may make contracts complex with phasing in of certain services (e.g., organics collection) as infrastructure is built. May limit participation by some vendors in public procurements.</p>		
<b>Establish Public and Private Partnerships to Facilitate Innovative Research and Develop New Technologies for Managing Solid Waste in Alachua County and City of Gainesville.</b>	Program Infrastructure	Upstream Downstream

Strategy	Category	Impact Area
<p><b>Description:</b> Foster the implementation of the Eco-Industrial Park Business Plan by continuing to build public and private partnerships and acquire new tenants in the recycling and recycling-related manufacturing industries.</p> <p><b>Advantages:</b> Encourages innovation, utilizes existing infrastructure, and incorporates Zero Waste planning into the Eco-Industrial Park Business Plan.</p> <p><b>Potential Challenges:</b> Will require political buy-in, support, and potential funding.</p>		
<b>Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program.</b>	Program Operations	Downstream
<p><b>Description:</b> Engage the private entities in developing a comprehensive reuse program to increase the level of material recovery for Alachua County and City of Gainesville.</p> <p><b>Advantages:</b> Large waste reduction impacts based upon case study programs. Fosters circular economy. Generates job growth. May be more financially advantageous than disposal fees.</p> <p><b>Potential Challenges:</b> Requires private sector interest, capital, and warehouse or infrastructure for the collection of salvaged materials and storefront for sales. Requires political support. May require altering of current collection contracts to ensure appropriate Designated Facility for receipt of materials or allow for the infrastructure for salvaging of materials to be co-located at the facility.</p>		
<b>Develop a Community-Wide Zero Waste Recognition and Certification Program.</b>	Program	Upstream Downstream
<p><b>Description:</b> Partner with businesses, industries, and community groups to establish a program promoting the principles of waste diversion and reduction by including social and behavioral change marketing tools. Include incentives for businesses collecting both organic and recyclable materials and implementing Zero Waste procurement policies (e.g., biodegradable single-use products, etc.).</p> <p><b>Advantages:</b> Provides a recognition platform for changes. Utilizes social behavioral change techniques to foster sustainable business growth, increase waste reduction rates, and increase use of sustainable materials.</p> <p><b>Potential Challenges:</b> Will require dedicated staff time and resources to implement. Design of the program will need to meet current community needs, while building upon social marketing strategies to ensure it is widely utilized and accepted. Implications from selected incentives (e.g., financial, structural) will need to be fully evaluated and understood prior to implementation.</p>		

## 4.2.2 Organic Material Recovery

In addition to general strategies, data analysis revealed seven strategies specific to the material reduction, diversion, and reuse of organic materials. Table 7 defines each selected strategy and includes advantages and potential challenges for implementation.

**Table 7: Selected Organic Material Recovery Strategies**

Strategy	Category	Impact Area
<b>Establish the Processing Facility Infrastructure Necessary for Diverting Organic Materials from the Waste Stream.</b>	Infrastructure Operations	Downstream

Strategy	Category	Impact Area
<p><b>Description:</b> Increase organics diversion rates by developing or fostering the development of a community-wide organics processing facility to transition materials into a compost commodity.</p> <p><b>Advantages:</b> Current processing of organic materials is limited to yard waste. Establishing an organics processing facility will allow for the diversion of over 20% of materials from the County and City's solid waste stream and foster partnerships.</p> <p><b>Potential Challenges:</b> Will require planning, space, and adequate funding. Financial sustainability of the processing facility will require adequate materials collected to process (feedstock). Feedstock will be needed to ensure adequate operations and to leverage any potential private sector interest.</p>		
<b>Develop a Plan to Phase Organics from Garbage Collection.</b>	Policy	Upstream
<p><b>Description:</b> Implement a two phased approach for reducing organic materials from the waste stream. Phase I to limit or encourage diversion as compost facility infrastructure is established. Phase II to include the ban of organics from refuse based on use sector (residential, commercial, and operational).</p> <p><b>Advantages:</b> Will ensure adequate feedstock for any future organics processing facility. Will allow for a comprehensive assessment of requirements to ensure a viable and successful organics processing facility.</p> <p><b>Potential Challenges:</b> May require revisions to collection contracts. Plan will need political and public support and buy-in to be viable. May require changes to customer collection programs including new containers or new set-out procedures.</p>		
<b>Develop Infrastructure for the Collection of Organic Materials.</b>	Infrastructure Operations	Downstream
<p><b>Description:</b> Utilize existing collection methods for recyclable materials (i.e. curbside collections, drop off sites, etc.) to build or purchase the infrastructure for collecting organic materials for processing.</p> <p><b>Advantages:</b> Allows for greater diversion of organic materials. Can foster partnerships with the private sector and inter-locally. Allows for consistent messaging and branding to encourage greater participation and stability.</p> <p><b>Potential Challenges:</b> Infrastructure may require staffing or operational changes to resource recovery centers, carts, or other collection bins, as well as a collection fleet. May additionally require modifications to solid waste ordinances. Significant public education and outreach to inform customers of programmatic changes and to improve diversion potentials.</p>		
<b>Build Upon Recycling Outreach and Education Programming to Include Organic Material Diversion.</b>	Program	Midstream
<p><b>Description:</b> Provide educational programming on the benefits for composting and food waste prevention to grocery stores, restaurants, school cafeterias, caterers, and other food service vendors.</p> <p><b>Advantages:</b> Supports organics processing infrastructure and may increase program participation rates. Diversion rates of organic materials will increase. Easy expansion of existing solid waste system programming.</p> <p><b>Potential Challenges:</b> Requires consistency in messaging. May require additional financial resources.</p>		
<b>Add Incentives to Current Residential Backyard Composting Programs and Expand.</b>	Policy	Midstream
<p><b>Description:</b> Incentivize material diversion through backyard composting. Incentives may be linked to existing PAYT programs and could be advertised and marketed to residential customers.</p> <p><b>Advantages:</b> Builds upon an existing program and infrastructure. Reduces the collection and processing burden on the communities by having materials processed at the source.</p>		

Strategy	Category	Impact Area
<b><i>Potential Challenges:</i></b> Program participation may already be maxed. Incorporating incentives may not have an adequate return on investment.		
<b>Market Final Compost Product Throughout Community and Provide Education on Importance of Soil Restoration.</b>	Operations	Midstream
<p><b><i>Description:</i></b> Support concepts of a circular economy by ensuring the sale and marketing of final compost products. (If processing facility is publicly owned, include in operations. If public-private include requirement in procurement documents. Potentially partner with Water Quality and other departments.)</p> <p><b><i>Advantages:</i></b> Fosters circularity within the community. Offsets a portion of organic material processing costs. Increases community awareness of the product, but also of community's commitment to Zero Waste.</p> <p><b><i>Potential Challenges:</i></b> Will require staff, or a contracted vendor, with training or expertise in commodity marketing to increase sales to a viable level.</p>		
<b>Expand Food Recovery Networks to Include Food Pantries.</b>	Operations	Midstream
<p><b><i>Description:</i></b> Encourage the coordination of pick-up and delivery of edible food from food service vendors and partner with Florida Organics Growers and Consumers to encourage "Gleaner" volunteer groups to harvest surplus for food banks.</p> <p><b><i>Advantages:</i></b> Fosters partnerships among different sectors of the community. Increases awareness on hunger and poverty initiatives within the County and City. Redirects excess food to those within the County and City in need. Reduces organic materials in need of reprocessing or disposal.</p> <p><b><i>Potential Challenges:</i></b> May require new resources for transporting materials. May require incentives or social marketing campaigns to increase participation of food service vendors.</p>		

### 4.2.3 Recyclables and C&D Recovery

Analysis of data for the County and City identified the potential to increase the recovery, diversion, and reuse of both common recyclable materials and those from C&D. Thirteen resulting strategies were selected. Table 8 defines each selected strategy and includes advantages and potential challenges for implementation.

**Table 8: Selected Recyclables and C&D Recovery Strategies**

Strategy	Category	Impact Area
<b>Foster the Expansion and New Development of C&amp;D Reuse and Recycling Facilities for the Region.</b>	Infrastructure Operations	Downstream
<p><b><i>Description:</i></b> Increase community-wide opportunities for diverting C&amp;D materials from disposal by enhancing collection, processing, and reuse marketing. This may include economic development incentives, tax breaks, etc.</p> <p><b><i>Advantages:</i></b> Establishes the framework for partnerships to assist diverting C&amp;D materials. Increases economic circularity. Fosters business growth.</p> <p><b><i>Potential Challenges:</i></b> Will require ordinance revisions, changes in contractual relationships, a funding source for education, and political support. Landfill operations may require different cover sources or stabilization material.</p>		

Strategy	Category	Impact Area
<b>Establish Uniform Multi-family Recycling.</b>	Operations	Midstream
<p><u>Description:</u> Develop uniform multi-family recycling to increase diversion rates through collections services, materials accepted, and education and outreach promotion.</p> <p><u>Advantages:</u> Will strengthen the recycling program and increase diversion rates by providing uniformity and simplifying educational programming.</p> <p><u>Potential Challenges:</u> Will require ordinance revisions and political support. Multi-family materials typically have high contamination levels, requiring significant outreach and education efforts, as well as potential carts or equipment for units to recycle effectively.</p>		
<b>Conduct an Analysis of Recycling and Disposal Fees for the County to Identify Methods for Discouraging the Landfill of Material.</b>	Operations	Midstream
<p><u>Description:</u> Build upon results from an analysis of the existing fee structures to identify necessary changes for utilizing cost factors as a deterrent for landfilling material (i.e. providing lower customer rates for reuse and recycling rather than landfill or thermal disposal, negotiating lower tipping fees in hauler and processor contracts, etc.).</p> <p><u>Advantages:</u> Provides the County and City with a clear picture of fees associated with municipal solid waste disposal to evaluate potential areas for deterring landfill material. Can be utilized as a financial foundation for numerous Zero Waste strategies.</p> <p><u>Potential Challenges:</u> Will require staffing and/or funding to perform.</p>		
<b>Foster the Development of Regional Reprocessing Facilities.</b>	Infrastructure	Downstream
<p><u>Description:</u> Increase economic development and diversion opportunities by implementing incentives that encourage the development of textile, electronics, and other innovative reprocessing facilities to foster closed loop approaches to waste management and foster job growth. This may include economic development incentives, tax breaks, etc.</p> <p><u>Advantages:</u> Fosters economic and job growth. Increases Zero Waste partnerships across the community.</p> <p><u>Potential Challenges:</u> Selected incentives could have unexpected implications for the community and should be thoroughly vetted. May require intergovernmental coordination.</p>		
<b>Revise Building Code Standards or Green Building Ordinances to Address Zero Waste Initiatives for C&amp;D Material Diversion.</b>	Policy	Upstream
<p><u>Description:</u> Require reuse and recycling for the construction industry by integrating into existing policies and codes and provide contractor education. If linking to Green Building Ordinances, consider incentivizing to include streamlined permit review, permit fee reductions, flexibility in parking requirements, adaptive reuse for historic buildings, etc.</p> <p><u>Advantages:</u> Supports infrastructure investments by ensuring necessary feedstock.</p> <p><u>Potential Challenges:</u> Requires political buy-in and support. May be challenged by the building community. May impact the costs of construction and new development.</p>		
<b>Conduct Operational Analysis of Current Material Recovery Facilities (MRFs) to Ensure High Performance Rates that Support Zero Waste.</b>	Operations	Downstream



Strategy	Category	Impact Area
<p><b>Description:</b> Conduct operational analysis assessing the age, size, commodities recycled, potential upgrades, contamination rates, residue rates, quality of baled commodities, etc. and develop operational and outreach strategies for improvement. Strategies may be included in new processing contracts.</p> <p><b>Advantages:</b> Allows the County and City to optimize processing and reduce residue. Allows for the identification of potential upgrades to increase recovery.</p> <p><b>Potential Challenges:</b> Will require staff time and/or funding.</p>		
<b>Expand Existing Mandatory Commercial Recycling Ordinance.</b>	Policy	Midstream
<p><b>Description:</b> Build upon existing ordinances to include waste stream audits to evaluate compliance and establish a maximum waste contamination of recyclable materials for businesses, institutions, and multi-family complexes.</p> <p><b>Advantages:</b> Audits will present clear data on compliance for commercial and multi-family recycling.</p> <p><b>Potential Challenges:</b> Maximum contamination levels may be controversial. Policy changes will require political buy-in and support. Inspection and enforcement will be required to implement effectively.</p>		
<b>Adopt New Ordinances Banning Specific Recyclables from Entering Local Transfer Stations, Landfills, and Incinerators.</b>	Policy	Midstream
<p><b>Description:</b> Expand upon the Florida Department of Environmental Protection list of recyclable materials to be banned from entering local transfer stations, landfills and incinerators and ensure inclusion in all contractual agreements with haulers and processors.</p> <p><b>Advantages:</b> Increases material diversion from disposal and fosters more opportunities for reuse and repurpose.</p> <p><b>Potential Challenges:</b> Will require political buy-in and support. May require amendments to contractual agreements. May increase rates. Will require adequate infrastructure for processing and managing materials. Will require significant outreach and education to the public.</p>		
<b>Adopt an Ordinance to Incorporate Reusable and Recyclable Materials into Local Government Road Construction and Maintenance Projects.</b>	Policy	Upstream
<p><b>Description:</b> Develop or revise existing ordinances to include the use of reusable and recyclable materials into construction and maintenance projects.</p> <p><b>Advantages:</b> Fosters an end use for certain repurposed C&amp;D materials. May reduce road construction costs.</p> <p><b>Potential Challenges:</b> Will require political buy-in and support. May require review and revision of operational standards in addition to ordinance adoption. Will require a phased approach or the assurance of adequate feedstock from local sources.</p>		
<b>Conduct a Feasibility Study on the Development of a Regional CHaRM Facility for Processing Bulky Materials.</b>	Infrastructure	Downstream
<p><b>Description:</b> Allocate resources for conducting a feasibility study researching the viability for constructing a regional Center for Hard to Recycle Materials (CHaRM) drop off site.</p> <p><b>Advantages:</b> Will evaluate community interest and need for a center to collect items. Results may provide insight and support for private partnerships or interlocal agreements.</p> <p><b>Potential Challenges:</b> Will require staff time and/or funding. Currently not a widely operated type of facility nationally. Thus, operating procedures may need to be developed for use.</p>		
<b>Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams.</b>	Infrastructure	Downstream

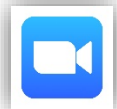
Strategy	Category	Impact Area
<p><b><u>Description:</u></b> Assess the viability and need for utilizing alternative technologies to address materials and streams clearly identified as difficult to recover.</p> <p><b><u>Advantages:</u></b> Assessments will provide the County and City with necessary information to determine if alternative technologies are a viable option for certain materials. May allow for business development, job growth and potential partnerships.</p> <p><b><u>Potential Challenges:</u></b> Will require political interest and support. Selection of materials to be utilized for alternative technologies will need to be clearly defined to ensure it is being utilized as a last resort option prior to landfill disposal.</p>		
<b>Expand the Reach of the Business Recycling Toolkit to all Municipalities within the County.</b>	Operations	Upstream
<p><b><u>Description:</u></b> Coordinate educational programming for businesses and define target goals for fostering recycling among the private sector. Include education on contamination and residue.</p> <p><b><u>Advantages:</u></b> Toolkit already developed. Easy strategy to implement.</p> <p><b><u>Potential Challenges:</u></b> Will require staff time. May have minimal impacts to diversion levels. May not be suitable for all municipalities depending upon their own ordinances, policies, and programs.</p>		
<b>Support Organizations Working on the Implementation of Take-Back Programs.</b>	Operations	Downstream
<p><b><u>Description:</u></b> Assess composition of collected hard to recycle and hazardous items for County and City to determine industries to target and implement “Take-Back” programs.</p> <p><b><u>Advantages:</u></b> Requires businesses to take-back difficult to manage items such as batteries and lightbulbs and reduces the County and City’s need for processing or providing proper disposal.</p> <p><b><u>Potential Challenges:</u></b> Will require political buy-in and support. Compositional analysis will require staff time, partnerships, and/or funding to determine appropriate industries to target.</p>		

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## Section 5 Stakeholder Engagement

KCI worked with County and City staff to identify eleven primary sectors to engage for review of the Preliminary Report and potential strategies for the implementation plan. Stakeholders included community organizations, industry groups, institutions, local government leaders, and residents. Representatives from these sectors were invited to attend a virtual presentation via Zoom on January 21, 2021, addressing key findings and proposed strategies to helping move the community towards Zero Waste. This meeting was also open for members of the public to attend as well.

Follow up meetings were conducted by County and City staff, as requested. Multiple online platforms were utilized to disseminate the Preliminary Report and provide electronic transmission of comments. These included the use of *Facebook*®, County and City websites, as well as tools through *SurveyMonkey*® to gain public comment. KCI provided the County and City staff a summation memorandum (see Appendix B) identifying priorities, as well as additional strategies proposed by stakeholders for inclusion. A consolidated list of all feedback received is located at Appendix B. It should be noted a formal, statistical survey was not conducted, per the project scope.



### 5.1 Stakeholder Priorities and Recommendations

A summation of the priorities and recommendations received is outlined below. All proposed strategies for moving toward Zero Waste were identified as important to participating stakeholders. Those identified as most important are presented in Table 9 with accompanying recommendations, where applicable.

**Table 9: Strategies and Related Recommendations Identified as Most Important**

General Strategy	Category	Impact Area
Establish a Solid Waste Reduction Goal and Formalize by Adopting a Zero Waste Resolution.	Policy	Upstream
<p><b>Related Stakeholder Recommendations:</b></p> <ul style="list-style-type: none"><li>- Establish a Solid Waste Reduction Goal with a 90% or greater diversion of materials from the landfill.</li><li>- Adopt the term “Zero Waste,” as it is defined by the Zero Waste International Alliance.</li></ul> <p>Incorporate the following Guiding Principles into the Zero Waste Resolution:</p> <ul style="list-style-type: none"><li>- Foster the creation of local jobs by managing its materials through reuse, repair, recycling, or composting.</li><li>- Achieve environmental justice and equity through Zero Waste practices.</li><li>- Reduce greenhouse gas emissions through the reduction of waste.</li><li>- Keep resources in-use within our local economy.</li><li>- Identify upstream measures that will prevent resources from becoming waste.</li></ul>		

General Strategy		Category	Impact Area
Implement a Zero Waste Procurement Policy.		Policy	Upstream
	<b>Related Stakeholder Recommendations:</b> <ul style="list-style-type: none"> <li>- Develop a decision-making strategy for the County and City that prioritizes upstream solutions regarding the management of materials (i.e., reusable food ware vs. single-use).</li> <li>- Include the following advantage: This satisfies the core value of Zero Waste, by utilizing resources based on its highest and intended use.</li> <li>- Include the following disadvantage: Limited to County and City controlled procurement processes only.</li> </ul>		
General Strategy		Category	Impact Area
Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program.		Program Operations	Downstream
	<b>Related Stakeholder Recommendations:</b> <ul style="list-style-type: none"> <li>- Include language that signifies additional donation avenues alone may not achieve a Zero Waste solution, due to many undesirable commodities received within the reuse system.</li> <li>- Public education designed to encourage the community to purchase less and purchase quality goods is imperative to accompany this strategy, which will achieve optimal market conditions in the reuse system.</li> </ul>		
Organic Material Recovery Strategy		Category	Impact Area
Develop Infrastructure for the Collection of Organic Materials.		Infrastructure Operations	Downstream
	<b>Related Stakeholder Recommendations:</b> <ul style="list-style-type: none"> <li>- Include commercial businesses within the scope.</li> <li>- Ensure model supports existing businesses offering composting services within the community.</li> </ul>		
Organic Material Recovery Strategy		Category	Impact Area
Build Upon Recycling Outreach and Education Programming to Include Organic Material Diversion.		Program	Midstream
	<b>Related Stakeholder Recommendations:</b> <ul style="list-style-type: none"> <li>- Include education and outreach, focused on proper identification of compostable materials, as well as promoting best management practices as defined within the Institute for Local Self Reliance (ILSR) Food Waste Hierarchy.</li> </ul>		
Organic Material Strategy		Category	Impact Area
Develop a Plan to Phase Organics from Garbage Collection.		Policy	Upstream
Recycling / C&D Recovery Strategy		Category	Impact Area
Foster the Expansion and New Development of C&D Reuse and Recycling Facilities for the Region.		Infrastructure Operations	Downstream
Recycling / C&D Recovery Strategy		Category	Impact Area
Conduct an Analysis of Recycling and Disposal Fees for the County to Identify Methods for Discouraging the Landfilling of Material.		Operations	Midstream

## 5.2 Additional Modifications Proposed by Stakeholders

In addition to strategies and recommendations identified as most important for inclusion into the plan, Table 10 presents a strategy requested to be removed by some stakeholders. It includes related recommendations of actions to be conducted prior to the final consideration by the County and City.

**Table 10: Strategy Proposed for Removal**

Recycling / C&D Recovery Strategy	Category	Impact Area
<b>Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams.</b>	Infrastructure	Downstream
<b>Related Stakeholder Recommendations:</b> <ul style="list-style-type: none"> <li>- Remove strategy from the list of options for the County and City to consider utilizing.</li> </ul> <p>Include the following analysis prior to any action:</p> <ul style="list-style-type: none"> <li>- Greenhouse gas emission analysis of the use of waste-to-energy technologies and facilities. Review analysis and obtain input from the Alachua County Citizen Climate Advisory Commission and Environmental Protection Advisory Board.</li> <li>- Environmental justice analysis of the use of waste-to-energy technologies and facilities. Review analysis and obtain input from the National Association for the Advancement of Colored People (NAACP) Environmental and Climate Justice Committee.</li> </ul>		

During the engagement process, additional strategies were proposed by some stakeholders. These are summarized in Table 11 with related stakeholder provided recommendations.

**Table 11: Additional Proposed Strategies and Recommendations**

Additional Strategy	Category	Impact Area
<b>Adopt a Single-Use Plastic Bag Ban.</b>	Policy	Upstream
Additional Strategy	Category	Impact Area
<b>Provide Clear, Concise and Consistent Educational Messaging Across the City and County for All Zero Waste Strategy Approaches.</b>	Program	Upstream Midstream Downstream
<b>Examples Include:</b> <ul style="list-style-type: none"> <li>- The meaning and importance of supporting reusable economies.</li> <li>- Voluntarily discouraging the use of difficult to recover materials.</li> <li>- Composting protocols.</li> <li>- Acceptable recyclable commodities.</li> </ul>		
Additional Strategy	Category	Impact Area
<b>Create a Single-Use Plastics Ban (plastic food ware, Styrofoam) and Litter Reduction Ordinance.</b>	Policy	Upstream
<b>Related Stakeholder Recommendations:</b> <p>Ensure all materials that contain PFAS are eliminated from use.</p>		

Additional Strategy		Category	Impact Area
Create Processes for Stakeholder Involvement Throughout Decision Making and Implementation Phases.		Policy Program	Upstream Midstream
Additional Strategy		Category	Impact Area
Evaluate the Waste Reduction Impacts & Potential Capacities for Expansion within Existing Reuse Infrastructure.		Infrastructure	Upstream
<b>Related Stakeholder Recommendations:</b> Review and update the Community Recycling Resources table within the Preliminary Report to current conditions.			
Additional Strategy		Category	Impact Area
Establish Uniform Recycling Messaging and Improve Coordination (during events such as student move-out).		Policy Program	Upstream
<b>Related Stakeholder Recommendations:</b> Messaging should include County, City, University of Florida, etc.			
Additional Strategy		Category	Impact Area
Ban Single-Use Plastics and Polystyrene on City and County Properties and at City and County Events.		Policy	Upstream
<b>Related Stakeholder Recommendations:</b> -Expand strategy to all businesses, agencies, and organizations if Florida removes pre-emption for local governments to regulate recyclable materials.			
Additional Strategy		Category	Impact Area
Reduce Single-Use Accessories in Dining, Take-Out and Delivery of Prepared Meals.		Policy	Upstream
<b>Related Stakeholder Recommendations:</b> Utilize ordinances to achieve results.			
Additional Strategy		Category	Impact Area
Create Incentives for Businesses and Institutions to Adopt Policies Focused on Reduction of Problematic Materials.		Policy	Upstream
<b>Related Stakeholder Recommendations:</b> -Create an incentive program for businesses and institutions.			
Additional Strategy		Category	Impact Area
Establish Dedicated Staff for Zero Waste Outreach and Education Activities at the City and County		Policy	Upstream
<b>Related Stakeholder Recommendations:</b> Hire or assign County and City staff to assume these responsibilities and track Zero Waste goals.			

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## Section 6 Implementation Plan & Next Steps

In partnership with County and City staff, KCI assessed results from the stakeholder engagement process to develop a recommended plan for implementation.

### 6.1 Implementation Plan

At the request of the County and City, this plan has been divided into three different phases (Phase I, Phase II, and Phase III) with no associated years or timelines. These may be determined upon final adoption and are intended to allow flexibility related to funding and resources.

As noted earlier, during this project both the County and City have continued to work towards waste reduction goals for the community. Thus, some strategies are already underway, but have not been finalized. Where applicable, these have been noted within the recommended plan.

#### Recommended Phase I: Alachua County Implementation Plan

Strategies defined for Phase I will ensure the necessary policies and infrastructure needs for capturing organic materials are in place. Diversion of organic and compostable wastes were deemed a priority during the stakeholder engagement process.

**Table 12: Recommended Phase I Zero Waste Strategies**

Phase I	
<b>Section 1.</b>	<b>General Recommendations</b>
<i>In Progress</i>	Establish a Solid Waste Reduction Goal and Formalize by Adopting a Resolution on Zero Waste.
<i>In Progress</i>	Implement Zero Waste Procurement Policy.
<i>In Progress</i>	Reduce Single-Use Accessories in Dining, Take-Out and Delivery of Prepared Meals.
<i>In Progress</i>	Establish Public and Private Partnerships to Facilitate Innovative Research and Develop New Technologies for Managing Solid Waste in Alachua County and City of Gainesville.
	Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program.
	Revise Future Contracts and Franchise Agreements with Collections and Processing Vendors to Include Requirements and Incentives Addressing Zero Waste.
<b>Section 2.</b>	<b>Organic Material Recovery</b>
<i>In Progress</i>	Develop a Plan to Phase Organics from Garbage Collection.
<i>In Progress</i>	Expand Food Recovery Networks to Include Alachua and Gainesville Food Pantries.
	Add Incentives to Current Residential Backyard Composting Programs and Expand.
	Establish the Processing Infrastructure Necessary for Diverting Organic Materials from the Waste Stream.
<b>Section 3.</b>	<b>Recyclables and C&amp;D Material Recovery</b>
<i>In Progress</i>	Ban Single-Use Plastics and Polystyrene on City and County Properties and at City and County Events.
<i>In Progress</i>	Expand Existing Mandatory Commercial Recycling Ordinance.
<i>In Progress</i>	Establish Uniform Multi-family Recycling.



Phase I	
	Conduct an Analysis of Recycling and Disposal Fees to Identify Methods for Discouraging the Landfill of Material.
	Expand the Reach of the Business Recycling Toolkit to all Municipalities within the County.
	Support Organizations Working on the Implementation of Take-Back Programs.

### Recommended Phase II: Alachua County Implementation Plan

The recommended strategies for Phase II build upon those implemented during the initial phase and increase the infrastructure, policies, and programs necessary to increase diversion and reuse, while fostering a more circular economy.

**Table 13: Recommended Phase II Zero Waste Strategies**

Phase II	
<b>Section 1.</b>	<b>General Recommendations</b>
	Develop a Community-Wide Zero Waste Recognition and Certification Program.
	Provide Clear, Concise and Consistent Educational Messaging Across the County and City for All Zero Waste Strategy Approaches.
	Evaluate the Waste Reduction Impacts & Potential Capacities for Expansion within Existing Reuse Infrastructure.
<b>Section 2.</b>	<b>Organic Material Recovery</b>
<i>In Progress</i>	Develop Infrastructure for the Collection of Organic Materials.
	Build Upon Recycling Outreach and Education Programming to Include Organic Material Diversion.
<b>Section 3.</b>	<b>Recyclables and C&amp;D Material Recovery</b>
	Revise Building Code Standards or Green Building Ordinances to Address Zero Waste Initiatives for C&D Material Diversion.
	Foster the Expansion and New Development of C&D Reuse and Recycling Facilities for the Region.
	Foster the Development of Regional Reprocessing Facilities.
	Conduct Operational Analysis of Current Material Recovery Facilities (MRFs) to Ensure High Performance Rates that Support Zero Waste.
	Establish Uniform Recycling Messaging and Improve Coordination (during events such as student move-out).

### Recommended Phase III: Alachua County Implementation Plan

Strategies identified for the final phase were either deemed sequentially necessary for implementing last or defined as a lower priority during the planning process.

**Table 14: Recommended Phase III Zero Waste Strategies**

Phase III	
<b>Section 1.</b>	<b>General Recommendations</b>
	Create Incentives for Businesses and Institutions to Adopt Policies Focused on Reduction of Problematic Materials.
<b>Section 2.</b>	<b>Organic Material Recovery</b>
	Market Final Compost Product Throughout Community and Provide Education on Importance of Soil Restoration.
<b>Section 3.</b>	<b>Recyclables and C&amp;D Material Recovery</b>
	Adopt New Ordinances Banning Specific Recyclables from Entering Local Transfer Stations, Landfills, and Incinerators.
	Adopt an Ordinance to Incorporate Reusable and Recyclable Materials into Local Government Road Construction and Maintenance Projects.
	Conduct a Feasibility Study on the Development of a Regional CHaRM Facility for Processing Bulky Materials.
	Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams.
	Adopt a Single-Use Plastic Bag Ban.
	Create a Single-Use Plastics Ban (plastic food ware, Styrofoam) and Litter Reduction Ordinance.
	Create Processes for Stakeholder Involvement Throughout Decision Making and Implementation Phases.
	Establish Dedicated Staff for Zero Waste Outreach and Education Activities at the County and City.

Various proposed material bans were recommended by stakeholders. These bans have all been scheduled in Phase III due to Florida Statute (F.S.) 403.7033 which regulates the management of recyclable materials on a state-wide level. The County and the City both attempted to set such bans in 2019 but repealed them due to requests from the Florida Retail Federation.

## 6.2 Next Steps

As the County and City move forward, KCI recommends adoption of the implementation plan within this Report. Upon adoption, it is recommended the County and City work with KCI to identify any strategies requiring financial and waste reduction modeling. This would include a review of community benefits such as job growth, equal distribution of services, and climate mitigation and resilience measures, as well as assist in defining measurable outcomes for strategies where applicable. This process will allow for an understanding of costs and associated funding mechanisms for incorporation into capital improvements and comprehensive planning processes.

It is also recommended the County and City proceed with their planned Waste Composition Study to assist in further baselining current material flows across the community. There have been numerous changes to waste stream programs and policies, packaging materials, and community demographics since the completion of the last study in 2010 to now. An updated

baseline measurement for calculating the successful implementation of certain strategies will be beneficial.

Finally, KCI recommends the County and City continue to engage the community in implementation to ensure adequate support and guidance for policies and programs that will help the community reach their Zero Waste goals. This may include the expansion of efforts to additional businesses in the private sector, as well as stakeholders that are often marginalized during planning processes.

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# Appendices

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Appendix A: Baseline Assessment Technical Memorandum

Appendix B: Stakeholder Engagement Summary Technical Memorandum and Consolidated Feedback

Appendix C: Additional Resources and Case Studies

# Appendix A: Baseline Assessment Memo

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## Baseline Assessment Technical Memorandum



## TECHNICAL MEMORANDUM

**TO:** Gus Olmos, Interim Director of Solid Waste and Resource Recovery  
Patrick Irby, Waste Collection Manager

**FROM:** Chas Jordan, Project Manager

**DATE:** April 9, 2020

**SUBJ:** Alachua County Zero Waste Plan – Baseline Assessment

**PROJ #:** 28-08.00

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Kessler Consulting, Inc. (KCI) is pleased to submit this technical memorandum to Alachua County's Solid Waste and Resource Recovery Department summarizing our Baseline Assessment of the Alachua County and City of Gainesville's solid waste systems in preparation for developing an official Zero Waste Plan.

### **I. Background and Purpose**

In 2018, Alachua County (County) and the City of Gainesville (City) initiated an agreement with KCI for professional services to develop a community wide Zero Waste Plan. This plan would provide direction and goal setting for both entities to reduce the amount of waste being disposed. While the concept of absolute Zero Waste is not technically possible, the goals set forth by a Zero Waste Plan can assist in developing the means, methods, and infrastructure necessary to continuously reduce the amount of generated waste.

The County contracted with KCI to manage the research, development, and issuance of a Zero Waste Plan for approval by the County as a long-term benchmarked process to reduce waste going to the landfill. This project included four tasks, the first of which was to review all applicable data to compile a Baseline Assessment of the existing County and City solid waste systems for understanding of how to proceed, what policies are needed, and how to improve the system going forward through the year 2040.

Zero Waste planning requires a consortium of local leaders, businesses, and residents to become viable and achievable. In the Alachua County and Gainesville area, local leaders, businesses, and residents are currently driving the concept of Zero Waste. Their continued support will ensure positive outcomes for the County and City.

#### What is Zero Waste?

The term Zero Waste is defined by the Zero Waste International Alliance (ZWIA) as: "The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products,



packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.”<sup>1</sup>

Zero Waste is, in essence, the reprogramming of societal understanding and repositioning of disposal and reuse opportunities. Through this process, less raw materials are consumed for production, more manufactured materials remain in use, and commodities are recycled to continue to maximize the value of material. These are all part of the Zero Waste concept known as a *Circular Economy*, as depicted in Figure 1. This concept allows resources a continuous life cycle through multiple uses and purposes, rather than limiting their life space to simple production that results in waste. The four main stages include:

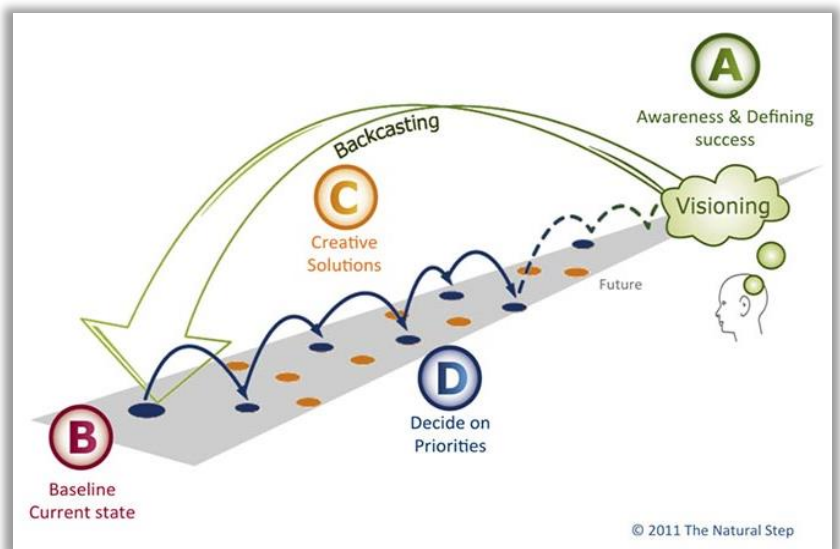
**Figure 1: Circular Economy by the US Public Interest Research Group**



1. *Production* – The conversion of raw or recycled materials into usable products.
2. *Reduction* – Limiting the need for as much raw or recycled material to be used in the waste or economy stream.
3. *Reuse & Repair* – Fostering the repair of commodities or the reuse of materials instead of discarding them.
4. *Recycling and Composting* – The process by which products are broken back down into the initial raw or recycled materials and re-produced for another use.

Envisioning a Zero Waste future requires a deep understanding of current conditions. This Baseline Assessment is the first step for KCI in quantifying and qualifying the existing resources, infrastructure, and systems in place around Alachua County and the City of Gainesville. Correlating categories for a *Circular Economy* with a common planning tool titled *backcasting* will allow County and City staff, with KCI’s support, to envision the ultimate goal of producing little to no waste by the year 2040 and determine the creative solutions and priorities that led to this visualized success as depicted in Figure 2.

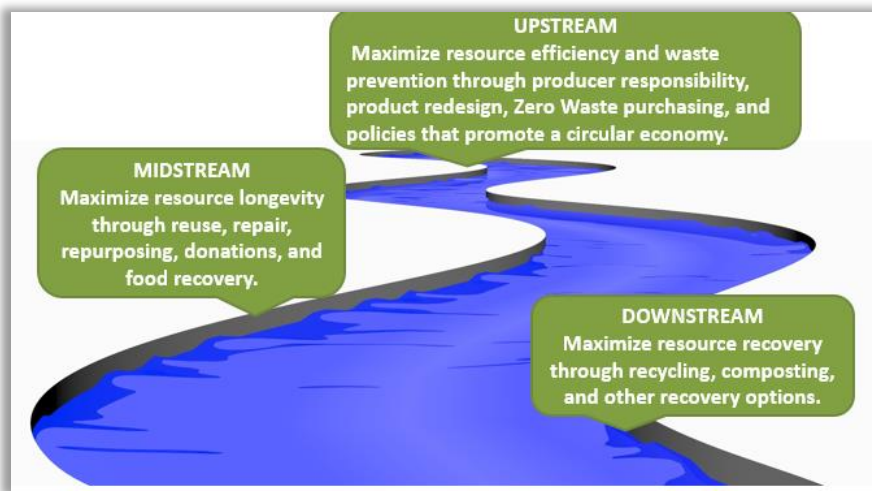
**Figure 2: Backcasting in the Planning Process**



*Backcasting in the Planning Process -The Natural Step by Energy Futures Lab*

<sup>1</sup>Zero Waste International Alliance Website: <http://zwia.org/zero-waste-definition/>

KCI researched a myriad of existing programs from all sectors of the community in formulating the data for this Baseline Assessment. All data was categorized for efficiency into a common Zero Waste methodology that groups known community solutions into three parts as depicted in Figure 3. These crucial categories will also assist in the development and implementation of the final Zero Waste Plan. It is important to note, the Solid Waste Association of North America (SWANA) and the California Resource Recovery Association (CRRA) utilize the planning processes noted Figure 3 in their Zero Waste training to illustrate the stages of Zero Waste.



**Figure 3: Three Categories of Zero Waste Solutions from SWANA and the CRRA**

*Three Categories of Zero Waste Solutions (SWANA, CRRA ZW Training Program)*

*Developed by Kessler Consulting, Inc. - 2018*

Examples of each phase include, but are not limited to the following:

1. *Upstream Initiatives* – Producer responsibility covenants, Zero Waste purchasing policies, use of recycled materials and content, packaging changes, and local economic growth incentives.
2. *Midstream Initiatives* – Promotion of repairs for household electronics and other commodities, donation bins and systems to reuse clothing and household items, food recovery programs for restaurants and grocery stores to support local feeding programs.
3. *Downstream Initiatives* – Resource recovery facilities for recycling and composting, facilities for the break down and recycling of difficult recyclable materials, hazardous and electronic waste recycling facilities, and more.

Additionally, data collected for this Baseline Assessment will be categorized based upon the industry sector, community support/preparedness, and policy status. It will provide the building blocks for which key County and City stakeholders and KCI will build strategies to be included in the Zero Waste Strategic Plan.





*GBCI True Zero Waste Program*

### Baseline Assessment Tools

KCI utilized the Environmental Protection Agency (EPA)'s Managing and Transforming Waste Streams Spreadsheet Tool<sup>2</sup> to categorize and determine current baseline status of zero waste options and potential community programs in the area. This tool was developed as a guide to evaluate all sectors of a community and can be continually utilized on a community's journey towards reducing waste and establishing a circular economy.

- *EPA Zero Waste Evaluation Tool*

The EPA's Waste Streams Spreadsheet Tool was revised by KCI to focus on initiatives necessary for the County and City to maximize their waste reduction and achieve their Zero Waste goals. This tool offers a checklist for evaluating current waste streams within a region, as well as known waste reduction strategies. The spreadsheet utilizes a user-friendly format as defined below. The completed spreadsheet may be found in Appendix A.

	<b>Items with this shown as the status are those that are currently in progress or have been implemented as of this assessment.</b>
	<b>Items with this shown as the status are those that are not currently in place and have not begun to be implemented as of this assessment.</b>

## II. Current Conditions

Assessment of the current conditions in Alachua County is critical for an accurate understanding of what strategies are required in planning for a Zero Waste future. The EPA tool was integrated with KCI's research tools to formulate the data below. The final Zero Waste Plan will present these findings with a more concise, compilation method noting target objectives and strategies.

### ***Current Resource Recovery Collection Policies and Programs***

Based on local solid waste ordinances for Alachua County and the City of Gainesville, the following methods and educational opportunities for solid waste management and recycling are in place.

<sup>2</sup>EPA Website: <https://www.epa.gov/transforming-waste-tool/managing-and-transforming-waste-streams-tool>

### Residential Collection Service: Alachua County

Waste collection for residents within the County varies based upon location. The County provides curbside dual stream recycling and waste collection to designated unincorporated residential areas. Garbage cart sizing is currently a Pay-As-You-Throw rate structure with annual costs ranging from \$119.30/yr. (Mini-Can), \$137.59/yr. (35gal), \$191.75/yr. (64gal) to \$283.50 (96gal). Certain areas utilize an orange and blue bin to separate recyclables. Educational programs and materials are provided through the County's Solid Waste and Resource Recovery Department. Recycling collection service at apartment complexes is mandatory and is arranged by the manager or owner of the complex.

Municipalities offering single stream curbside collection include the Cities of Alachua, Archer, Hawthorne, La Crosse, Micanopy, and Newberry. Residents of subscription-only areas may subscribe to curbside pickup through private services with Waste Corporation of America (WCA) or utilize the Rural Collection Centers (RCCs) or the Leveda Brown Environmental Park and Transfer Station.

The RCCs positioned throughout the County offer recycling (plastic, metals, glass, mixed paper, cardboard), household hazardous waste disposal, yard waste composting, bulk material disposal, and garbage waste disposal. The Environmental Park accepts recycling (plastic, metals, glass, mixed paper, cardboard), scrap metal, tires, yard waste, and household hazardous wastes, garbage disposal, and provides further educational outreach to the community. Residential composting education and supplies are currently offered through the Alachua County Solid Waste Department.

There is currently no mandate on the recycling of green (yard) waste nor construction and demolition (C&D) materials. Curbside collection of green (yard) waste is currently offered within the County and is accepted at the RCCs. Currently, the RCCs nor Environmental Park are able to accept C&D material (although small amounts of interior C&D debris may be accepted). Private outlets exist for the recovery of both green (yard) waste and C&D materials.

### Residential Collection Service: The City of Gainesville

Waste collection within the City limits is a part of the provided utilities. Curbside collection includes garbage, dual-stream recycling, bulk items, and yard waste. All waste stream categories are picked up on a weekly basis. Recycling for the City is separated into two streams: 1) Plastics, aluminum and steel cans, glass bottles and jars, milk/juice cartons and boxes, and 2) Mixed papers, corrugated cardboard and paperboard. Clearly defined educational materials that include pictures and descriptions are provided for residents via the City's website.

Garbage cart sizing is currently a rate base structure open to resident need/choice and vary from 20 gallons (\$18.50/month) to 96 gallons (\$37.00/month). Yard waste pickup is encouraged in reusable cans or brown paper bags. Plastic bag use for yard waste pickup requires special pickup request and fees for removal. Large appliance or electronic pickup may be scheduled. Recycling is required for all multi-family units over five and must be coordinated by the building manager through private services.

### Commercial Collection Service: Alachua County

In 2011, Alachua County updated their existing ordinance mandating commercial recycling. Under this ordinance, businesses in the County are required to recycle the following materials: steel cans, aluminum cans, glass containers, plastic containers, magazines, newspapers, office paper, and corrugated cardboard. A plastic stirrer and straw ban became active on March 10, 2020. Private hauler databases,

educational materials and staff support are available to assist businesses in implementing the mandate which includes wood and yard waste, as well as building and C&D materials. However, there is currently no mandate requiring the diversion of yard waste or C&D materials from the landfill.

#### *Commercial Collection Service: The City of Gainesville*

Waste collection and recycling within the City limits is mandated per ordinance utilizing collection companies. Support for developing workplace recycling programs is provided to businesses. All commercial generators must separate the following designated recycling materials and hire contract recycling services for any item comprising over 15% of their waste stream: corrugated cardboard and pasteboard, newspaper, magazines, catalogs, manuals, paperback books, office paper, junk mail, metal cans, glass bottles and jars, plastic bottles, jugs, jars and tubs, milk and juice cartons. Several private collection companies service the area and can easily be found on the City website. Additionally, staff are available to provide information and technical support to any business on this recycling mandate. Effective January 1, 2020, the City implemented a ban on plastic straws and stirrers.

#### ***Community Policies, Programs, and Policy Drivers***

##### *University Collection Services: University of Florida (UF)*

In striving to be a Zero Waste Campus, UF offers numerous waste management alternatives to students, staff, and operational programs of the University. These include a wide array of recycling options and food waste composting.

##### *Further Circular Economy Opportunities and Policy Drivers*

In addition to the collections described above, the following pertinent resources for waste reduction exist within Alachua County.

- *Food Waste Diversion* – As noted on previous page, the UF food waste and composting program, as well as the County's composting education program are generating awareness about alternatives to food waste from the larger stream. Additionally, several residential and small business private food waste pickup/composting services exist. This includes Beaten Path Compost.
- *Construction & Demolition (C&D) Diversion* – In addition to multiple private C&D hauling and recycling companies, several reuse stores and facilities exist in Alachua County. Additionally, the City's Green Building Ordinance incentivizes the reuse and recycling of construction materials.
- *Hazardous Waste Diversion* – The Alachua County Hazardous Waste Collection Center properly disposes and recycles a number of household hazardous wastes. These include household chemicals, auto fluids and batteries, paints and solvents, pesticides and corrosive chemicals, electronic scrap, and fluorescent and other mercury containing bulbs.
- *2008 Florida Energy Act* – This State statute developed a goal of 75% waste diversion by 2020.

## Resource Recovery and Recycling Facilities

### Recycling Centers

While curbside recycling collection is offered in multiple areas throughout the County, rural areas in the unincorporated County are serviced by a number of RCCs. Additionally, the County offers the Leveda Brown Environmental Park and Transfer Station. These collection facilities are listed in Table 1 and accept the following recycled materials: mixed paper, glass, plastic, metal, white goods and other large metals, household hazardous waste, oil filters, fluorescent lamps, rechargeable batteries, vehicle/boat batteries, computer equipment, electronics, up to five gallons of waste oil, and old paint. As shown in Table 1, multiple locations accept gently used items such as toys, pots, pans, furniture, etc.

**Table 1: Alachua County Collection Facilities**

Name	Address	Reuse Available
Archer Rural Collection Center	19401 SW Archer Road Archer, FL 32618	Yes
Alachua/High Springs Rural Collection Center	16929 SW Highway 441 High Springs, FL 32643	Yes
Fairbanks Rural Collection Center	9920 NE Waldo Road Gainesville, FL 32609	Yes
North Central Rural Collection Center	10714 N SR 121 Gainesville, FL 32653	Yes
Phifer Rural Collection Center	11700 SE Hawthorne Road Gainesville, FL 32640	Yes
Leveda Brown Environmental Park and Transfer Station	5115 NE 63 <sup>rd</sup> Avenue Gainesville, FL 32609	No

The recycling of debris from construction and demolition (C&D) activities remains vital for areas of significant growth in the County. Currently there are several private facilities accepting these materials as depicted in Table 2.

**Table 2: Alachua County C&D Recycling and Reuse**

Name	Address	Private / Public	Options
Arwood Waste Management Solutions	3003 SE 15 <sup>th</sup> St Gainesville, FL 32641	Private	Curbside collection, small junk removal, junk removal, C&D recycle and disposal
Florence Recycling & Disposal	3222 SE Hawthorne Road Gainesville, FL 32641	Private	Recycling Landfill Transfer Station
Florida Concrete Recycling, Inc.	930 SW 3 <sup>rd</sup> St Gainesville, FL 32601	Private	Glass Recycling Concrete Recycling Asphalt Recycling
Habitat for Humanity ReStore	2317 SW 13 <sup>th</sup> St Gainesville, FL 32608	Private	Material Reuse Appliance Reuse
The Repurpose Project – Reuse Store	1920 NE 23 <sup>rd</sup> Ave Gainesville, FL 32609	Private	Material Reuse Scrap Wood
Watson Greener Landscaping	12890 Northeast State Route 24 Archer, FL 32618	Private	C&D Material Recycling

*Note: List is subject to change and may not be all inclusive.*



### Organic Waste Collection

Multiple waste diversion opportunities exist for residents of Alachua County to compost yard debris and food waste. These are comprised of both public and private methods as outlined in Table 3.

**Table 3: Alachua County Compost (Food and Yard Waste) Recycling**

Name	Address	Private / Public	Food Waste
<b>Alachua County RCCs</b>	Multiple - See Table 1	Public	No Yard Only
<b>Beaten Path Compost</b>	Multiple Drop Off Locations	Private	Yes
<b>Gaston's Tree Debris Removal</b>	9333 NW 13 <sup>th</sup> St Gainesville, FL 32653	Private	No Yard Only
<b>UF Student Compost Cooperative</b>	Energy Research and Ed Park Gainesville, FL 32608	Private	Yes
<b>Watson C &amp; D</b>	12890 NE SR 24 Archer, FL 32618	Private	No Yard Only

*Note: List is subject to change and may not be all inclusive.*

### Additional Community Resources to Support a Circular Economy

When assessing the multiple avenues for creating a circular economy, there are other facilities and businesses that can assist by accepting gently used materials or provide additional community-wide recycling services which are listed in Table 4. Please note, these opportunities link to many midstream and downstream initiatives and are considered an important variable for a Zero Waste community, as defined under the EPA's *Managing and Transforming Waste Streams Spreadsheet Tool*.

**Table 4: Alachua County Additional Recycling Opportunities**

Name	Address	Items Accepted
<b>A Rai of Sunshine Thrift Store</b>	125 NW 23 <sup>rd</sup> Ave #5 Gainesville, FL 32609	Clothing Household Goods
<b>Advanced Recycling LLC</b>	13403 Co Rd 1471 Waldo, FL 32694	E- Waste Recycling
<b>Alachua Habitat for Humanity ReStore</b>	2317 SW 13 <sup>th</sup> St Gainesville, FL 32608	Clothing, Household Good, Furniture, Appliances
<b>Best Buy</b>	3520 SW 34 <sup>th</sup> St Gainesville, FL 32608	Electronics, batteries, wires, cords, cables, plastic bags
<b>Bj's Thrift Shop</b>	1847 S Main St Gainesville, FL 32601	Clothing, Household Goods, Electronics
<b>Cartridge World</b>	3501 SW 2 <sup>nd</sup> Ave, Suite N Gainesville, FL 32607	Used Printer Ink Cartridges and Toners
<b>CMC Recycling of Gainesville</b>	1508 NW 55 <sup>th</sup> Pl Gainesville, FL 32653	Aluminum cans and scrap, auto parts, bikes, brass, cookware, copper, ferrous metals, garden tools, hardware, lawnmowers, metal clothes hangers, metal tags, musical instruments – metal, nonferrous metals, pipes, radiators, scrap metal, stainless steel, tools, zinc

Name	Address	Items Accepted
<b>Entenmanns Gainesville Thrift</b>	1124 SE 4 St Gainesville, FL 32601	Clothing, Household Goods
<b>eco ATM</b>	4010 W Newberry Rd Gainesville, FL 32607	Smartphones, Tablets, Cell Phones
<b>Flashbacks Recycled Fashions</b>	220 NW 8 <sup>th</sup> Ave Gainesville, FL 32601	Clothing
<b>Gainesville Junk Removal</b>	4010 W Newberry Rd Gainesville, FL 32607	Furniture, Appliances, Misc. Scrap Metal
<b>Gator Appliance Recycling</b>	3402 NE 2 <sup>nd</sup> St C Gainesville, FL 32609	Appliances
<b>Goodwill – Gainesville North</b>	1223 NW 23 <sup>rd</sup> Ave Gainesville, FL 32609	Clothing Household Goods
<b>Goodwill – Gainesville South</b>	3520 SW 34 <sup>th</sup> St Gainesville, FL 32608	Clothing Household Goods
<b>Haven – Attic Resale</b>	300 NW 8 <sup>th</sup> Ave Gainesville, FL 32601	Clothing Household Goods
<b>Home Depot</b>	5150 NW 13 <sup>th</sup> St Gainesville, FL 32609 7107 NW 4 <sup>th</sup> Blvd Gainesville, FL 32607	Light bulbs Rechargeable Batteries
<b>Humane Society of North Central Florida Thrift Store</b>	4205 NW 6 <sup>th</sup> St Gainesville FL 32609	Clothing, Household Goods
<b>JCPenny</b>	6841 W Newberry Rd Gainesville, FL 32605	Plastic Bags #2 and #4
<b>Kohls</b>	3501 Southwest Archer Rd Gainesville, FL 32608	Plastic Bags #2 and #4
<b>Lowes</b>	15910 NW 144 Terrace Alachua, FL 32615 2564 Northwest 13 <sup>th</sup> St Gainesville, FL 32609 3500 SW Archer Rd Gainesville, FL 32608	Plastic bags #2 and #4, cell phones, CFLs, lead-acid batteries, lithium-ion batteries, nickel-cadmium batteries, nickel-metal hydride batteries, nickel-zinc batteries, plastic plant materials (no single use batteries).
<b>Melody's Memories</b>	5000 NW 34 <sup>th</sup> Blvd Suite 1 & 2 Gainesville, FL 32605	Clothing
<b>Office Depot</b>	1015 NW 13 <sup>th</sup> St Gainesville, FL 32601 6861 W Newberry Rd Gainesville, FL 32605	Ink and Toner Cartridges
<b>Office Max</b>	3642 SW Archer Rd Gainesville, FL 32608	Ink and Toner Cartridges
<b>Outreach Thrift</b>	2430 NW 6 <sup>th</sup> Street Gainesville, FL 32609	Clothing Household Goods
<b>Plato's Closet</b>	3441 W University Ave B Gainesville, FL 32607	Clothing
<b>Publix Super Markets</b>	All Locations	Plastic bags #2 and #4, Plastic egg cartons, paper bags, Plastic film #2 and #4
<b>Recycling Services of America</b>	2874 NE 1 <sup>st</sup> Terrace Gainesville, FL 32609	Office Paper, Cardboard, Bottles, Cans

Name	Address	Items Accepted
Salvation Army	55 NW 23 <sup>rd</sup> Ave Gainesville, FL 32609	Clothing Household Goods
Sam's Club	2801 NW 13 <sup>th</sup> St Gainesville FL 32609	Plastic bags #2 and #4, car batteries, marine batteries
Sandy's Savvy Chic Resale Boutique	4148 NW 13 <sup>th</sup> St Gainesville, FL 32609	Clothing
Sound Ideas	3215 NW 13 <sup>th</sup> St Gainesville, FL 32609	Small electronics
Sprint Store	3600 SW Archer Rd Gainesville, FL 32608	Cell phones
St. Patrick's Thrift Shop	2010 NW 6 <sup>th</sup> St Gainesville, FL 32609	Clothing, Household Goods, Furniture
St. Vincent De Paul Thrift Shop	710 N Main St Gainesville, FL 32601	Clothing, Household Goods, Furniture
Target	3970 SW Archer Rd Gainesville, FL 32608	Plastic bags #2 and #4, cell phones, inject cartridges, MP3 players
T-Cellular	6419 W Newberry Rd Gainesville, FL 32605	Cell phones
The ARC of Alachua County	3781 NW 6 <sup>th</sup> St Gainesville, FL 32609	Clothing, Household Goods
The Heart of Gainesville Thrift Store	125 NW 23 <sup>rd</sup> Ave #5 Gainesville, FL 32609	Clothing, Household Goods, Furniture
The Repurpose Project	1920 NE 23 <sup>rd</sup> Ave Gainesville, FL 32609	Clothing, Household Goods, Furniture, Appliances
Trademark Metals Recycling	817 NE Waldo Rd Gainesville, FL 32641	Air conditioners, aluminum cans, aluminum foil and scrap, auto bodies, auto parts, bbq grills, bikes, brass, cookware, copper, dehumidifiers, dishwashers, ferrous metals, freezers, garden tools, hardware, heaters, humidifiers, lawnmowers, metal clothes hangers, metal paint cans, metal tags, metal music instruments, nonferrous metals, pipes, radiators, refrigerators, scrap metal, stainless steel, steel cans, steel lids, stoves, tools, vehicles, washer/dryers, zinc
Uniquities Consignment Shop	526 N Main St Gainesville, FL 32601	Furniture, Home Goods, Clothing
Walmart	All Locations	Plastic bags #2 and #4, car batteries, marine batteries
Watson Greener Landscaping	12890 Northeast State Route 24 Archer, FL 32618	Aluminum scrap, asphalt, brass, brick, carpet, carpet padding, ceiling tiles, ceramic
Whole Foods	3490 SW Archer Rd Gainesville, FL 32608	Batteries, corks, plastic bags, brita filters, yogurt cups and #5 plastics
WeeCycle of Gainesville	1405 NW 23 <sup>rd</sup> Ave Gainesville, FL 32605	Clothing, Furniture, Household Goods

Note: List is subject to change and may not be all inclusive.

### ***Community Support and Outreach***

Recently, Mr. Adrian Hayes-Santos, City Commissioner of Gainesville, presented a proposal with recommendations for the City to be classified as a “Zero Waste City.” This proposed statement sets a goal of Gainesville being a Zero Waste City by 2040. This led to Alachua County beginning this strategic planning process.

In addition to policy initiatives designed to reduce waste, both the County and City governments have multiple recycling and solid waste public outreach opportunities. These include dedicated staffing and the public education/outreach tools available through their websites, targeted business solid waste guides, and the proposed Eco-Industrial Park (a 37-acre resource recovery space and innovation hub for waste-related material research and business incubation). This facility is planned to be an innovative long-term collaboration between UF and the County and will offer extensive opportunities for growing a circular economy for the area.

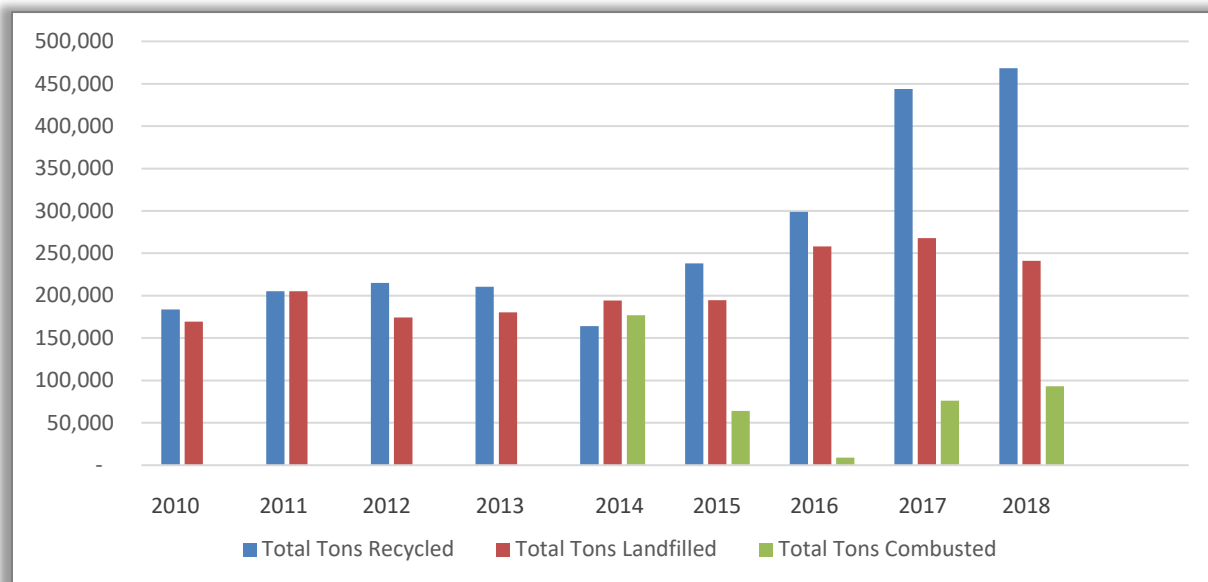
UF’s commitment to be a Zero Waste Campus provides additional support, educational opportunities, and general motivation that will bolster successful waste reduction outcomes. Additionally, growing momentum from Zero Waste Gainesville has been monumental in pushing forward the concepts of Zero Waste. This community action group provides advocacy, as well as educational programs to residents and local leaders. Continued support of community initiatives like these, as well as local governmental programs is required for success over time.

## **III. Waste Generation and Characterization**

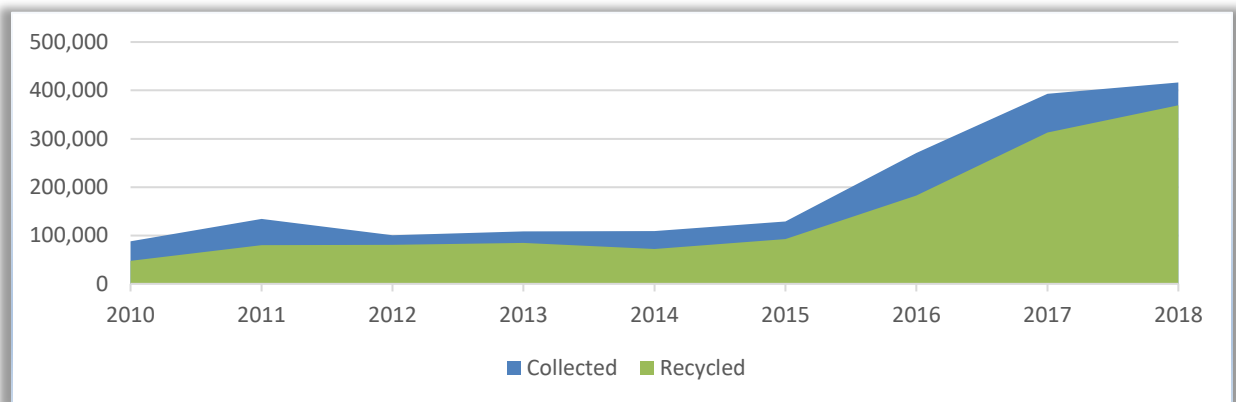
Development of a Zero Waste Plan requires not only knowing the resources available to a community for achieving goals of a circular economy, but also the actual solid waste output in tonnages (recycling versus landfilled garbage/combusted garbage), solid waste compositions, and composition trends over time. The Florida Department of Environmental Protection (DEP)’s *Annual Reporting of Materials Collected* indicates the overall solid waste disposal trend for the County has remained fairly steady from 2010 to 2018 with a fluctuation in 2014.<sup>3</sup> It is important to note that over the full period of time, the County still averaged a diversion of 51% of their waste and recycling trends continue to rise as seen in Figure 3.

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<sup>3</sup> Florida Department of Environmental Protection *Annual Reporting of Materials Collected- Alachua County*

**Figure 3: Alachua County Municipal Solid Waste Trends – 2010-2018**

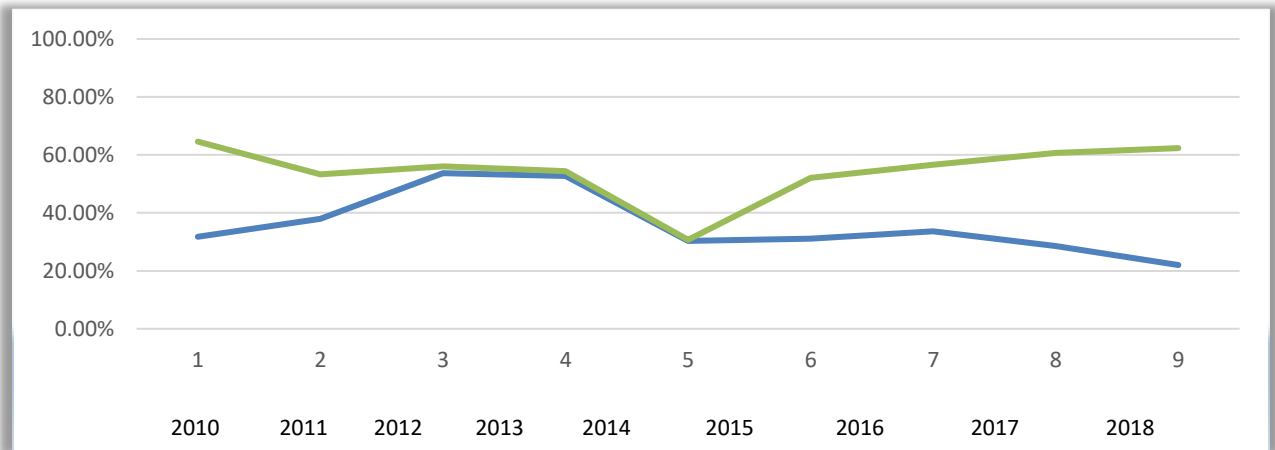
Further insight into the increase in tonnage over the last five years links to the quantity of C&D being recycled and landfilled. According to DEP data in 2010 C&D accounted for 25% of total collected waste. This has grown with the latest data in 2018 revealing a jump to 52%. This is partially due to a change from DEP on what can be considered recyclable C&D, however it has continued to increase after this change in 2015. Figure 4 reveals the tonnage of C&D annually and the increasing trend. While there is always room for improvement, current policies, programs and community commitment are impacting the large percentage of C&D being recycled.

**Figure 4: Alachua County Tons of C&D (2010-2018)**

Research conducted by KCI revealed further trends that will have an impact on the strategies set forth in the final Zero Waste Plan. DEP's data on recycling trends of Municipal Solid Waste (MSW) by sector revealed that the single family, multi-family, and commercial sectors all have a great deal of potential to recycle much more than is currently being diverted, as seen in Figure 5. *Note: Recycling trends in recent years for single-family and multi-family units remained the same.* As mentioned earlier in this Baseline Assessment, commercial recycling is mandatory and likely the reason behind a greater percentage of

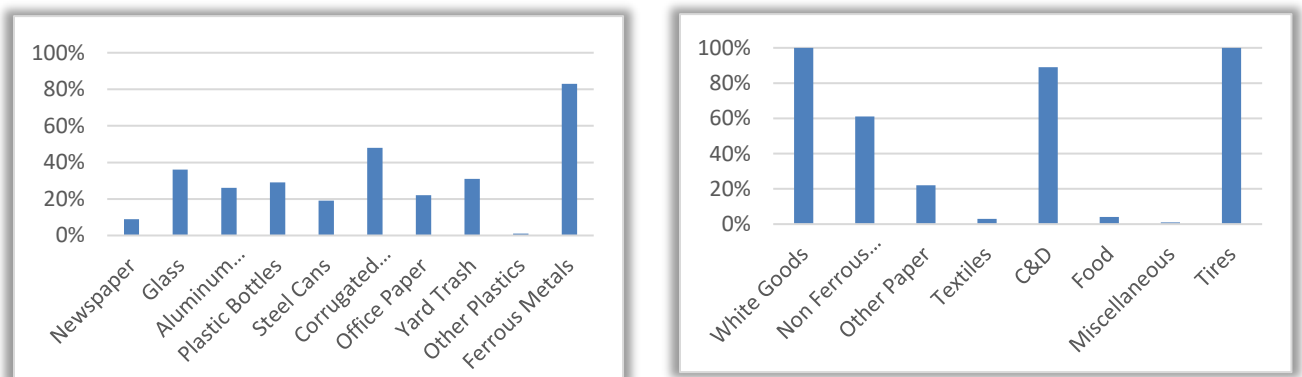
waste being recycled. However, even with this ordinance in place, data trends reveal that in 2010 68% was being recycled, as compared with 62% in 2018.

**Figure 5: Alachua County Trends for Recycling as a Percentage of MSW (2010-2018)**



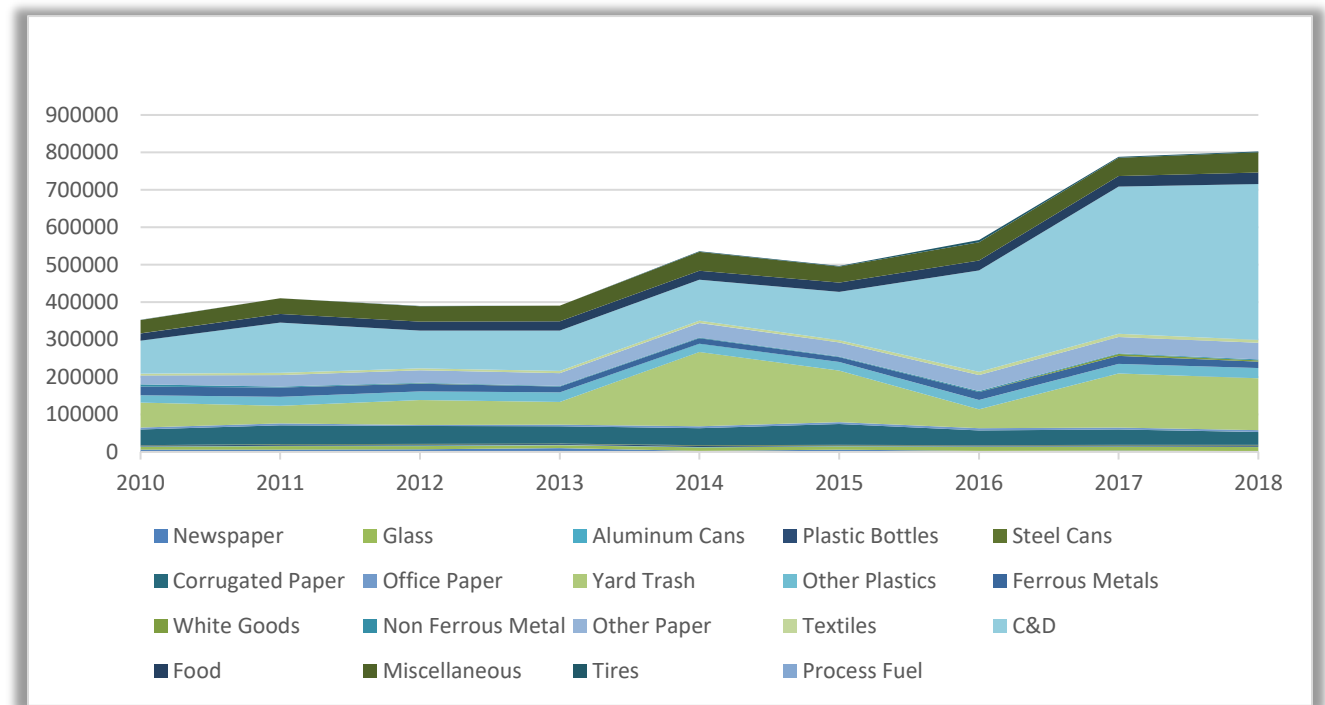
Another critical piece to examine in this process involves the actual composition of materials. Data from the DEP's *Annual Reporting of Materials Collected* offers insight into the diversion potential for the County. Figure 6 notes recycling rates per commodity. Examination of this data reveals potential strategies the County can incorporate into their Zero Waste Plan that address *downstream* recovery operations.

**Figure 6: 2018 Alachua County Recycling Trends by Commodity (2010-2018)**



Additional data from DEP annual reports reveal distribution trends of materials being diverted from landfill and combustible disposal. Figure 7 depicts these trends from 2010 to 2018.



**Figure 7: Alachua County Distribution of Collected Materials (2010-2018)**

#### IV. Conclusion – Next Steps

Upon review and acceptance of this Baseline Assessment, the Alachua County team will begin to define the programming and principles necessary for developing a strategic Zero Waste Plan. Data collected and presented within this assessment will be integral in developing the recommendations and implementation strategies required for the County to reach its waste reduction and diversion goals.

It is important to note that waste composition data utilized in this assessment was retrieved from DEP annual reports. Obtaining an accurate depiction of the waste and recycling stream compositions from a community-wide Composition Study is recommended. These studies assist communities in understanding the types and weights of materials being disposed and diverted. Additionally, they offer contamination levels in recycling and compost streams, identifying potential disposal cost implications and diversion loss. Developing a plan upon accurate data will ensure the best zero waste recommendations and implementation strategies are utilized.

# Appendix B: Stakeholder Engagement Memo

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Appendix B: Stakeholder Engagement Summary Technical Memorandum  
and Consolidated Stakeholder Feedback

# TECHNICAL MEMORANDUM



**DATE:** March 4, 2021

**TO:** Gus Olmos, Alachua County Interim Director of Solid Waste and Resource Recovery  
Michael Heimbach, City of Gainesville Sustainability Manager

**FROM:** Chas Jordan, Project Manager  
Bethany Jewell, Consultant

**SUBJ:** Summary - Zero Waste Preliminary Report Stakeholder Engagement Process

**PROJ #:** 28-08.00

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Kessler Consulting, Inc. (KCI) is pleased to present to you a summation of feedback received during the Alachua County (County) / City of Gainesville (City) Zero Waste Preliminary Report (Preliminary Report) stakeholder engagement process. This memorandum is structured as follows:

## **Section 1. Background**

## **Section 2. Key Findings**

- Stakeholder Priorities and Related Recommendations – A prioritization of zero waste strategies depicted within the Preliminary Report based on importance to the representative community.
- Additional Proposed Strategies – Additional strategies and pertinent information requested for inclusion into the Final Report and for consideration by decision makers.

## **Section 3. Next Steps**

## **Section 1. Background**

KCI worked with County and City staff to identify eleven primary sectors to engage for review of the Preliminary Report. Stakeholders included within the process represent community organizations, local government leaders, industry groups, institutions, and residents. Representatives from these sectors were invited to attend a virtual presentation via Zoom on January 21, 2021 addressing key findings and proposed strategies to helping move the community towards zero waste.

Follow up meetings were conducted by County and City staff, as requested. Multiple online platforms were utilized to disseminate the Preliminary Report and provide electronic transmission of comments. These included the use of Facebook, County and City websites, as well as tools through survey monkey to gain public comment. Attachment A provides a consolidated list of all feedback received.

## **Section 2. Key Findings**

### **Stakeholder Priorities and Related Recommendations**

Determining community-wide priorities was a primary outcome of the engagement process. It should be noted that all the strategies for moving toward zero waste were identified as priorities to stakeholders. Table 1 presents the strategies within the Preliminary Report considered of most importance, among the largest number of stakeholders represented. These received the highest responsiveness during the engagement process. Table 1 includes related recommendations, where applicable, that stakeholders seek to be incorporated into the Final Report.

**Table 1: Strategies and Related Recommendations Identified as Most Important**

General Strategy		Category	Impact Area
Establish a Solid Waste Reduction Goal and Formalize by Adopting a Zero Waste Resolution.		Policy	Upstream
	<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Establish a Solid Waste Reduction Goal with a 90% or greater diversion of materials from the landfill.</li> <li>- Adopt the term “zero waste,” as it is defined by the Zero Waste International Alliance.</li> </ul> Incorporate the following Guiding Principles into the Zero Waste Resolution: <ul style="list-style-type: none"> <li>- Foster the creation of local jobs by managing its materials through reuse, repair, recycling, or composting.</li> <li>- Achieve environmental justice and equity through zero waste practices.</li> <li>- Reduce greenhouse gas emissions through the reduction of waste.</li> <li>- Keep resources in-use within our local economy.</li> <li>- Identify upstream measures that will prevent resources from becoming waste.</li> </ul>		
General Strategy		Category	Impact Area
Implement a Zero Waste Procurement Policy.		Policy	Upstream
	<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Develop a decision-making strategy for the City and County that prioritizes upstream solutions regarding the management of materials (i.e., reusable food ware vs. single-use).</li> <li>- Include the following advantage: This satisfies the core value of zero waste, by utilizing resources based on its highest and intended use.</li> <li>- Include the following disadvantage: Limited to County and City controlled procurement processes only.</li> </ul>		
General Strategy		Category	Impact Area
Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program.		Program Operations	Downstream
	<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Include language that signifies additional donation avenues alone may not achieve a Zero Waste solution, due to many undesirable commodities received within the reuse system.</li> <li>- Public education designed to encourage the community to purchase less and purchase quality goods is imperative to accompany this strategy, which will achieve optimal market conditions in the reuse system.</li> </ul>		
Organic Material Recovery Strategy		Category	Impact Area
Develop Infrastructure for the Collection of Organic Material.		Infrastructure Operations	Downstream
	<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Include commercial businesses within the scope.</li> <li>- Ensure model supports existing businesses offering composting services within the community.</li> </ul>		
Organic Material Recovery Strategy		Category	Impact Area
Build Upon Recycling Outreach and Education Programming to Include Organic Material Diversion.		Program	Midstream
	<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Include education and outreach, focused on proper identification of compostable materials, as well as promoting best management practices as defined within the ILSR Food Waste Hierarchy.</li> </ul>		

Organic Material Strategy	Category	Impact Area
Develop a Plan to Phase Organics from Garbage Collection.	Policy	Upstream
No Related Recommendation.		
Recycling / C&D Recovery Strategy	Category	Impact Area
Foster the Expansion and New Development of C&D Reuse and Recycling Facilities for the Region.	Infrastructure Operations	Downstream
No Related Recommendation.		
Recycling / C&D Recovery Strategy	Category	Impact Area
Conduct an Analysis of Recycling and Disposal Fees for the County to Identify Methods for Discouraging the Landfilling of Material.	Operations	Midstream
No Related Recommendation.		

In addition to strategies identified as important for inclusion into the plan, the following strategy in Table 2 was identified for removal from the Final Report by some stakeholders. (See Attachment A.)

**Table 2: Strategy Proposed for Removal by Stakeholders**

Recycling / C&D Recovery Strategy	Category	Impact Area
Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams.	Infrastructure	Downstream
<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Remove strategy from the list of options for the County and City to consider utilizing.</li> </ul> Include the following analysis prior to any action: <ul style="list-style-type: none"> <li>- Greenhouse gas emission analysis of the use of waste-to-energy technologies and facilities. Review analysis and obtain input from the Alachua County Citizen Climate Advisory Commission and Environmental Protection Advisory Board.</li> <li>- Environmental justice analysis of the use of waste-to-energy technologies and facilities. Review analysis and obtain input from the National Association for the Advancement of Colored People (NAACP) Environmental and Climate Justice Committee.</li> </ul>		

Table 3 identifies the strategies located within the Preliminary Report that were considered of importance to a smaller population of stakeholders. It includes related recommendations where applicable, that stakeholders seek to be incorporated within the Final Report.

**Table 3: Strategies and Related Recommendations Identified as Important**

General Strategy	Category	Impact Area
Develop a Community-Wide Zero Waste Recognition and Certification Program.	Program	Upstream Downstream
<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>- Consider partnering with the Reuse Project, who developed a Zero Waste Certification program for local businesses and schools.</li> </ul>		

General Strategy		Category	Impact Area
Revise Future Contracts and Franchise Agreements with Collections and Processing Vendors to Include Requirements and Incentives Addressing Zero Waste.		Policy	Downstream
	<b>Related Recommendations:</b> - Include monetary allowances designed to support zero waste education and outreach initiatives.		
General Strategy		Category	Impact Area
Establish Public and Private Partnerships to Facilitate Innovative Research and Develop New Technologies for Managing Solid Waste in Alachua County and City of Gainesville.		Program Infrastructure	Upstream Downstream
	<b>Related Recommendations:</b> - Ensure small, local businesses and non-profits are provided with an equal opportunity to become tenants of the Eco-Industrial Park. - Consider development of reusable material drop off capabilities at the Eco-Industrial Park.		
Organic Material Recovery Strategy		Category	Impact Area
Add Incentives to Current Residential Backyard Composting Programs and Expand.		Policy	Midstream
	<b>Related Recommendations:</b> - Consider conducting a cost/benefit analysis to expand backyard composting vs. a community wide approach to the collection of organics.		
Recycling / C&D Recovery Strategy		Category	Impact Area
Establish Uniform Multi-family Recycling.		Operations	Midstream
	No Related Recommendation.		
Recycling / C&D Recovery Strategy		Category	Impact Area
Revise Building Code Standards or Green Building Ordinances to Address Zero Waste Initiatives for C&D Material Diversion.		Policy	Upstream
	No Related Recommendation.		
Recycling / C&D Recovery Strategy		Category	Impact Area
Expand Existing Mandatory Commercial Recycling Ordinance.		Policy	Midstream
	No Related Recommendation.		
C&D Recovery Strategy		Category	Impact Area
Adopt New Ordinances Banning Specific Recyclables from Entering Local Transfer Stations, Landfills, & Incinerators.		Policy	Midstream
	<b>Related Recommendations:</b> - Include reusable materials into material ban. - Create definition for reusables. - Incorporate ban of reusable materials for both commercial and residential sector. - Remove the word "Incinerators" from Strategy.		

## Section 2: Additional Proposed Strategies

This section represents additional strategies and feedback from the various stakeholder groups which were not identified within the Preliminary Report. The strategies listed in Table 4 have been identified as important for implementation into the Final Report, as well as the inclusion of a “Reduce Section.”

**Table 4: Additional Proposed Stakeholder Strategies and Recommendations**

Additional Strategy	Category	Impact Area
<b>Adopt a Single Use Plastic Bag Ban</b>	Policy	Upstream
No Related Example or Recommendation.		
Additional Strategy	Category	Impact Area
<b>Provide Clear, Concise and Consistent Educational Messaging Across the City and County for All Zero Waste Strategy Approaches.</b>	Program	Upstream Midstream Downstream
<b>Examples Include:</b> <ul style="list-style-type: none"> <li>- The meaning and importance of supporting reusable economies</li> <li>- Voluntarily discouraging the use of difficult to recover materials</li> <li>- Composting protocols</li> <li>- Acceptable recyclable commodities</li> </ul>		
Additional Strategy	Category	Impact Area
<b>Create a Single-Use Plastics Ban (plastic food ware, Styrofoam) and Litter Reduction Ordinance.</b>	Policy	Upstream
Ensure all materials that contain PFAS are eliminated from use.		
Additional Strategy	Category	Impact Area
<b>Create Processes for Stakeholder Involvement Throughout Decision Making and Implementation Phases.</b>	Policy Program	Upstream Midstream
No Related Example or Recommendation.		
Additional Strategy	Category	Impact Area
<b>Evaluate the Waste Reduction Impacts &amp; Potential Capacities for Expansion within Existing Reuse Infrastructure.</b>	Infrastructure	Upstream
Review and update the Community Recycling Resources table within the Preliminary Report to current conditions.		
Additional Strategy	Category	Impact Area
<b>Establish Uniform Recycling Messaging and Improve Coordination (during events such as student move-out).</b>	Policy Program	Upstream
Messaging should include County, City, University of Florida, etc.		
Additional Strategy	Category	Impact Area
<b>Ban Single-Use Plastics and Polystyrene on City and County Properties and at City and County Events.</b>	Policy	Upstream
<b>Related Recommendations:</b> <ul style="list-style-type: none"> <li>-Expand strategy to all businesses, agencies, and organizations if Florida removes pre-emption for local governments to regulate recyclable materials.</li> </ul>		



Additional Strategy		Category	Impact Area
Reduce Single-Use Accessories in Dining, Take-Out and Delivery of Prepared Meals.		Policy	Upstream
	<b>Related Recommendations:</b> Utilize ordinances to achieve results.		
Additional Strategy		Category	Impact Area
Create Incentives for Businesses and Institutions to Adopt Policies Focused on Reduction of Problematic Materials.		Policy	Upstream
	<b>Related Recommendations:</b> -Create an incentive program for businesses and institutions.		
Additional Strategy		Category	Impact Area
Establish dedicated staff for Zero Waste Outreach and Education Activities at the City and County		Policy	Upstream
	Hire or assign County and City staff to assume these responsibilities and track zero waste goals.		

### Section 3. Next Steps

KCI will work with the project team to ensure strategies incorporated into the implementation plan of the Final Report address priorities and additions provided through the stakeholder engagement process. After release of the Final Report, the project team will begin community-wide presentations to continue moving zero waste forward for the community and move toward formal adoption by the Alachua Board of County Commissioners and City of Gainesville City Commission.

## Attachment A – Stakeholder Feedback

**Kessler's Preliminary Strategy Report: Zero Waste**  
**December 6, 2020 (Updated Jan 5, 2021)**  
**Comments from Amanda R. Waddle for Gus Olmos**

**General Comments: December 6, 2020 - Part 1 (updated Jan 5, 2021)**

1. I feel strongly that Gainesville and Alachua County should adopt this definition of Zero Waste:

**Definition of Zero Waste** According to the [Zero Waste International Alliance](#):

Zero Waste: The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health<sup>1</sup>

Communities, businesses, institutions, events, and individuals achieve Zero Waste with a 90% greater diversion of materials from the landfill.

2. Pay as You Throw (**PAYT**) rate structure needs to be structured in a way that actually pays for the service even if everyone eventually downsizes to the smallest garbage cart (mini cart) and includes a section that pays for education on Zero Waste in our community
3. Institution and commercial need a yard waste collection system - I see yard waste/vegetation in landfill dumpsters around town from schools and local businesses
4. C&D needs to be addressed: source separation, collection of resources from sites for reuse, decrease dependence on landfilling C&D materials
5. Beaten Path doesn't accept yard waste (Table 3). He does acquire a bulking agent to use in his system.
  - a. Beaten Path also does a front door food scraps bucket swap (closest thing we have to curbside collection of organics in Gainesville)
6. Entenmanns Gainesville Thrift store is closed
7. Does the ARC of Alachua County actually take clothing and household goods?
8. The Repurpose Project does not accept clothing
9. I cannot stress enough that education and outreach need to be incorporated in every aspect of Zero Waste: programs, policies, and infrastructure. The city and county need to have a coordinated education program that is concise and consistent and helps create culture change where Zero Waste systems are mainstream, disposable becomes abnormal and where resources are valued.

**Section 3 Comments:**

1. Develop a Community-Wide ZW Recognition and Certification Program

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<sup>1</sup> [Zero Waste International Alliance definition of Zero Waste](#)

- a. The Repurpose Project has developed a [ZW certification program](#)<sup>2</sup> and was working with several small businesses and 2 public schools prior to COVID.
  - b. We focus on reusables and not switching from one bad single-use material to another - precautionary principles - especially related to PFAS<sup>3</sup> contamination (the city and county should not use any materials containing PFAS and should look to BPI's<sup>4</sup> website for certified PFAS-free compostable disposable material where applicable)
2. Develop Infrastructure for the Collection of Organic Materials
  - a. This is good and needs to happen. My comments are that we have 2 community composters and I do not want to see a large commercial composter come into our community and take away all the business of the existing community composters. We need to find a way to capture all of our organic material and allow for several small community composters to have a thriving business.
  - b. We need to establish systems to capture yard waste/vegetation from institutions and small businesses. I see vegetation in landfill dumpsters around town.
3. Yes to needing extensive education and outreach related to collection of organic material
4. Conduct an Analysis of Recycling and Disposal Fees for the County to Identify Methods for Discouraging the Landfill of Materials
  - a. Agree with this and it's mentioned above that we need to make sure that when everyone moves to the smallest garbage cart and pays the lowest fee in our PAYT system, that that cost will actually cover all the costs. Our fee structure also needs to include a section for education and outreach conducted by the city and county or contracted out.
  - b. Fee structure needs to accommodate for reuse. Tipping fee at the transfer station should be less or free if the load is for reuse. Reuse drop off site needed at new Eco-Park for diversion of usable material that should not go to the landfill.
5. Adopt New Ordinance Banning Specific Recyclables from Entering Local Transfer Stations, Landfills, and ~~Incinerators~~ (delete the word incinerators)
  - a. Agree that what is accepted at the MRF and sold to mills that then mechanically recycle those resources should not be allowed to enter the landfill or placed in our landfill carts.
  - b. Along with that organic resources (food and vegetation) and reusable items should also be banned from our landfill carts and ultimately the landfill
6. Center for Hard to Recycle Materials - YES
7. Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams.
  - a. I disagree with this! We should not have any waste to energy or incineration that takes the bulk of our resources. Incineration is a destructive disposal technique

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<sup>2</sup> [Repurpose Project Partners to Zero Waste](#)

<sup>3</sup> [US EPA PFAS](#)

<sup>4</sup> [Biodegradable Products Institute](#)

that we should not use in Gainesville and Alachua County. When resources are incinerated, the process to make those items has to begin again with resource extraction, transportation, and manufacturing. All of those processes contribute to climate change and do nothing to change our culture to one that values resources and that is what Zero Waste is all about. In addition, the New River Landfill has decades of space available. By being a Zero Waste community we will prolong the life of that landfill and there is no need for a waste to energy facility or any incineration. We are also a community creating a Climate Action Plan (CAP). Incineration is very polluting in general and contributes to climate warming greenhouse gasses. Please reconsider any form of incineration for our Zero Waste plan.

- b. I do not consider converting vegetable oil to biodiesel fuel as going against a no-incineration policy that we should adopt locally. That is a unique situation where the county is diverting a resource that is then through a mechanical process converted to a usable fuel source. These unique situations should be allowed even if we are a no burn community.
  - c. As a community we need to work on eliminating the “difficult to recover” materials. Basically we need to work as a community to eliminate the use of products and packaging that don’t fit into a Zero Waste system or the circular economy. We need extensive education on what these material types are and how they don’t fit into Zero Waste systems. In the meantime landfilling items that don’t fit into Zero Waste systems is better than incineration (based on U.S. EPA WARM<sup>5</sup> model tool use doing alternative scenario modeling).
- There is a tremendous amount of information left out of this preliminary report (e.g. guiding principles, objectives and an array of policies, programs and infrastructure needs) and I understand it’s preliminary and is meant to gather stakeholder input. I plan to create a second document on what I think needs to be included.

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## **Amanda’s Additional Comments - January 5, 2021 - Part 2**

These are direct comments to the **Potential Zero Waste Strategies** (pages 18-24):

### **General Strategies - 6**

1. Agree that this is needed
2. I agree with a ZW procurement policy but I think it should be centered around using reusables (durable/washable foodware) (foodware is defined as plates, cups, utensils, bowls and other items necessary to consume food and drinks)

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<sup>5</sup> [US EPA WARM model](#)

- a. Green purchasing policy for both the city and county
  - b. Policy - ban the use and purchase of single-use plastic bags, expanded polystyrene (EPS), polystyrene, plastic utensils, plastic cups, and other single-use materials that are not recyclable or compostable from city and county property, events, building, and contracts
- 3. Agree but would add that contracts should include monetary allowance for education and outreach for Zero Waste
- 4. While I agree with the statement that "...incorporates Zero Waste planning into the Eco-Industrial Park Business Plan." I feel that we can look towards local, smaller nonprofits and businesses to take up residency at the Eco-park. These kinds of residents should be considered.
- 5. Large-Scale Reuse Program: This is a must and I agree completely. This can be broken down into multiple areas.
  - a. The goal should be to increase the level of resources or materials recovered and kept circulating locally (creating jobs, mitigating climate change & keeping resources local) AND the education and outreach on why buying used is important
  - b. Plan for collection from different sectors: students, residents, businesses
  - c. Campaign on why Reuse is so important is needed - education and outreach
  - d. New systems to collect the bulky material curbside - items taken for reuse instead of landfilling - encourage collection, process, and resale of resources in town
  - e. Reuse centers will need to expand to meet the needs of more collection, sorting, and resale of resource - partnerships between city/county and nonprofits for space
  - f. There will still be a need for collection of bulky material at the transfer station/eco-park - a new system for self haul at the transfer station
    - i. Self haul or Mom & Pop - instead of or after going over the scale they should have an opportunity to drive through a [12 market category drop off location](#) where they can drop off reusable resources for free that will be sorted and stored<sup>6</sup>. They will then be categorized as: resale - thrift, resale C&D, deconstruction - source separate resources for reuse/recycling/composting, or repair. This would not be a service for drop off of recyclable or hazardous materials, but those might arrive - direct those items to HHW or MRF.
    - ii. Once these items are categorized, get them back into the reuse stream
  - g. Policy recommendation: Reusable resources (definition needed) will not be allowed in residential and commercial landfill carts/dumpsters.
  - h. Policy recommendation: Reusable resources (same definition needed) will not be allowed to be tipped onto tipping floor with landfill trash

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<sup>6</sup> [El Cerrito Recycling + Environmental Resource Center](#)

- i. Program: Drop off site for reusables in town & Drop off site for reusables with sorting and storage at Eco-park
- 6. The Repurpose Project created a system for Recognition and certification for businesses working towards Zero Waste as part of their Zero Waste program<sup>7</sup>.
  - a. This included a large education component
  - b. This program produced by RP also included events and schools
  - c. The program RP created for k-12 schools to work towards ZW combined back of house implementation of programs and infrastructure to reach Zero Waste and also included education to staff, teachers, and students

### **Organic Material Recovery -7**

1. Agree but we need to make sure that we don't encourage 1 large commercial composter that puts our already established 2 smaller community composters out of business. There is a need and role for both commercial and community composters.
2. Agree especially the ban of organic material from landfill carts/dumpsters from residents, commercial, institutions, and Transfer Station tipping floor. This will only work with extensive education and outreach on what is compostable and why compost. Also adopt a food waste hierarchy: the ILSR Hierarchy to Reduce Food Waste and Grow Community<sup>8</sup> is the preferable one to use. Second to that is the U.S. EPA Food Recovery Hierarchy<sup>9</sup>.
3. Agree. We have some of this in place through Beaten Path Compost and Two Farms, One Dream (TFOD). Both offer bucket swap. Beaten Path offers front door bucket swap (basically curbside collection) and drop off location for organics. TFOD offers bucket swap at Haile Plantation Farmers Market and is beginning to create a front door bucket swap program. Both offer back of house compost collection for commercial.
4. Agree. Education is very important to every aspect of Zero Waste including an organics program. The Hierarchy should be used to educate on preventing wasted food first and then composting what's left (craps, pits, peel, cores, etc.).
5. Backyard composting is good but it won't allow for total organics diversion since backyard composting is not suitable for meat, dairy, bones, and sugary, high fat, or oil based food. Those would still need to be diverted to a community or commercial composter where the temperature is able to reach a much higher level.
6. Great recommendation. This effort creates a closed loop system just like what happens in nature.
7. We need more food rescue programs - get edible food to people who are hungry. There should be an educational component related to this for our community along with following the food recovery hierarchy. Gainesville has 2 local farms that stepped up to do this on their own when COVID began in 2020 and they are still gleaning local farms to get local food to local hungry people. This can be expanded into this program.

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<sup>7</sup> [Repurpose Project Partners to Zero Waste Program](#)

<sup>8</sup> [ILSR Hierarchy to Reduce Food Waste and Grow Community](#)

<sup>9</sup> [U.S. EPA Food Recovery Hierarchy](#)



### **Recyclables and C&D Recovery - 13**

1. C&D policies are needed to incentivise the recovery of resources from C&D so this recommendation is good. We have recommended that a C&D MRF could take up residence at the Eco-park - this infrastructure is needed to source separate resources so they can stay circulating in our community.
2. Multi-Family Recycling - While we have a city ordinance that requires recycling receptacles at multi-family, the system just doesn't work. We need a large education component to this along with incentives to achieve goals. Convenience also needs to be increased to make the system work.
3. Landfilling fees should be increased - for us locally that means the tipping fee at the Transfer station. If that fee increases, those funds can be put towards Zero Waste educational programs & that will incentivise our community to look to free or low cost diversion measures first that keep resources local and in use.
4. Regional processing facilities may be needed BUT we may just need a collection and sorting facility at the Eco-Park that get durables back into the system, divert items to repair and then divert other items to a CHaRM facility (see #10)
5. Agree - again here education will be needed for this to be successful.
6. Operational Analysis of MRF - what the MRF should see as we move towards Zero Waste is a greater volume of mechanically recyclable resources such as metals, glass, plastic (#1 & #2 with necks that have a local market), and paper products AND a reduced volume of the unrecyclable plastic and multi layer packaging that they receive because these problematic materials will be phased out over time.
  - a. POLICY - need to create a policy to ban recyclable (defined by what the MRF can sell to local mills) from landfill carts.
7. Yes, waste audits are a great way to evaluate programs.
8. Agree, recyclable resources that our MRF can find markets to sell to local mills should be banned from our landfill carts/dumpsters and from entering the tipping floor from self haul. We should note that the language incineration should not be included here - we do not and have no plans to incinerate our trash or recyclables.
9. Maybe - need more research on this. We should stick with the vision of the highest and best of resources as we work towards Zero Waste.
10. Yes, I agree that a CHaRM facility may be a good fit for our community and will help us reach Zero Waste. They could set up at the Eco-Park.
11. Consider the use of waste-to-energy - I do not agree with this. There should be no incineration in our community as stated early (see my thoughts on this as well on the bottom of page 2). Incineration is a destructive disposal technique and should not be used in Alachua County for municipal solid waste. When we destroy resources through incineration, even when energy is recovered, those items need to be made again beginning with resource extraction, then manufacturing, process and transportation. This perpetuates a linear system, which is energy intensive and greenhouse gasses are emitted at every stage. More energy is needed to remake those items than in captured.

Incineration of MSW goes against reduction of waste, Zero Waste programs, and the creation of a circular economy.

12. Agree, we need more education related to reaching Zero Waste.
13. Yes, agree we need the producer or business to offer take back and have them responsible for their products/packaging.

**This section addresses necessary policies, programs and infrastructure left out of Kessler's report and are needed for our community to reach Zero Waste:**

1. Are the Potential Zero Waste Strategies (policies, programs, and infrastructure suggestions) in Kessler's report based on data from the Alachua County Waste Composition Study (2010 & 2020)? Did Kessler use the waste composition data to conduct a market commodities analysis, to estimate job potential, or did they use the waste audit data combined with the policies programs and infrastructure to do a diversion potential analysis?
2. Reduction of problematic materials
  - a. The ZWIA Zero Waste Hierarchy of Highest and Best Use<sup>10</sup> should be adopted by both city and county to lead our Zero Waste efforts and reduce is at the top
  - b. Everything in our community should be reusable, recyclable, or compostable
  - c. Policy - product and packaging bans - ban items like single-use plastics that do not fit into our Zero Waste Community (bags, utensils, EPS, cups, straws✓, etc.). Some we cannot ban now, but will be able to in the future
  - d. This was left out of General Strategies #2 - the city and county should lead by example by implementing these policies and programs that fall under Procurement -
    - i. Green purchasing policy for both the city and county - procurement of items with minimum % of post consumer recycled content
    - ii. Policy - ban the use and purchase of single-use plastic bags, expanded polystyrene (EPS), polystyrene, plastic utensils, plastic cups, and other single-use materials that are not recyclable or compostable from city and county property, events, building, and contracts
  - e. Single-Use Foodware and Litter Reduction Ordinance<sup>11</sup> components should be slowly introduced as several (possibly 4 or 5) separate policies that will be successful with stakeholder input and extensive education on these components.
3. Expanding the Reuse Economy should be a big part of our Zero Waste Strategic Plan
  - a. Please see #5 page 4 for details

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<sup>10</sup> [Zero Waste International Alliance ZW Hierarchy of Highest and Best Use](#)

<sup>11</sup> [Berkeley Single-Use Foodware and Litter Reduction Ordinance](#)

**Guiding Principles, Objectives, & Goals:**

4. Guiding Principles should be developed during the stakeholder meetings
  - a. I think guiding principles should be equity (everyone should get what they need to reach Zero Waste) and inclusion (the process of developing a Strategic Plan should be stakeholder driven)
5. Objectives should be climate change mitigation, keepin resources local, and creating good local jobs
6. Goals - 90% diversion and reduction of resources sent to the landfill
  - a. Other metrics to track and measure our success against are:
    - i. Total MSW sent to the landfill - reduce over time
    - ii. Per capita waste generated - reduce over time
    - iii. Traditional recycling rate - increase over time
    - iv. Overall diversion rate - increase over time

January 17, 2021

Zero Waste Gainesville appreciates the opportunity to review the draft Zero Waste Strategic Plan and we commend Kessler Consulting, Inc. and City and County commissioners and staff for the recommendations provided therein.

Zero Waste Gainesville has reviewed the plan and has the following comments:

***1. Incorporate the following Guiding Principles under Section 1: “Introduction to Zero Waste in Alachua County”.***

- **Zero Waste definition:** adopt the Zero Waste International Alliance definition, “The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health<sup>1</sup>.”
- **Green Jobs:** create green jobs by managing resources through the reuse and repair economy, recycling and composting. Also, invest in local community businesses to help implement aspects of the Zero Waste Strategic Plan.
- **Environmental Justice and Equity:** achieve environmental justice and equity through Zero Waste measures and ensure the right to a clean and healthy environment for all.
- **Climate Action:** reduce greenhouse gas emissions by changing the way we as a community manage our resources.
- **Keep Resources Local:** much of what our community throws away are resources that can be reused, recycled, or composted. These resources should stay out of the landfill and instead stay in use in our community.
- **Upstream Solutions:** identify opportunities to prevent waste from entering our community in the first place.

Letter continues on pg. 2...

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<sup>1</sup> [Zero Waste International Alliance definition of Zero Waste](#)



January 17, 2021

**2. Incorporate the following Strategy under Section “3.2.1 General Recommendations”:**

Strategy	Category	Impact Area
<b>Decision making strategy to consider upstream impacts* in every Zero Waste decision planned and implemented in the City and County.</b> <b>*resource extraction, manufacturing, processing and transportation</b>	<b>Policy</b>	<b>Upstream</b>
<u>Description</u>	Utilize a decision making tool that prioritizes upstream solutions to each Zero Waste decision planned and implemented at the City and County. For example in the case of food waste, prioritize action items and funding to assist with outreach and education focused on food waste prevention and food recovery networks before composting.	
<u>Advantages</u>	This preserves a core tenet of Zero Waste by addressing upstream waste before it enters or is created in our community.	
<u>Potential Challenges</u>	Upstream solutions will be limited to actions that can be controlled at the City and County level.	

**3. Incorporate the following comments preceding Section 2.2. Current Infrastructure, Table 4:** While there are multiple avenues to donate, these entities continue to have challenges accepting many items. The presence of diversion avenues does not necessarily mean they will help us achieve Zero Waste. Upstream solutions like buying less, and buying durable items that fare better in the reuse market should be a focus during education and outreach.

Please let us know if you have any questions. Thank you for your consideration.

Sincerely,

Nina Bhattacharyya, Amanda Waddle, and Rachel Bhattacharyya  
Zero Waste Gainesville

## Stakeholder Input

Kessler Consulting Preliminary Zero Waste Strategy Report

**Amanda R. Waddle**, member **Citizen Climate Advisory Committee**

January 18, 2021

### Section 1 1.1

- I recommend that the City of Gainesville and Alachua County adopt and use the definition of Zero Waste from the Zero Waste International Alliance (ZWIA):

Zero Waste: The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health<sup>1</sup>

I recommend that the plan include some Guiding Principles including:

- [ZWIA's definition of Zero Waste](#) can serve as a guiding principle
- Keep Resources Local
- Job Creation
- Climate Change Mitigation
- Focus on Upstream Solutions
- Environmental Justice and Equity

I wanted to specifically address this recommendation: *Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams*

- I do not agree with any type of incineration including Waste-to-Energy as a way to dispose of our municipal solid waste (MSW). Currently we dispose of our MSW in a landfill and that landfill has decades left of operation and the implementation of Zero Waste will only prolong the life of the landfill.
- Also attached is a fact sheet on landfiling and incineration as a waste disposal technique but I will provide an overview of why I do not think that incineration will fit into our Zero Waste Community
  - Incineration is costly to build and maintain
  - The need to continually “feed” an incinerator goes against waste reduction efforts
  - Incinerators destroy resources (food scraps, reusable items, recyclable items, and other compostable organic material)
  - Incinerators perpetuate the linear cycle of make, take, and waste items and when resources are burned they then have to be remade
    - The upstream process of extracting resources, manufacturing, processing, and transportation of items that are made, creates a lot of waste and emits greenhouse gasses
    - Instead of incinerators, Zero Waste Systems finds ways to keep resources in use and work towards upstream solutions of clean production and less wasteful practices
  - Incinerators emit harmful air pollution and do not eliminate landfills. Up to 25% of the material still needs to be landfilled as bottom ash

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<sup>1</sup> [Zero Waste International Alliance definition of Zero Waste](#)

- Incinerators are often placed in marginalized areas with low income and black communities making them an environmental justice issue

Instead of this recommendation: *Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams*, Zero Waste Communities work towards keeping resources in use instead of landfilling or incinerating them and then eliminating the problematic materials that do not fit into reuse, effective recycling, and composting systems.

Some recommendations to deal with *Difficult to Recover Materials and Waste Streams* include:

- Banning single-use plastics - while we are preempted from banning single-use plastic bags and expanded polystyrene, I feel that during the course of the 2 decade process of Zero Waste in our community, we will be able to ban these problematic materials at some point.
  - Ban other single-use plastics - single-use plastic utensils, single-use plastic cups, single-use plastic to-go coffee cups (lined with plastic)
- Single-Use Foodware and Litter Reduction Ordinance - the various components of this can be enacted over time and this is a way for our community to switch away from single-use (no matter the material type) and towards reuse and refill systems<sup>2</sup>
- Education and outreach campaign on voluntarily eliminating problematic materials that cannot be reused, effectively recycle, or composted locally
  - This will be geared towards individuals, families, institutions, and businesses until ordinance can take place
- Whenever a single-use material must be used it should be a compostable single-use material that is free of PFAS (per and polyfluoroalkyl substances) - see the Biodegradable Products Institute<sup>3</sup> (all compostable items on this website are PFAS free)
- Ordinance that bans the use of single-use foodware that contain PFAS
- Other recommendation will probably arise as we work towards Zero Waste that are better alternatives than incineration

Amanda R. Waddle

January 20, 2021

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<sup>2</sup> [Berkeley Single-Use Foodware and Litter Reduction Ordinance](#)

<sup>3</sup> [Biodegradable Products Institute](#)





## Fact Sheet: Landfills & Incinerators

### Landfills

[Landfills](#) are excavated land areas that are designed to accept trash from communities. Each day a new cell is filled with a community's trash and that cell is then covered to prevent smell and disruption by animals. The U.S. EPA manages landfills under the strict policies laid out in the federal law called the [Resource Conservation and Recovery Act \(RCRA\)](#).

### Types of Landfills

- [Municipal Solid Waste Landfills](#)
- [Hazardous Waste landfills](#)
- [Construction and Demolition Landfills](#)

**Modern Sanitary landfills** are regulated by RCRA and must be designed with a plastic liner, a clay layer, have a leachate collection system, and a system to collect and remove methane gas from the landfill. Landfills must be continuously monitored for decades even after closing.

### Landfills Pollute & contribute directly and indirectly to climate change

- Landfills can pollute the surrounding area through groundwater contamination even with a leachate collection system
- Landfills bury resources and that perpetuate the linear system of make, take, and waste. This creates a need for more extraction of resources, transportation, and manufacturing of new stuff, which all give off climate warming greenhouse gasses
- Landfills emit methane, a potent greenhouse gas, when organic resources decompose in an anaerobic (lack of oxygen) condition (as opposed to composting organics in the presence of oxygen)
- Municipal Solid Waste Landfills are the 3rd largest source of methane emissions in the US, [according to the US EPA](#)<sup>1</sup>

### **In 2018, 50% of America's trash went to landfills in**

In 2018, total Municipal Solid Waste (MSW) generated was **292 million tons**

- **50%** of that = 146.2 million tons of that MSW was **landfilled**
- The largest component of the 146.2 million tons of America's trash that was landfilled was **food** at **24%**<sup>2</sup>

### **New River Landfill<sup>3</sup>**

Alachua County's municipal solid waste is hauled and tipped at the Leveda Brown Environmental Park and Transfer Station<sup>4</sup> and then placed on long trucks to travel 33 miles north to the New River Landfill in Union County. This Modern Sanitary Landfill flairs the methane that is collected and collects leachate for wastewater treatment. This landfill has decades of space left.

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<sup>1</sup> [Inventory of U.S. Greenhouse Gas Emissions and Sinks](#)

<sup>2</sup> [Advancing Sustainable Material Management: 2018 Fact Sheet](#)

<sup>3</sup> [New River Solid Waste Association](#)

<sup>4</sup> [Leveda Brown Environmental Park and Transfer Station](#)



## Incinerators

**Incinerators** burn municipal solid waste from communities as a disposal technique and create fly ash, bottom ash, combustion gases, heat, and wastewater. Most facilities today are designed to burn a community's trash and capture the heat to create energy, called waste to energy. The U.S. EPA regulates trash incinerators through the [Clean Air Act](#) and in the 1990's the EPA enacted the Maximum Achievable Control Technology (MACT) regulations.<sup>5</sup>

**Incinerators** are very expensive to build and maintain, destroy resources, pollute the air and water, only reduce the volume of trash (up to [25% is still landfilled as toxic bottom ash](#)), and perpetuate upstream extraction of resources to remake products that were destroyed.

### Types of Incinerators

- **Pyrolysis\*** - [high heat process](#) (300°C - 1100°C) of breaking down organic resources without oxygen through changing the chemical composition to get oil, gas, or a bio-char.
- **Gasification\*** - [high heat process](#) (> 700°C) using very little oxygen of converting carbon-based resources into a synthetic gas (syngas), which is made up of carbon monoxide and hydrogen.
- **Waste-to-Energy** - a facility that [burns municipal solid waste](#) to create steam that is then used to generate electricity.

### Trash Incinerators in the United States

Currently there are 75 combustion plants in the United States that collect energy (steam from the heat of burning) from burning municipal solid waste.<sup>6</sup> Eleven of those facilities are in Florida.<sup>7</sup> One of those, the [Bay County Waste to Energy Facility](#) plans to close in 2021 and another one, the [Pasco County Solid Waste Resource Recovery Facility](#) plans to expand.

### In 2018, 11.8% of America's trash went to combustion with energy recovery

- In 2018, total Municipal Solid Waste (MSW) generated was **292 million tons**
- **11.8%** of that = 34.6 million tons of that MSW was **combusted**
- The largest component of the 34.6 million tons of America's trash that was combusted was **food at 21.9%**<sup>8</sup>

### Incinerator Facts

- **Burning Trash** - reduces the volume trash and does not eliminate the need for landfills. The ash that is produced from incineration is landfilled.
- **Pollution** - the ash that is produced from burning trash contains pollutants. Those pollutants escape into the air and get concentrated in the bottom ash<sup>9</sup>

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<sup>5</sup> [Energy Recovery from Combustion of Municipal Solid Waste](#)

<sup>6</sup> [Energy Recovery from Combustion of Municipal Solid Waste](#)

<sup>7</sup> [The cost of burning trash](#)

<sup>8</sup> [Advancing Sustainable Material Management: 2018 Fact Sheet](#)

<sup>9</sup> [Trash Incineration More Polluting than coal](#)



- **Environmental and Social Justice** - Incinerators are often located in low-income, marginalized communities where they face environmental health impacts (8 out of 10 MSW incinerators are located in low income, communities of color in the U.S.).<sup>10</sup>
- **Destroy Resources** - up to 90% of the trash incinerated in the U.S. in 2018 could have been reused, recycled, or composted<sup>11</sup>
- **Incineration undermines Zero Waste strategies in communities** - burning resources that could have been reused, recycled, or composted goes against Zero Waste principles<sup>12</sup>
- **Climate Change** - Municipal solid waste incinerators in the United States in 2018 emitted 11 million tons of carbon dioxide. Incineration of trash also drives climate changing practices of resources extraction, manufacturing, and transportation of products and packaging to replace those that were incinerated.<sup>13 14</sup>
- **Wastes more Energy than they Produce** - incinerated items needs to be remade through the upstream process of resource extraction, manufacturing, processing, and transportation (all energy and resource intensive)<sup>15</sup>
  - ◆ According to the [Institute of Local Self Reliance](#), “When accounting for the embodied, life-cycle energy — that is, the amount of energy used to source, manufacture, and transport materials for consumption — of solid waste burned at incinerators, there is a net energy loss.”<sup>16</sup>
- **Incinerators** are very expensive to build and maintain<sup>17</sup>

#### **Waste-to-Energy Incinerators Or Waste of Energy in Florida!**

- Florida has the largest capacity to burn Municipal Solid Waste of any state in the country<sup>18</sup>
- Waste to energy plants account for a relatively small portion of the total U.S. electric capacity and generation, providing about 0.4% of total U.S. electricity generation in 2015<sup>19</sup>
  - ◆ Florida waste to energy plants produce about ⅓ of that electricity
- St. Petersburg’s Pinellas County Resource Recovery Facility can combust the most municipal solid waste a day in Florida at 3,150 tons/day.<sup>20</sup>
- Combustion of municipal solid waste in Florida through waste to energy plants is considered a renewable resource<sup>21</sup>

\*Both Pyrolysis and Gasification are types of “[chemical recycling](#),” which has been lauded as a solution to plastic pollution but it is actually a false solution.

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<sup>10</sup> [Pollution and Health Impacts of Waste-to-Energy Incineration](#)

<sup>11</sup> [Advancing Sustainable Material Management: 2018 Fact Sheet \(page 9, figure 7\)](#)

<sup>12</sup> [Facts about “Waste-to-Energy” Incineration](#)

<sup>13</sup> [The Cost of Burning Trash](#)

<sup>14</sup> [Facts about “Waste-to-Energy” Incineration](#)

<sup>15</sup> [Facts about “Waste-to-Energy” Incineration](#)

<sup>16</sup> [ILSR Waste Incineration: A dirty secret in how states define renewable energy](#)

<sup>17</sup> [ILSR Waste Incineration: A dirty secret in how states define renewable energy](#)

<sup>18</sup> [Florida Department of Environmental Protection](#)

<sup>19</sup> [Waste-to-energy electricity generation concentrated in Florida and Northeast](#)

<sup>20</sup> [Commercial Trash Incinerators in the U.S.](#)

<sup>21</sup> [The Cost of Burning Trash](#)



## Zero Waste Preliminary Strategy Report - Stakeholder Input

January 18, 2021

Thank you for the opportunity to review the Preliminary Zero Waste Strategic Plan and provide input. The Repurpose Project is pleased to see Alachua County and the City of Gainesville taking action to move our community towards Zero Waste. We are happy with many of the proposed policy suggestions and overall direction to reduce waste, but we do have several suggestions to improve the strategy.

### We have four major topics we'd like to address:

1. We do not believe waste-to-energy is an acceptable solution to our waste problems and recommend it be removed as a consideration in the Zero Waste Strategy.
2. We believe it is important to include Zero Waste Guiding Principles in the plan.
3. We recommend a greater emphasis on reuse initiatives with specific reuse strategies similar to the organic material strategies.
4. We recommend a clearer distinction between reuse and recycling.

**Topic #1 - Waste-to-energy** - The Repurpose Project is against incineration as a disposal technique for municipal solid waste. The energy gained in the burning of resources pales in comparison to the upstream energy needed to harvest, mine, manufacture, and ship these materials. Incineration plants are expensive to build and once built, they need to be fed with material. They create an incentive to burn resources instead of developing better systems to keep material in use. Incineration is not an acceptable process under the ZWIA definition of Zero Waste, it destroys resources that could have been reused, recycled, or composted, and it perpetuates a linear system of resources extraction, manufacturing, processing, and transportation (upstream impacts) that are energy intensive and climate warming processes. The resulting concentrated toxic ash still needs to be landfilled and at approximately 10-15% volume is still a considerable but more problematic waste material. Incineration pollutes our air and water and goes against waste reduction efforts that Zero Waste systems initiate.

**Topic #2 - Zero Waste Guiding Principles** - We recommend that the following *Guiding Principles* be added to the Zero Waste Strategic Plan. These guiding principles should shape the entire strategic plan and can be a benchmark to measure policies, programs and infrastructure recommendations as they develop. Many of the principles we suggest align with those put forth in The Green New Deal. In addition to the fact that The Green New Deal strategy is a good one that addresses major problems and inequalities, aligning with the federal goals will help local organizations and businesses access funding to implement massive programs and build necessary infrastructure.

1. **Zero Waste Definition** - adopt the Zero Waste International Alliance definition, "The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without

burning and with no discharges to land, water, or air that threaten the environment or human health”<sup>1</sup>

2. **Keep Resources Local** - create systems to keep reusable items and compostable organic material (vegetation and food scraps) in our local community
3. **Create Jobs** - managing resources through reuse, effective recycling, and local composting creates job<sup>2</sup>
4. **Emphasise Upstream Solutions** - reduce problematic materials that aren't reusable, effectively recycled, or composted locally
5. **Climate Change Mitigation** - keep resource in use and out of the landfill - both reusable items and compostable organic material
6. **Environmental Justice and Equity** - provide everyone in our community with what they need in an equitable manner to reach Zero Waste

**Topic #3 - Reuse Strategy Section Needed** - Material reuse is an overlooked and important waste reduction solution. The Repurpose Project focuses on material reuse because of this infrastructure and service void in both the public and private sectors, especially regarding difficult to handle or low resale value reusable material. Expanding reuse and creating a circular economy is also a major solution to addressing the climate crisis and building a more resilient community that isn't as reliant on outside supply chains. Much of the carbon dioxide in the atmosphere is directly and indirectly due to over-consumption of resources and the associated environmental degradation and energy needed in the harvesting, mining, manufacturing, packaging, and shipping of products. Zero Waste is not attainable without a robust reuse system in place to collect, process, store, and resell reusable resources. Reusing items is the highest and best use of their resources and an essential part of moving our system to a circular economy. It is also important to note that although reuse is considered a downstream solution, the upstream impacts are substantial and overlooked. If salvaged materials are purchased instead of buying new, the raw materials, energy used in manufacturing and shipping, and packaging is all eliminated. This is a huge upstream benefit. Below are suggested strategies regarding reuse, starting with the one reuse strategy seen in Table 7 (we feel it should be moved to a new table focused on reuse strategy):

**Table 10: Reusable Material Recovery Strategies**

Strategy	Category	Impact Area
Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program.	Program/Operations	Upstream/Downstream
<b>Description:</b> Engage the private entities in developing a comprehensive reuse program to increase the level of material recovery for Alachua County and City of Gainesville.		

<sup>1</sup> [Zero Waste International Alliance definition of Zero Waste](#)

<sup>2</sup> [Institute to Local Self Reliance - Recycling Means Jobs](#)

**Advantages:** Large waste reduction impacts based upon case study programs. Fosters a circular economy. Generates job growth. May be more financially advantageous than disposal fees.

**Potential Challenges:** Requires private sector interest, capital, and warehouse or infrastructure for the collection of salvaged materials and storefront for sales. Requires political support. May require altering of current collection contracts to ensure appropriate Designated Facility for receipt of materials or allow for the infrastructure for salvaging of materials to be co-located at the facility.

Establish the Processing Facility Infrastructure and Bulk Storage Necessary for Diverting Reusable Materials from the Waste Stream.

Infrastructure/Operations

Downstream

**Description:** Increase reusable material diversion rates by developing or fostering the development of a community-wide reuse collection and processing facility to capture reusable materials and redirect back into the community for reuse.

**Advantages:** Establishing a reusable material processing facility will allow for the diversion of at least 10-20% of materials from the County and City's solid waste stream and help community members and local nonprofits and businesses attain lower cost materials and necessities. The volume of reusable material may be considerably higher considering the *Alachua County Bulky Waste Visual Composition Study* determined that 48% of bulky material was reusable. Also from the Bulky Waste Study, 4,000 bulky items are received at the transfer station each month. Collection and processing of reusables creates lots of jobs both skilled and unskilled.

**Potential Challenges:** Will require planning, space, and adequate funding. Education will be essential to keep reusable material out of the trash and source separated to reduce damage and keep items intact for resale.

Establish the Retail Facility Infrastructure Necessary to Get Reusable Materials Back in Use.

Infrastructure/Operations

Downstream

**Description:** Develop or foster the development of a large scale reuse retail system to redirect reusable materials back into the economy for reuse.

**Advantages:** Establishing a reusable material retail infrastructure will allow for the diversion of at least 10-20% of materials from the County and City's solid waste stream and help community members and local nonprofits and businesses attain lower cost materials and necessities. The volume of reusable material may be considerably higher considering the *Alachua County Bulky Waste Visual Composition Study* determined that 48% of bulky material was reusable. Collection and processing of reusables creates lots of jobs both skilled and unskilled. The resale of reusable materials can offset the operational cost of reuse facilities and lower traditional waste collection costs.

**Potential Challenges:** Will require planning, space, and adequate funding. Education will be



essential to keep reusable material out of the trash and source separated to reduce damage and keep items intact for resale.		
Develop a Plan to Phase Out Reusable Material from Garbage Collection.	Policy	Upstream
<p><b>Description:</b> Implement a two phased approach for reducing reusable materials from the waste stream. Phase I to limit or encourage diversion as reuse retail infrastructure is expanded. Phase II to include the ban of reusable material from refuse.</p> <p><b>Advantages:</b> Will ensure adequate reusable material is salvaged and available for reuse retail operations. Large volume reduction of material disposal.</p> <p><b>Potential Challenges:</b> May require revisions to collection contracts. Plan will need political and public support and buy-in to be viable. May require changes to customer collection programs including new containers or new set-out procedures.</p>		
Develop Infrastructure or Develop Public/Private Partnerships for the Collection of Reusable Materials.	Infrastructure/Operations	Downstream
<p><b>Description:</b> Utilize existing collection methods (i.e. curbside collections, drop off sites,etc.) and/or partner with private industry to develop innovative strategies and systems such as pickup services and apps to collect material prior to disposal.</p> <p><b>Advantages:</b> Allows for greater diversion of reusable materials. Can foster private sector innovation and allows for greater source separation resulting in better quality and undamaged material.</p> <p><b>Potential Challenges:</b> Infrastructure may require staffing or operational changes to resource recovery centers, carts, or other collection bins, as well as a collection fleet. May additionally require modifications to solid waste ordinances. Significant public education and outreach to inform customers of programmatic changes and to improve diversion potentials. Will require planning and funding.</p>		
Build Upon Recycling Outreach and Education Programming to Include a <i>Buy Used Campaign</i> to Encourage and Promote Reusable Material Diversion and Reuse.	Program	Midstream
<p><b>Description:</b> Provide educational programming and outreach on the benefits of buying used.</p> <p><b>Advantages:</b> Will increase reuse diversion rates and reduce disposal costs. Will help residents learn the environmental and financial benefits of buying used which will translate to savings for the community that can be spent elsewhere, ideally at local businesses to help our local economy.</p>		



<b>Potential Challenges:</b> May require additional financial resources.		
Develop Partnerships with the Private Sector to Build a Local Repair, Upcycling, and Sharing Economy.	Program/Operations/ Infrastructure	Midstream
<p><b>Description:</b> Develop or foster the development of the repair, upcycling, and sharing/rental economy to redirect reusable materials that require additional support in order to return them back into the economy for reuse. Consider co-location and incubation opportunities for these small businesses to create synergy and drive attention and clientele toward the repair/share movement. Consider co-location near the collection and processing facility for ease of material movement.</p> <p><b>Advantages:</b> Materials currently being recycled or landfilled because they are broken or damaged will have a greater likelihood of returning to the marketplace for reuse. Fosters small independent business job creation, innovation to salvage items of lesser value, and builds a unique and creative local economy. Potentially ensures the salvaged material from the processing facility makes its way back into the marketplace. A business model that includes reasonable rent could generate revenue. Fosters a circular economy.</p> <p><b>Potential Challenges:</b> Will require planning, space, and adequate funding.</p>		
Monitor Materials Entering the Transfer Station to Identify Materials Needing Diversion Efforts. Target Education Campaigns and Seek Remanufactures/Repair Specialists/Recyclers to Address Material and Create Markets.	Program	Downstream
<p><b>Description:</b> Periodic monitoring and data collection of materials entering the transfer station in order to target materials and develop diversion strategies.</p> <p><b>Advantages:</b> Will aid in reaching Zero Waste goals with actual data so diversion efforts are directed at reducing specific problem material.</p> <p><b>Potential Challenges:</b> Will require staffing to monitor/data record and seek private industry to address and reuse the material.</p>		
Consider Co-locating a Reusable Material Collection and Processing Facility with a CHaRM Facility for Hard to Recycle Materials	Operations/Infrastructure	Downstream
<p><b>Description:</b> Co-location of reuse and recycling efforts at the reuse processing facility to encourage participation and ease of landfill diversion.</p> <p><b>Advantages:</b> Education via direct interaction between staff accepting donations and residents</p>		

is consolidated and effective. Labor expenses to accept material is consolidated. Added convenience for residents dropping items off will increase participation rates and keep more material out of the landfill and in the reuse and recycling systems. A particularly important advantage of greater participation is capturing toxic and recyclable material like lithium ion batteries and compact fluorescent light bulbs in order to keep them out of the landfill. Fosters a circular economy.

**Potential Challenges:** Expertise to identify reusable/recyclable item, infrastructure needed to handle volume of recyclables/reusables, and area to facilitate this kind of operation.

**Topic #4 - Recycling vs. Reuse Distinction Needed** - Reuse is a preferable option over recycling<sup>3</sup> and we believe it should be differentiated in part to prioritize reuse efforts for any given material before recycling is considered. Reusing items is the highest and best use of their resources and is an essential part of moving our system to a circular economy. Example: a brick should be resold as a brick, if possible, before it is crushed into road rock. The energy saved is both upstream (the energy used to make a new brick is not required) and downstream (the energy used to crush the brick is not required). Throughout the report we suggest splitting reuse and recycling into different tables and sections. Example: Table 4 should be broken up into two, reuse and recycling.

We are working on some more comments specifically about C&D material since The Repurpose Project has been focusing on diverting this bulky and valuable part of the waste stream. We have also offered deconstruction services during our 9 years of operation and believe that needs to be included in the Zero Waste Plan. We have smaller corrections and comments throughout the report that we will be sending soon.

Again, thank you for the opportunity to provide feedback. We are very excited to see the County and City moving towards Zero Waste and we look forward to helping to develop aspects of the circular economy here in our community!

Sincerely,

Sarah Goff, Tommy Baker, and Amanda Waddle  
The Repurpose Project

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<sup>3</sup> [Zero Waste Hierarchy of Highest and Best use - Zero Waste International Alliance](#)

Zero Waste Gainesville has prepared additional stakeholder input for the preliminary Zero Waste Strategy Report.

1) We recommend a stand-alone section titled **Reduce**:

### 3.2.4 **Reduce**

Limiting the need for raw or recycled material in the economy stream is a key component of a Circular Economy as identified in Figure 1 of this report. The table below defines each selected strategy and includes advantages and potential challenges for implementation.

**Table 10: Select Reduce Strategies**

Strategy	Category	Impact Area
<b>Ban single-use plastics and polystyrene on city and county properties and at city and county events.</b>  <b>Note:</b> Expand strategy to all businesses, agencies and organizations if the State of Florida removes pre-emption for local governments to regulate recyclable materials.	<b>Policy</b>	<b>Upstream</b>
<p><u>Description:</u> Utilize ordinances to prevent single-use plastics and polystyrene from entering the community. This pertains to materials that are not recyclable and often end up in the environment as litter, impacting natural resources and wildlife.</p> <p><u>Advantages:</u> Supports the Circular Economy and upstream waste solutions.</p> <p><u>Potential Challenges:</u> Will require political and stakeholder interest/support.</p>		
Strategy	Category	Impact Area
<b>Reduce Single-Use Accessories in Dining, Take-Out and Delivery of Prepared Meals</b>	<b>Policy</b>	<b>Upstream</b>
<p><u>Description:</u> Utilize ordinances to prevent single-use accessories for dining, take-out and delivery from entering the community. This pertains to single-use accessories for foodservice that are unnecessarily provided to customers, resulting in needless waste and cost to local governments and foodservice operators.</p> <p><u>Advantages:</u> Supports the Circular Economy and upstream waste solutions.</p> <p><u>Potential Challenges:</u> Will require political and stakeholder interest/support.</p>		
<u>Strategy</u>	<u>Category</u>	<u>Impact Area</u>



February 24, 2021

<b>Create incentives for businesses and institutions to adopt policies focused on reduction of problematic materials</b>	<b>Policy</b>	<b>Upstream</b>
<p><u>Description:</u> Create a program that provides incentives to businesses and institutions that incorporate waste reduction measures.</p> <p><u>Advantages:</u> Supports the Circular Economy and upstream waste solutions.</p> <p><u>Potential Challenges:</u> Will require political interest/support and staff time to engage with businesses..</p>		

2) We recommend the following be included under 3.2.1 **General Strategies:**

Strategy	Category	Impact Area
<b>Dedicated staff for Zero Waste outreach and education activities at the City and County.</b>	<b>Program</b>	<b>Upstream/ Downstream</b>
<p><u>Description:</u> Hire or assign City and County staff to coordinate education and outreach for Zero Waste activities and other sustainability initiatives. Tasks may include: raising awareness of Zero Waste policies, ordinances and initiatives and providing resources to the community to further Zero Waste goals.</p> <p><u>Advantages:</u> A community that understands and is informed about Zero Waste activities and policies can improve implementation. Stakeholders have routinely identified the need for greater education and outreach as a requirement for Zero Waste to succeed.</p> <p><u>Potential Challenges:</u> Will require dedicated staff time by adjusting roles/duties or hiring additional staff.</p>		
Strategy	Category	Impact Area
<b>Set aside a dedicated fund from local disposal tipping fees for Zero Waste activities in the County.</b>	<b>Program</b>	<b>Upstream/ Downstream</b>
<p><u>Description:</u> Dedicated funding for Zero Waste activities could be used to accomplish strategies identified in this report. It could also be directed towards grants and contracts with private entities to achieve Zero Waste goals.</p> <p><u>Advantages:</u> Provides an additional funding source for Zero Waste strategies</p> <p><u>Potential Challenges:</u> Will require political and stakeholder interest/support.</p>		



Zero Waste  
Gainesville

February 24, 2021

- 3) With regard to the strategy, “Consider the Use of Waste-to-Energy to Address Difficult to Recover Materials and Waste Streams” we recommend the following analyses conducted prior to any action:
- Greenhouse gas emission analysis of the use of waste-to-energy technologies and facilities. Review analysis and obtain input from the Alachua County Citizen Climate Advisory Commission and Environmental Protection Advisory Board.
  - Environmental justice analysis of the use of waste-to-energy technologies and facilities. Review analysis and obtain input from the National Association for the Advancement of Colored People (NAACP) Environmental and Climate Justice Committee.

We are concerned with the lack of engagement for stakeholder input in the development of this plan. We recommend Kessler work with the City of Gainesville Office of Equity and Inclusion and the Alachua County Communications Office to identify and outreach to additional stakeholders and hold meetings to ensure the entire community is engaged. In addition, we have provided a list of stakeholders in the past that we believe is important to include this process.

Thank you for considering these additional initiatives to the preliminary Zero Waste Strategy Report. Please let us know if you have any questions.

Sincerely,

Nina Bhattacharyya, Amanda Waddle, and Rachel Bhattacharyya  
Zero Waste Gainesville

# #1

COMPLETE

**Collector:** Web Link 1 (Web Link)  
**Started:** Monday, January 11, 2021 8:38:55 PM  
**Last Modified:** Monday, January 11, 2021 8:41:32 PM  
**Time Spent:** 00:02:37  
**IP Address:** 68.226.7.144

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Page 1

## Q1

What do you like most about the Zero Waste Plan?

It addresses upstream as well as downstream opportunities for change

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## Q2

What do you like least about the Zero Waste Plan?

The extended time frame. I think we need to move faster.

---

## Q3

Respondent skipped this question

Do you have any other comments regarding the Zero Waste Plan?

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## Q4

Respondent skipped this question

Contact Information

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## Q5

If Other, Please Specify::  
Resident of City of Gainesville

What stakeholder group do you represent?

---

## #2

COMPLETE

**Collector:** Web Link 1 (Web Link)  
**Started:** Tuesday, January 12, 2021 3:40:44 PM  
**Last Modified:** Tuesday, January 12, 2021 3:48:08 PM  
**Time Spent:** 00:07:24  
**IP Address:** 12.129.64.198

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Page 1

### Q1

What do you like most about the Zero Waste Plan?

The potential for increased access to a recycling program and community outreach on how to recycle properly. The potential for composting to be incorporated into the city's waste collection program. Incentive to reuse C&D materials.

---

### Q2

What do you like least about the Zero Waste Plan?

I did not see anything regarding a ban on plastic bags.

---

### Q3

Do you have any other comments regarding the Zero Waste Plan?

Develop uniform multi family recycling: Does this include identification of apartment complexes that do not currently offer recycling to their tenants and making sure that recycling becomes available to those complexes?

Develop a Community-Wide Zero Waste Recognition and Certification Program: Does this include incentives for businesses to stop using plastic bags and single use plastic food containers and cutlery?

Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program. :  
While an increase in diversion rates of materials would be great, we also need a focus on community education regarding reusable materials.

---

### Q4

Contact Information

Name	Morgan Edwards
City/Town	Gainesville
Email Address	maeflorida@gmail.com

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**Q5**

What stakeholder group do you represent?

If Other, Please Specify::

Just an interested citizen.

---

## #3

COMPLETE

**Collector:** Web Link 1 (Web Link)  
**Started:** Thursday, January 14, 2021 9:27:43 PM  
**Last Modified:** Thursday, January 14, 2021 9:29:37 PM  
**Time Spent:** 00:01:54  
**IP Address:** 74.182.224.183

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Page 1

### Q1

What do you like most about the Zero Waste Plan?

Highly informative and comprehensive

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### Q2

Respondent skipped this question

What do you like least about the Zero Waste Plan?

---

### Q3

Respondent skipped this question

Do you have any other comments regarding the Zero Waste Plan?

---

### Q4

Contact Information

Name	Sherry Steiner
City/Town	Gainesville
Email Address	sherrysteiner@att.net

---

### Q5

Community Organizations

What stakeholder group do you represent?

---

## #4

COMPLETE

**Collector:** Web Link 1 (Web Link)  
**Started:** Tuesday, January 19, 2021 1:59:45 PM  
**Last Modified:** Tuesday, January 19, 2021 4:26:18 PM  
**Time Spent:** 02:26:33  
**IP Address:** 216.194.144.254

---

Page 1

## Q1

What do you like most about the Zero Waste Plan?

It was fairly comprehensive and it did recognize zero waste as an achievable goal.

---

## Q2

What do you like least about the Zero Waste Plan?

You did not evaluate the impact of all of the different partners working to lower waste impact that could help Alachua County be successful in lowering waste. I would have been interested in knowing their current impact and their potential for growth. For instance the company creating enhanced products from composted food waste and yard waste, and also companies like the Repurpose Project that could scale up into furniture and appliance recycling.

---

## Q3

Do you have any other comments regarding the Zero Waste Plan?

It also would have been nice to see more business opportunities that we could incentivize with respect to reuse and the impact those could have. Those have less environmental impact than companies that take those same products and make them into other things. I would have also been interested in how other places have incentivized waste reduction in packaging, disposable product use, etc.

---

## Q4

Contact Information

Name	Mary Alford
Company	Alachua County Commission
City/Town	Gainesville
Email Address	malford@alachuacounty.us
Phone Number	352-681-2410

---

## Q5

What stakeholder group do you represent?

If Other, Please Specify::  
Local Government

---

## #5

COMPLETE

**Collector:** Web Link 1 (Web Link)  
**Started:** Thursday, January 21, 2021 1:10:40 PM  
**Last Modified:** Thursday, January 21, 2021 1:23:32 PM  
**Time Spent:** 00:12:51  
**IP Address:** 153.33.121.24

---

Page 1

### Q1

What do you like most about the Zero Waste Plan?

I appreciate the focus on reuse infrastructure and education. A large-scale reuse program has many opportunities for growth and community support, and there are existing organizations in place that would be able to head this program.

---

### Q2

What do you like least about the Zero Waste Plan?

I would like to see a more specific definition of zero waste- the more generic the definition is at this stage in our conversation, the more opportunity for it to not be followed-through with (especially in presenting this information to the general public and wanting them to listen to us).

I do not like the mentioning of incineration as an option, especially as the goal of Gainesville is to reduce greenhouse gas emissions. This should only be a last resort, but Gainesville has enough existing infrastructure to focus on reuse and recovery.

I would also like to see more discussion regarding policies towards corporations/ big businesses in Gainesville aside from just the role of the individual.

Where is funding coming from and how will we ensure there is enough to push us through to 2030/2040 ZW goal rather than just initiatives these next few years?

---

### Q3

Do you have any other comments regarding the Zero Waste Plan?

There are many different sustainability organizations in Gainesville; how will we be sure to include as many stakeholders as possible so that policies and implementation happen unanimously across the city?

---

**Q4**

Contact Information

Name	Megan Flynn
City/Town	Gainesville
Email Address	meganraeflynn@gmail.com
Phone Number	4076876590

---

**Q5**

Community Organizations

What stakeholder group do you represent?

---

## #6

COMPLETE

**Collector:** Web Link 1 (Web Link)  
**Started:** Tuesday, February 02, 2021 8:57:34 PM  
**Last Modified:** Tuesday, February 02, 2021 9:00:38 PM  
**Time Spent:** 00:03:03  
**IP Address:** 70.171.18.71

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Page 1

### Q1

What do you like most about the Zero Waste Plan?

Elimination of the concept of waste.

---

### Q2

What do you like least about the Zero Waste Plan?

How long it has taken for implementation.

---

### Q3

Do you have any other comments regarding the Zero Waste Plan?

We should be leading the way. Let's do it!

---

### Q4

Contact Information

Name	Chris
Company	Green Building Cooperative
City/Town	Gainesville
Email Address	Chrisfillie@gmail.com
Phone Number	3528717707

---

### Q5

Construction and Demolition Debris Processors

What stakeholder group do you represent?

---

**From:** [Sarah Goff](#)  
**To:** [Amanda Waddle](#)  
**Cc:** [Gus Olmos](#); [Tommy Baker](#)  
**Subject:** Re: My comments on Kessler's preliminary report  
**Date:** Saturday, December 12, 2020 2:22:37 AM  
**Attachments:** [Home2\\_44a3d51e-b983-4237-8082-72394e0032c7.png](#)  
[youtube\\_150ppi\\_0da7ed3a-56a8-459c-b04c-ed8dfa1a388a.png](#)  
[insta\\_150ppi\\_5be81f1b-b06b-49ca-b309-54edd0545f55.png](#)  
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---

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Hi Gus,

I was just reading the fee structure for the CHaRM facility in Boulder. I'm not suggesting this is a good system, but I found it interesting. Personally it seems very complicated and hard to manage.

<https://www.ecocycle.org/charm#guidelines>

On Thu, Dec 10, 2020 at 5:31 PM Sarah Goff <[sarah@repurposeproject.org](mailto:sarah@repurposeproject.org)> wrote:

Hi All,

I haven't read the Strategic Plan yet, but here are my thoughts on the fee structure question for reusables.

I prefer the concept of higher tipping fees and free donation, but it should be understood that the higher tipping fees need to be considered revenue that pays for the reuse processing facility and work associated with it. This system should result in a total cost reduction for anyone dumping who is able to keep reusable stuff reusable and therefore reduce their overall waste fee tonnage. This creates a greater incentive to source separate and donate. We have seen this at The Repurpose Project over the years. As donations arrive, for example from the smaller contractors doing remodel work, we look through their loads of material for anything we think is resellable. Once we have this opportunity to educate and talk to the people doing the work they begin to be more careful taking out kitchen cabinets etc because they know if they are in good shape we will accept them and they can avoid the disposal cost. If they make sure to keep all the toilet parts together and avoid breaking the lid, we will accept it. They have even learned to load their trucks and trailers differently with the most salvageable stuff loaded last and easy to remove when they stop by our store before heading on to the dump. We even turn down naily wood when we deem it more costly to denail compared to the resale value and now we have customers who are willing to process and de-nail before bringing the salvaged lumber. These customers often do it because they are environmentally minded and although the process is time consuming, they prefer to use their time in order to reduce their waste. If the extra tipping fees were put towards salvage efforts it would make it financially possible to accept naily wood and pay a fair wage to denail it.

One thing to keep in mind is that although there is no cost to donate an item to a thrift store, the truth is thrift stores are rejecting a lot of items because the resale value is minimal. Most thrift stores exist as an income generator for their nonprofits mission and because there is such a huge supply of used material there is a tendency to only accept the nicest stuff and reject the large items that won't generate much income. Many of the smaller items with little value are thrown away by the thrift stores if they don't have shelf space or if the item



is hard to display. It is really asking a lot to expect thrift stores to accept low value items when they have limited space and plenty of high value items to choose from because that is not why they exist. This is also why I don't think there will be a conflict with thrift stores and a larger municipal reuse system. There is a very large volume of reusable material and I believe community members will continue to bring their best stuff to the nonprofits they love because they want to support them. I think the missing links are the very things The Repurpose Project is trying to address. Mainly, the lower dollar or labor intensive material is not getting salvaged, but as we've proven can be if profit isn't the goal. Second, the convenience factor of having an easy location to donate all goods at one place is needed...people are busy. And finally, the educational component is essential so people begin to understand that it isn't a good idea to throw away our limited resources, they can save money by donating, and they can save money when they buy used.

Feel free to ask me anything about reuse!

All the best,

Sarah

Sarah Goff, Co-Founder  
The Repurpose Project

29% of US green house gas emissions are from our STUFF(extraction or harvest of materials, production, transport of goods, provision of services, and disposal).

Lets all help protect the planet and buy used!

[www.repurposeproject.org](http://www.repurposeproject.org)

On Thu, Dec 10, 2020 at 4:24 PM Amanda Waddle <[arwaddle74@gmail.com](mailto:arwaddle74@gmail.com)> wrote:

You're right that donating is free to direct thrift stores in town. I guess I'm thinking if there is enough reusable stuff coming to the transfer station, then there can be a system to capture those items before they get tipped but for a lower tipping fee. Like we talked about yesterday, this is the mom and pop self haul, so maybe it's not worth it to create a system of capturing reuse at the transfer station. I think it should be on the table though. BUT if, like we talked about yesterday, there is a big campaign to educate the community on reuse (i.e. why it's so important, where to donate, where to buy, etc.) then we can encourage the self haulers to donate in town and if they have actual landfill items, then they take them to the transfer station (& it will cost them less). That COMBINED with educational signage at the scale and at the mom and pop tipping area of the transfer station that talks about reuse and where they could have donated their items for FREE in town rather than hauling them out there to be landfilled for \$50/ton.

I think we can work out the best reuse program and it can be a multi-agency/ngo/community groups/nonprofit collaboration that would really divert a lot of bulky material from the landfill.

Sarah and Tommy, just looping you both in incase you want to read the preliminary ZW strategic plan from Kessler and also give Gus some input (my preliminary feedback is also attached). He wants input from a diverse array of stakeholders. No rush though, there will be meetings in January and you can give comments then.

---

Amanda Rice Waddle,  
[Zero Waste Gainesville](#)  
Ambassador, The [5 Gyres](#) Institute  
Let's reduce waste and prevent plastic pollution  
352 359-1385

On Thu, Dec 10, 2020 at 2:45 PM Gus Olmos <[Gus@alachuacounty.us](mailto:Gus@alachuacounty.us)> wrote:

Hi Amanda - Thanks for your comments; this is exactly the type of feedback I was hoping to get. There is one item that I'm still struggling with and maybe is because I am missing something. Since we were talking about this yesterday and is fresh on my mind I'll go ahead and ask now.

One of your recommendations is: *"Fee structure needs to accommodate for reuse. Tipping fee at the transfer station should be less if the load is for reuse. Reuse drop off site needed at new Eco-Park for diversion of usable material that should not go to the landfill."*

Right now the cost of reuse is zero or even a profit (excluding the time and effort to drop off the material). Currently there is no cost to donate an item and if your item has enough value you can sell it online, go to a pawn shop or put it out for consignment. Even within the limited amount of reuse that we do in the County system (the reuse areas at the Rural Collection Centers and the Hazardous Waste Collection Center) there is no cost to donate something. So what is the advantage of charging a tipping fee (even a reduced one) at the transfer station when you can donate the item for free somewhere else? Obviously there are costs associated on the other side of the reuse cycle (management, repair , storage, marketing, etc...) however charging for donations does not make sense to me. If the County wanted to get more involved in reuse, using a portion of the regular tipping fee makes more sense.

Thanks,

Gus

**Gus Olmos, P.E.**  
Interim Director  
Solid Waste and Resource Recovery  
5620 NW 120th Lane • Gainesville • FL • 32653  
352 548 1282 (office) • 352 275 1344 (mobile)



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**From:** Amanda Waddle <[arwaddle74@gmail.com](mailto:arwaddle74@gmail.com)>  
**Sent:** Wednesday, December 9, 2020 10:15 AM  
**To:** Gus Olmos <[Gus@alachuacounty.us](mailto:Gus@alachuacounty.us)>  
**Subject:** My comments on Kessler's preliminary report

**CAUTION:** This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Gus,

I have attached some of my comments about Kessler's preliminary ZW report.

See you at The Repurpose Project later today.

Thanks, Amanda

---

Amanda Rice Waddle,

[Zero Waste Gainesville](#)

Ambassador, The [5 Gyres](#) Institute

Let's reduce waste and prevent plastic pollution

352 359-1385

--

Sarah Goff, Co-Founder  
The Repurpose Project

29% of US green house gas emissions are from our STUFF(extraction or harvest of materials, production, transport of goods, provision of services, and disposal).

Lets all help protect the planet and buy used!

[www.repurposeproject.org](http://www.repurposeproject.org)

**From:** [Neesha Anderson](#)  
**To:** [Gus Olmos](#)  
**Subject:** Questions about Zero Waste Plan - composting component  
**Date:** Monday, December 14, 2020 2:44:12 PM

---

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Hi Gus,

Thanks for your report at the last EPAC meeting. I had a few thoughts/questions I wanted to share with you.

One thing I'm considering is the cost-benefit of a countywide composting program with collection and processing compared to increasing the accessibility (education and tools) for backyard composting. Based on my research on other issues, increased education is almost always one of the most cost-effective strategies for addressing societal challenges.

With that context and bias in mind, I have a few questions:

Do you imagine a countywide composting collection and processing program working in a similar way to the current recycling program with households getting a compost bin that is collected each week? Or would it be more along the lines of composting drop-off locations around the county? Or am I totally misunderstanding the concept?

You (or someone) mentioned the inefficacy of household composting and cited high methane emissions. Are the high methane emissions of backyard composting due to incorrect composting techniques or is there simply a limit to the efficiency of household composting tools?

You also mentioned limited success with existing backyard composting programs. I am curious what the existing budget for that program is and what it consists of. I imagine a countywide composting program with collection and processing would have a significantly larger budget. How effective do you think a backyard program would be if, eg, half of the estimated budget for a countywide collection and processing program was used to implement it?

Finally, if you haven't come across programs like this, I wanted to introduce a few models of marketing rescued produce to reduce food waste:

<https://www.misfitsmarket.com/>

<https://www.hungryharvest.net/>

Thanks again for all your work on really difficult and important issues.

Best,  
Neesha

--

Neesha Anderson

(352)256-0042

[SunCloud Design](#)

[neesha@sunclouddesign.com](mailto:neesha@sunclouddesign.com)

Like my work? Please leave feedback [here](#). Thank you!

**From:** [bettinaangela@netscape.net](mailto:bettinaangela@netscape.net)  
**To:** [Gus Olmos](#)  
**Subject:** Thoughts on Kessler recommendations Re: Thoughts about Zero Waste strategies suggested by Kessler Consulting (1)  
**Date:** Sunday, January 3, 2021 1:38:29 PM  
**Attachments:** [Home2\\_44a3d51e-b983-4237-8082-72394e0032c7.png](#)  
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Hello Gus!

Here are some thoughts about potential Zero Waste Strategies detailed in the Kessler Report. I am not sure about the resources available to you / ACEPD and how many of those recommendations could implemented.

My initial top choices would be:

All recommendations in Selected General Strategies:

- Establish a "Solid Waste Reduction Goal and formalization by adopting a Resolution on Zero Waste" (lays foundation).
- Implement a Zero Waste Procurement Policy (I am assuming this would be for operations of ACEPD?).
- Revise Future Contracts and Franchise Agreements to Include Requirements and Incentives Addressing Zero Waste (I am assuming this would be for operations of ACEPD?).
- Establish Public and Private Partnerships to Facilitate R&D for Managing Solid Waste in Alachua County and the City of Gainesville (stimulates activities for eco-industrial park).
- Develop Partnerships with the Private Sector to Implement Large-Scale Reuse Program (engages private sector).
- Develop Community Wide Zero Waste Recognition and Certification Program (involvement of public).

Organic Material Recovery:

- Develop a Plan to Phase Organics from Garbage Collection

(which then can be followed up as funds become available by implementing other suggestions of Kessler).

Recyclables and C&D Recovery:

- Conduct Analysis of Recycling and Disposal Fees to Identify Methods for Discouraging the Landfill of Materials.
- Expand existing Mandatory Commercial Recycling Ordinance.

Interesting topic and lot's of work!!!!

I wish you a great 2021!

Bettina

**Every day you are invited to make choices. Live your values. Change the world.  
Be kinder than necessary, for everyone you meet is fighting some kind of battle.  
Animals are my friends...and I don't eat my friends. ~~~ George Bernard Shaw**

-----Ursprüngliche Mitteilung-----

Von: Gus Olmos <[Gus@alachuacounty.us](mailto:Gus@alachuacounty.us)>

An: [bettinaangela@netscape.net](mailto:bettinaangela@netscape.net) <[bettinaangela@netscape.net](mailto:bettinaangela@netscape.net)>

Verschickt: Mo, 21. Dez 2020 22:10

Betreff: RE: Thoughts about Zero Waste strategies suggested by Kessler Consulting (1)

Hi Bettina – Thanks for your comments. A couple of quick thoughts:

1. UF runs their own program, so I'm not familiar with all the details, but like everything else, I'm sure it can be improved.
2. I agree a 100%; consistent messaging is extremely important, and extremely difficult to achieve. This is one area that we need to improve. Also, add the fact that some of the smaller cities in the County and the School Board run a single stream system and the challenge becomes even bigger. I like the app idea!
3. The Rural Collection Centers are for county residents outside the mandatory curbside collection area, so they bring their recyclables at the same time they bring their regular garbage. The County uses the dual collection system for residents within the mandatory curbside collection area and also at the rural collection centers. Participation is great, but we have the same issues as curbside recycling.
4. There is a lot of interest in organics recycling, but we have a lot of details to work out.

Looking forward to the rest of your comments,

Merry Christmas and Happy New Year!

Gus



**Gus Olmos, P.E.**

Interim Director  
Solid Waste and Resource Recovery  
5620 NW 120th Lane • Gainesville • FL • 32653  
352 548 1282 (office) • 352 275 1344 (mobile)



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**From:** bettinaangela@netscape.net <bettinaangela@netscape.net>

**Sent:** Sunday, December 20, 2020 2:50 PM

**To:** Gus Olmos <Gus@alachuacounty.us>

**Subject:** Thoughts about Zero Waste strategies suggested by Kessler Consulting (1)

**CAUTION:** This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hello Gus!

Thank you for giving us the opportunity for feedback on the Zero Waste Strategies presented by Kessler Consulting in the Zero Waste Preliminary Strategy Report.

First of all, I really enjoyed your presentation to EPAC and reading the report!! I am extremely interested in Zero Waste economies, and I look forward to the day when City and County achieve the Zero Waste goal. I grew up in a time and culture where everything was used, repurposed, and repaired until it truly had no life left, and I still practice that life style as much as possible,

Some comments about Zero Waste/recycling at UF:

Although the Kessler report mentions several University of Florida waste management alternatives, in my experience departmental recycling at UF is marginal (paper & cans), and did not witness a lot of participation. When I worked at the UF Alachua location, there was no recycling at all. I started a Green Team at my Alachua location to decrease waste but unfortunately had to abandon that effort due to my family emergency.

Now to random thoughts and comments pertaining to residential collection services for the City and County which



center around educational materials and ease of recycling.

The educational recycling materials posted on the City and County websites are confusing as the information presented differs somewhat. For example, the county website specifies that black plastic cannot be recycled, but this is not stated on the City website. Also, it is not clear whether ALL types of plastic ( #1,2,3,4,5) can be recycled through the City and County.

While the info is readily available on the respective websites, I think a "Recycling App" (for the cell phone) would be great!!! Then the info would be really very easy to access. In addition, there could be a periodic "Recycling Info" snail mail, also to reach those who choose not to use electronic information services (web sites, Apps).

As the Kessler report nicely illustrates in Table 4, "Alachua County Additional Recycling Opportunities", it is really challenging and time-consuming to recycle as many additional materials as possible (need to go to many different retailers to recycle different items). For example, plastic #5 is accepted only by Whole Foods, batteries only at certain places, food and yard waste only at certain places etc. etc. Recycling becomes even more challenging in Alachua County where people need to go to Rural Collection Centers. I am curious about the rate of participation. Would it be possible to increase the number of Rural Collection Centers, or to offer the City's dual waste stream collection to all County residents?

About food and yard waste curbside recycling: I love the curbside recycling of food and yard waste in Germany and know from this experience that the organic waste collection containers develop funky odors very quickly in warm weather. This is something to keep in mind in our hot and humid climate when organizing a curbside organic waste collection in the City and County .

I will send you my thoughts about the Kessler Report recommended Zero Waste Strategies in a followup message, hopefully on Monday.

Merry Christmas and a blessed New Year!

Bettina

BTW, ever since I came to Gainesville as a student, I used cloth bags for shopping which was an oddity for many years!!

**Every day you are invited to make choices. Live your values. Change the world.  
Be kinder than necessary, for everyone you meet is fighting some kind of battle.  
Animals are my friends...and I don't eat my friends. ~~~ George Bernard Shaw**

**From:** [Gus Olmos](#)  
**To:** [Chas Jordan](#); [Bethany Jewell](#)  
**Subject:** FW: ZW Strategic Plan Priorities  
**Date:** Thursday, February 4, 2021 1:53:28 PM  
**Attachments:** [AC\\_logo-150ppi\\_b0554e81-2d50-477d-8264-0219cbd8ac34.png](#)  
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**From:** Nina Bhattacharyya <ninab1324@gmail.com>  
**Sent:** Wednesday, February 3, 2021 1:34 PM  
**To:** Gus Olmos <Gus@alachuacounty.us>; Heimbach, Michael J <HeimbachMJ@cityofgainesville.org>  
**Cc:** Amanda Waddle <arwaddle74@gmail.com>; Rachel B <rbhatt4633@gmail.com>  
**Subject:** ZW Strategic Plan Priorities

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Hi Gus and Michael,

Thanks for meeting with us last Friday to discuss the draft Zero Waste Strategic Plan. As follow-up to our discussion, please see our list of priorities that are developed based on the ongoing work being done by the City and County, the Zero Waste hierarchy that prioritizes upstream measures to address waste, and the recommendations that will make great strides towards our Zero Waste goal. While we are providing a list of priorities, we view that many of the activities and programs below and in the plan can overlap and happen concurrently, and encourage the City and County to move forward in that fashion. We look forward to reviewing the plan once it is revised.

### **ZWG List of Priorities**

- 3.2.1 Establish a Solid Waste Reduction Goal and Formalize by Adopting a Resolution on Zero

Waste: this is a necessary first step to bring to the table other cities and towns in the County to adopt the Zero Waste goal and plan.

- 3.2.2 Organic Material Recovery: we are fully supportive of the work being accomplished to decrease food waste and increase composting options.
- 3.2.1 Develop Partnerships with the Private Sector to Implement a Large-Scale Reuse Program: growing the reuse economy in the City and County is imperative to achieving Zero Waste.
- 3.2.1 Implement a Zero Waste Procurement Policy: ZWG presented this to the City and County in 2019 to adopt and we believe it should be implemented as one of the first actions taken to show they are leading by example.
- 3.2.3 Foster the Expansion and New Development of C&D Reuse and Recycling Facilities for the Region: this can have a measurable impact on waste and promotes reuse of materials.
- 3.2.3 Revise Building Code Standards or Green Building Ordinances to Address Zero Waste Initiatives for C&D Material Diversion: we would like to see incentives for building owners to reuse and repair buildings as opposed to building new. In addition, any ordinance regarding building code standards should include priority for designs that allow for deconstruction of material and components at the end of their useful life.
- 3.2.3 Establish Uniform Multi-family Recycling: we believe this should be included as a priority and expanded to encompass uniform recycling bins across all sectors of the City and County.

Thanks,

Nina, Amanda, and Rachel



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**From:** [Gus Olmos](#)  
**To:** [Bethany Jewell](#); [Heimbach, Michael J](#); [Chas Jordan](#)  
**Subject:** Zero Waste Meetings : UF & Waste Pro Comments  
**Date:** Monday, March 1, 2021 3:15:11 PM  
**Attachments:** [AC\\_logo-150ppi\\_b0554e81-2d50-477d-8264-0219cbd8ac34.png](#)  
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[insta\\_150ppi\\_5be81f1b-b06b-49ca-b309-54edd0545f55.png](#)  
[youtube\\_150ppi\\_0da7ed3a-56a8-459c-b04c-ed8dfa1a388a.png](#)  
[county\\_news\\_150ppi\\_14250fe5-78c3-4aa5-b059-283cc85fd4ea.png](#)

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#### **UF :**

##### **Strategies**

1. Uniform recycling messaging (County, City, UF, etc...)

##### **Priorities**

1. Organics – Currently sending food waste and paper towels to Watson. Only customer. Concerns about long term viability of operation. Generate too much waste for community based operations.
2. C & D Diversion – Would like reliable facility to separate commodities. Concerned with current practices.
3. Hard to recycle items. UF has the ability to collect relatively large quantities of clean homogenous products (fil plastic, pipets, rigid plastics) but can't find markets for those items.
4. Better coordination during student move-out.

##### **Other**

1. Big Belly picture – UF will provide a better one (page 6).
2. UF Student Compost Cooperative – add note that it is only available for on campus residents or something similar.

We also meet with Waste Pro, but I don't have any changes based on their comments. Mike fell free to add or change anything I missed.

Gus



PLEASE NOTE: Florida has a very broad public records law (F.S.119).  
All e-mails to and from County Officials and County Staff are kept as public records. Your e-mail communications, including your e-mail address, may be disclosed to the public and media at any time.

# Appendix C: Additional Resources

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## Additional Resources and Case Studies

## Additional Resources and Case Studies

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The following resources and case studies have been compiled for the County and City to provide further background and insight into the recommended strategies proposed in the implementation plan.

### Contractual and Franchise Relationships

Procurement agreements for collecting and processing municipal solid waste can be key to advancing Zero Waste within a community. Currently, the County and City contract solid waste stream collections through an exclusive franchise for residential collection and provide an open franchise collection option for the commercial sector. If the County and City considers more contractual relationships in the future, the challenge will lie with developing contracts that address waste reduction, recycling, and composting while still providing cost effective per unit rates. While these are specific to individual municipalities, the following are general best practices:

- Procurement language must clearly define the scope of services. Some communities seek contractual agreements that will universally require providers to offer recycling and composting services to all garbage collection customers. This can also be an important foundation in ensuring adequate feedstock for infrastructure investments in processing facilities.
- If an equitable and sustainable partnership is in place, communities may consider negotiating with their current vendors to foster fundamental programming that can increase diversion.
- While it has the potential to impact rates, directly requesting vendors to meet minimum Zero Waste standards and including these standards in the evaluation process can directly impact waste reduction and diversion.
- The legal strength of different contractual arrangements that mandate the direction of materials to certain facilities should be considered.

There are numerous examples of Zero Waste service standards that can be incorporated into contractual agreements. While an appropriate standard for one community may not be applicable to another, common standards utilized include:

- Structuring franchise fees to encourage recycling.
- Eliminating volume discounts for large waste generators.
- Include recycling in the cost of garbage.
- Providing universal recycling services to all multi-family dwellings, institutions, commercial businesses, and industries.
- Providing reuse and recycling of bulky items collected.
- Providing organics collection and processing to include yard waste, food waste, and compostable materials to all residents, businesses, and institutions.

- Providing collection and/or processing services for household hazardous waste and difficult to recycle items.
- Providing Zero Waste education and outreach to residents and businesses.
- Fostering an independent take-back service for returning products and packaging to manufacturers and retailers.
- Providing independent audit services to businesses for waste reduction.
- Resource management and sales, such as recovered recyclable commodities, landfill gas and biogas or the energy from those sources, greenhouse gas credits, and compost.

The following provides additional high diversion strategies that may prove helpful for structuring effective service requirements:

- Do not provide financial restrictions on recycling set-outs. Allow extra carts, bins, or bags at no additional cost.
- Restrict compaction of recyclables in the transfer and delivery process to maintain the integrity of materials.
- Establish a compensation structure that allows contractors to realize the financial benefits for service improvements and innovations that lead to higher levels of diversion.
- Establish a compensation structure that provides performance bonuses tied to reduced costs (e.g., from increased efficiency, reduced contamination, or avoided disposal fees).

## Case Studies

As the County and City consider changes to their contractual agreements, the following case studies may provide insight on strategies taken by local governments.

**City of Key West, Florida:** [Zero Waste Plan](http://www.cityofkeywest-fl.gov/departments/division.php?structureid=175)  
[www.cityofkeywest-fl.gov/departments/division.php?structureid=175](http://www.cityofkeywest-fl.gov/departments/division.php?structureid=175)

The City of Key West integrated community goals for Zero Waste into their Solid Waste Master Plan. The plan included several studies to not only identify tonnages, but to characterize the city's disposed waste to identify opportunities for increasing diversion. Short-term strategies identified include:

- Enhance residential recycling to maximize recycling and composting from single-family and multi-family residents.
- Redesign commercial waste system to provide recycling and composting services to all businesses and institutions in the city.
- Enhance the construction and demolition debris recycling to increase diversion from the building sector.
- Evaluate anaerobic digestion of food scraps at the San Jose/Santa Clara Water Pollution Control Plant.



- Pursue opportunities to support Extended Producer Responsibility initiatives and target reduction of single-use carryout bags, as well as non-recyclable/non-compostable take-out food packaging.

**City of Austin, Texas:** [Policy Changes and Contractual Agreements](https://austintexas.gov/departments/zero-waste-2040)  
<https://austintexas.gov/departments/zero-waste-2040>

In 2011, Austin City Council adopted the “Austin Resource Recovery Master Plan” to guide the city in reaching the Council’s goal of diverting at least 90% of discarded materials from the landfill by 2040.

- Ordinance and policy changes supported new contractual agreements. These included:
  - Universal Recycling and Composting Ordinance – Phases in requirements for recycling services to all tenants and employees in multi-family dwellings, office buildings and institutions. Additionally, the ordinance phases in retail, restaurants, and industrial generators.
  - Construction and Demolition Recycling Ordinance – Required building projects for more than 5,000 square feet of new, added, or remodeled floor area to reuse or recycle at least 50% of construction debris or dispose of no more than 2.5 pounds per square foot.
  - Hauler Registration Ordinance – Private service providers are required to register with the city and report service levels, diversion, and disposal tonnages with fees covering monitoring and enforcement costs.
  - Take-back Ordinance – The city is considering requiring brand owners to take back non-recyclable, non-compostable, or hard to handle products such as pharmaceuticals, sharps, batteries, and fluorescent bulbs.
- The city utilized a phased-in approach in their contracts to allow time for all stakeholders to understand new regulations and roles.

**City of Berkley, California:** [Reuse Partnership / www.urbanore.com](http://www.urbanore.com)

To reclaim reusable materials and divert them from disposal, the city has contracted with a private salvage company for over 20 years. This company holds exclusive rights of all reusable materials from the city’s transfer station tip floor and is allocated space on the property for a staff shed and vehicle to transport materials to their retail store in the Eco Park of South Berkley. Additionally, the company reports hazardous materials to city staff to avoid illegal disposal.

Initially, the city contracted \$40 per ton for all materials salvaged, less than the cost of landfilling and transportation. However, the financial success and stability of the program eliminated the revenue payment from contractual terms from 2012-2020. Currently, City Council is adopting a resolution for a three-year term for an amount not to exceed \$114,576. Over 800 tons of reusable material are reclaimed from the transfer station floor annually supporting 40 full-time, living wage jobs with benefits.<sup>5</sup>

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<sup>5</sup> City of Berkley, “June 2020 Council Documents and Draft Resolution.”

## Zero Waste Education Programs

Outreach and educational programming for Zero Waste can vary among communities. Costs may also vary widely depending upon population densities, whether new programs are being implemented or major changes introduced. SWANA and Curbside Value Partnerships used an expenditure of \$1 per household per year for existing recycling programming but recommended a budget as high as \$4 per household per year on residential education and outreach when new programs or major changes are implemented.<sup>6</sup>

A wide range of educational tools and examples are available for local governments seeking to expand programming. When promoting Zero Waste programs, it is important to keep the message simple and easy to understand. A message that limits choices and actions is easier to decipher and act on than one that requires increasingly detailed knowledge. Changing behavior with education and outreach programs relies on providing communication so clear the choices become almost obvious. The following examples may currently be of interest to the County and City.

## Case Studies

**San Francisco, California<sup>7</sup>:** [www.sfenvironment.org/zero-waste](http://www.sfenvironment.org/zero-waste)

- Achieved 80% diversion across all sectors - based in large part on the "Fantastic 3" three-bin, PAYT curbside collection system (exclusive single-hauler contract).
- Maintains a strong focus on Multi-Family Unit (MFU) and business generators (approximately 80% of all businesses and all MFUs with less than six units divert recyclables and organics) based heavily on one-on-one consultations and social marketing, including onsite waste sorts, waste assessments, online compliance toolkit, performance audits, and regular reporting.
- Utilizes a multi-lingual staff assigned by city sector with specific expertise (e.g., C&D, commercial accounts, government collection, etc.) and bolsters outreach efforts with "green job trainees" (many of whom represent underserved communities and provide strong advocacy in traditionally hard-to-reach areas of the city).

California has stringent and enforced state-level diversion mandates.

## Additional Resources

- Austin, TX's communications plan calls for a research-based approach to target specific audiences.<sup>8</sup> <http://austintexas.gov/departments/austin-resource-recovery>
- Castro Valley Sanitary District, CA has developed a strong brand used consistently in all communications and has an exemplary commercial assistance/audit/award program. [www.cvsan.org/BizRecyclingandOrganics](http://www.cvsan.org/BizRecyclingandOrganics)

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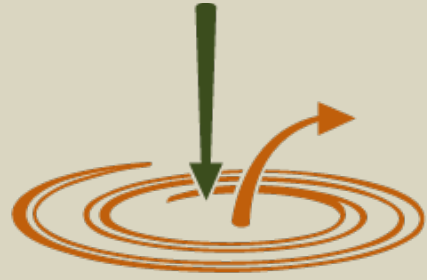
<sup>6</sup> Solid Waste Association of North America, "Manager of Recycling Systems Training Manual," (prepared by Kessler Consulting, 2009) – cites averages of \$1 per household per year and recommendations of higher investments for new programming.

<sup>7</sup> San Francisco contact = Donald Oliveira, San Francisco Department of the Environment, 415-606-8039, [donald.oliveira@sfgov.org](mailto:donald.oliveira@sfgov.org).

<sup>8</sup> Austin contact = Gena McKinley, Austin Resource Recovery, 512-974-1915, [gena.mckinley@austintexas.org](mailto:gena.mckinley@austintexas.org).

- Champaign, IL (home of the University of Illinois at Urbana-Champaign) has an exceptional attention-grabbing brand and great marketing campaign and brand. See the "Feed the Thing Recycling Logo" from the City of Champaign website.  
<http://ci.champaign.il.us/departments/public-works/residents/recycling>
- Charlotte, NC used focus groups to target prominent community values and increased neighborhood diversion levels by 12% in a three-month period.  
<http://portal.ncdenr.org/web/deao/outreach/recycling-education-campaigns>
- Curbside Value Partnership provides example programs, best practices, and numerous resources for outreach campaigns. [www.recyclecurbside.org/index.cfm](http://www.recyclecurbside.org/index.cfm)
- Boulder County, CO utilizes funding from a "Sustainability Tax" to provide grant funding for community Zero Waste projects ranging from \$1,000 - \$15,000. Local governments, non-profit organizations, school districts, and private companies within Boulder County are applicable – In 2020, \$100,000 was allocated.  
[www.bouldercounty.org/environment/sustainability/zero-waste-funding](http://www.bouldercounty.org/environment/sustainability/zero-waste-funding)

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innovative waste solutions