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Honorable Ronnie Moore, Chairman
Aucilla Area Solid Waste Administration
1313 SW Greenville Hills Road
Greenville, FL 32331

July 1, 2019

Dear Mr. Moore

The attached report entitled, *Waste Composition of the Aucilla Area Solid Waste Administration Service Area* documents the results of a one-week field study by your staff and students and faculty of the University of Florida. The data from this study will be used to update the Florida Department of Environmental Protection's *WasteCalc* computer program. The Aucilla data will be particularly useful in representing the smaller counties' waste contributions more accurately.

We would like to thank the Aucilla Area Solid Waste Administration for access to your excellent facilities and staff. We are especially grateful to Mr. John McHugh for his expert guidance and support during the study. His knowledge of the solid waste industry and understanding of the Aucilla service area was extremely useful for identifying target samples, and he and his staff were instrumental in obtaining samples and providing our students a safe place to work. The students also wish to thank Mrs. Abby Norris at the scale house for her valuable assistance throughout the week. We also wish to thank Mr. Frank Darabi for his assistance and for introducing us to your staff.

Sincerely,

Timothy Townsend, Ph.D., P.E.
Professor

WASTE COMPOSITION OF THE AUCILLA AREA SOLID WASTE ADMINSTRATION SERVICE AREA

June 2019

Prepared for:
Aucilla Area Solid Waste Administration

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EXECUTIVE SUMMARY

The week of May 13th, 2019 through May 17th, 2019, the University of Florida Department of Environmental Engineering Sciences performed a waste composition study at the Aucilla Landfill. This study was funded by both Aucilla Area Solid Waste Administration and the Florida Department of Environmental Protection (FDEP). The goals of this project were to: 1) provide the Aucilla Area Solid Waste Administration with a current evaluation of their waste composition; and 2) update FDEP's solid waste composition online tool called WasteCalc because it relies on current waste composition studies to calculate the material composition of municipal solid waste (MSW) for each of Florida's 67 counties.

The first step in conducting this waste composition was to plan out a sampling method. This stage included determining the number of samples to be sorted (40 samples) and deciding upon which trucks to sample. A proportional mix of commercial and residential trucks were to be sampled. Incoming garbage trucks were randomly selected from each commercial and residential category until the desired number of samples were acquired. A 200 to 300 pound sample was obtained from each truck, and each sample was sorted into 39 different categories by researchers and a group of temporary workers. After the sample was sorted, each category bin was weighed and the contents were discarded.

After collecting the material weight data, the UF team calculated the mass fraction for every category in each individual sample. Then, the mass fractions for the category were averaged for all 40 samples. These ratios were then converted to percentages to find the greatest contributor to the Aucilla Area Solid Waste Administration MSW stream. The results found "Other Paper" and "Corrugated Cardboard" to be the largest components of this particular waste stream at 12.4%. The "Other Paper" category includes materials such as soiled paper (e.g., napkins, paper towels, and tissues), pizza boxes, and glossy paper.

The results of this Aucilla Area Solid Waste Administration waste composition study will be integrated into WasteCalc to provide more accurate and representative results for the counties in this service area and other counties with similar population densities.

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ABBREVIATIONS AND ACRONYMS

C&D debris	Construction and demolition debris
EPA	U.S. Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
MRF	Material recovery facility
MSW	Municipal solid waste
SMM	Sustainable materials management
YT	Yard trash

1 INTRODUCTION

1.1 Municipal Solid Waste in the Aucilla Area Solid Waste Administration

The Aucilla Area Solid Waste Administration service area encompasses Jefferson, Madison, Lafayette, Taylor, and Dixie counties (see Figure 1). Municipal solid waste (MSW) from the municipalities (except the Town of Mayo in Lafayette County) and unincorporated areas of Jefferson, Madison, Lafayette and Taylor counties is hauled directly to the Aucilla Landfill for disposal. Dixie County MSW is collected at a transfer station located in Cross City and delivered to the Aucilla Landfill by tractor-trailers. All of these counties have relatively low population densities. The Aucilla Area Solid Waste Administration services a mostly rural population, with small towns and cities. The waste stream includes a mixture of waste from various businesses, restaurants, and different types of homes.

Figure 1. Service Area of Aucilla Area Solid Waste Administration

1.2 Location of Study

The study was conducted at the Aucilla Landfill due to the access to MSW from multiple small counties at one site.

2 METHODOLOGY

2.1 Preparation

It was determined for logistical reasons that 40 samples was the most reasonable number of samples that could be collected in the week-long study. Many of the previous waste composition studies reviewed for this study were performed using 40 samples per week. A study by the Luled University of Technology in Sweden suggests the minimum number of samples that are necessary to achieve statistical significance is

10 and states it is not realistic to take more than 40 samples for a weeklong sampling period[1].

Once 40 samples were agreed upon, the level of confidence and precision were calculated using the sample calculation equation, as seen below in Equation 1, written in the ASTM D5231 method (Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste, ASTM International, 2016). To find the estimated mean and standard deviation, the annual MSW tonnages reported in 2017 to FDEP by each county were inputted into the 2018 version of WasteCalc. WasteCalc generated the most prevalent component of the waste stream, which was used to estimate the standard deviation and the mean by using the tables in the ASTM method (see section 5.1. ASTM Tables for Calculating sample size). WasteCalc reported "Other Paper" as the largest component of the waste stream in all of the counties that make up the Aucilla Area Solid Waste Administration (Taylor, Dixie, Madison, Jefferson, and Lafayette) for 2017. Since ASTM D5231 method does not have an "Other Paper" category, the estimated standard deviation and mean were the average of "Newspaper" and "Corrugated Cardboard".

$$n = \left(\frac{t * s}{e * x}\right)^2 \quad (1)$$

Where:

n=number of calculated samples

t=student t statistic corresponding to the desired level of confidence

s=estimated standard deviation

e=desired level of precision

x=estimated mean

After the largest component was identified, it was determined that a sample size of 40 would result in an 85% confidence level and precision level (e) of 0.15.

The annual commercial and residential tonnages were reported to FDEP and published in the 2017 Florida Annual Solid Waste Management Reports for each of the counties within the service area. For this study's purpose, commercial included any standard commercial facility and any multifamily residential facility (e.g., apartment complexes, condominiums). Residential strictly included only single-family residential curbside pick-up. Using Equation 2 and 3, as seen below, the number of residential and commercial samples required from each county were calculated. Equation 2 calculates the number of commercial and residential samples needed. Equation 3 calculates the number of total samples needed per county. Taylor County required 21 total samples divided into 10 residential and 11 commercial samples. Dixie County needed 4 samples total,2 were residential and the other 2 were commercial. Madison County had 8 total samples divided into 2 residential and 6 commercial samples. Jefferson had 6 total samples, 2 of which were residential and 4 were commercial. Lafayette County required 1 residential sample.

$$Number\ of\ Samples = 40 * \frac{Annual\ Tonnage\ of Residential\ or\ Commercial}{Total\ Annual\ Tonnage} \quad (2)$$

$$County\ Sample\ Number = 40 * \frac{Annual\ County\ Waste\ Brought\ to\ Landfill}{Total\ Annual\ Waste\ Brought\ to\ Landfill} \quad (3)$$

After identifying the number of samples, the researchers coordinated efforts with the Aucilla Landfill. First, the researchers went to the landfill to discuss logistics and understand what resources would be available to use while performing the sort. It was determined that the sort would be conducted at the landfill working face. An area a safe distance away from the working face of the landfill was staked out for the researchers to conduct the study. Aucilla Landfill employees assisted in the sort by providing operators and equipment to retrieve, transport, and dispose of samples.

2.2 Sampling Method

Approximately eight trucks per day were sampled. A truck had to be completely residential or commercial from each county in order to be picked. Since Dixie County sends transfer trailers to the landfill, we coordinated with the operations manager at the Dixie County transfer station and arranged it so that residential and commercial waste was separated in the transfer trailer. As rear loader or front loader garbage trucks entered the scale house they were directed to a specified area of the landfill where the we obtained the samples.

The person working in the scale house conducted interviews with each incoming truck driver regarding information on the county the particular load came from and what it might contain. Notes about the interview, the tare weight of the truck, and the total weight of the truck were recorded for each load on a sample sheet (see section 5.2. Sampling Sheet). To retrieve a sample, the load from the truck was emptied and then mixed up by a bull-dozer following the cone and quartering method. Then, a 200 to 300 pound sample was brought to the area of the landfill where the study was being conducted as seen in Figure 2.

Figure 2. Transportation and Delivery of a sample.

2.3 Sorting Method

After the track loader operator delivered the sample, the operator loaded the sample into bins or the sorting team used shovels to load the sample into bins. The bins were brought to the scale on the landfill, weighed until the contents of the bins reached 200 pounds or more, dumped on the sorting table, and sorted into 39 categories (shown in Table 1).

Table 1. List of Categories used in the Aucilla Area Solid Waste Administration Composition Study

1	Newspaper	21	Clear Glass
2	Corrugated Cardboard (OCC)	22	Brown Glass
3	High Grade Paper (Office type)	23	Aluminum Cans/ Foil
4	Polycoated aseptic containers	24	Steel/Tin cans
5	Food service container (polycoated)	25	Other Ferrous Metals
6	Other Composite (metal coated)	26	Other Non- Ferrous
7	Boxboards	27	Yard waste
8	Other Paper	28	Food waste
9	#1 PET bottles	29	Animal By-Product
10	#2 HDPE bottles- translucent	30	Other Organics
11	#2 HDPE bottles- colored	31	Wood
12	#3-#7 (Other plastic bottles)	32	Asphalt shingles
13	Expanded Polystyrene (food service)	33	gypsum drywall
14	Expanded Polystyrene	34	concrete/bricks
15	Rigid Plastic (tubs, cups,lids)	35	Rubber and Leather
16	Rigid Plastic (food service plastics)	36	Clothing, Footwear, other textiles
17	Grocery Bags	37	Small appliances/ Electronics
18	Other Flexible Plastic	38	Hazardous waste
19	Other Plastics	39	Residuals
20	Green Glass		

The table that was used had a 2 inch by 2 inch metal screen on top. This allowed any residue smaller than 2 inches by 2 inches to fall through the table. Note the residue was not sorted into the 39 categories but was accounted for in its own category called “Residuals”. Also, if any bulky items were picked up, it was noted on the sample observation sheet. Figures 3-5 present the setup of the sorting process.

Figure 3. Set-up of Aucilla Waste Composition.

Figure 4. Sorting Table with a sample.

Figure 5. Examples of different category bins. Category 23, Aluminum, is on the left. Category 7, Boxboards, is on the right.

After the table was cleared of all garbage, the 39 different category bins were weighed one-by-one on the scale. After the weight had been recorded (see section 5.3. Data Collection Sheet), the contents of the bins were discarded into a specified area of the landfill.

3 DATA AND RESULTS

3.1 Raw Data Collected

Raw data refers to the fact that this data is presented in the 39 categories decided upon by the UF team. The next section puts these categories into broader categories in order to give a general breakdown of the MSW stream. Each table in this section is color-coded to match the general category it falls under in section 3.2.

The percentages were based on the averages of the mass fraction for each category. The equations used, as seen below, follow the ASTM D5231 method. In order to take the individual mass fraction of each category in an individual sample Equation 3 was used.

$$mf_i = \frac{w_i}{\sum_{i=1}^{j} w_i} * 100 \qquad (3)$$

Where:

$$mf_i = mass\ fraction\ of\ component\ i$$

$$w_i = \text{weight of component i}$$

$$\text{j} = \text{number of components}$$

After each mass fraction was calculated, the average of the mass fractions for all 40 samples for the category was taken and multiplied by 100 to obtain a percentage, as seen in Equation 4 and 5.

$$\bar{\text{m}}f_i = (\frac{1}{n}\sum_{k=1}^{n}(mf_i)_k) \qquad (4)$$

$$Category\ Percentage = \bar{\mathrm{m}}f_i * 100 \qquad (5)$$

Where:

$$\bar{\mathrm{m}}f_i = \text{mean mass fraction}$$

Raw data from the Aucilla Landfill waste sort is shown in Table 2. The total waste stream, commercial samples, and residential samples were recorded. To divide the samples into commercial and residential, the data sheets were cross referenced with the sample sheets to see what they were designated as by the interviewer.

Table 2. Raw Data Collected in Aucilla Area Solid Waste Administration Service Area.

Sample	Category	Percentage (%)		
		Total	Commercial	Residential
1	Newspaper	0.3	0.2	0.5
2	Corrugated Cardboard (OCC)	11.9	17.4	4.6
3	High Grade Paper (Office type)	2.2	2.8	1.3
4	Polycoated aseptic containers	0.6	0.9	0.2
5	Food service container (polycoated)	0.8	0.9	0.8
6	Other Composite (metal coated)	0.6	0.7	0.5
7	Boxboards	2.8	2.1	3.8
8	Other Paper	12.1	11.7	12.6
9	#1 PET bottles	3.8	3.6	4.2
10	#2 HDPE bottles- translucent	0.5	0.4	0.7
11	#2 HDPE bottles- colored	0.4	0.4	0.5
12	#3-#7 (Other plastic bottles)	0.2	0.1	0.2
13	Expanded Polystyrene (food service)	0.4	0.4	0.5
14	Expanded Polystyrene	1.5	1.8	1.0
15	Rigid Plastic (tubs, cups,lids)	0.9	0.8	1.1
16	Rigid Plastic (food service plastics)	0.6	0.8	0.5
17	Grocery Bags	1.0	0.8	1.1
18	Other Flexible Plastic	7.1	8.1	5.6
19	Other Plastics	3.9	4.2	3.4
20	Green	0.2	0.2	0.2
21	Clear	2.0	1.7	2.3
22	Brown	0.7	0.3	1.2
23	Aluminum Cans/ Foil	1.3	1.0	1.6
24	Steel/Tin cans	1.1	1.0	1.2
25	Other Ferrous Metals	1.9	1.6	2.3
26	Other Non- Ferrous	0.4	0.4	0.4
27	Yard waste	2.1	2.6	1.3
28	Food waste	9.3	9.2	9.4
29	Animal By-Product	0.3	0.0	0.8
30	Other Organics	3.6	2.5	5.2
31	Wood	4.7	3.3	6.7
32	Asphalt shingles	0.5	0.1	1.0
33	gypsum drywall	0.6	0.1	1.2
34	concrete/bricks	0.3	0.2	0.5
35	Rubber and Leather	1.1	1.5	0.5
36	Clothing, Footwear, other textiles	6.3	4.9	8.1
37	Small appliances/ Electronics	1.5	1.6	1.4
38	Hazardous waste	1.0	1.0	1.0
39	Residuals	9.5	8.7	10.5

3.2 Processed Data

Data presented in this section has been complied into more general categories. The colors in the tables correspond to the colors from the tables in section 3.1. Categories highlighted in Table 2 were compiled into the general categories with the same highlighted color, as seen below in the tables below. For example, the categories from the conducted study entitled “Other Paper”, “Polycoated Aseptic Containers”, “Food Service Containers”, “Other Composite”, and “Boxboards” were compiled into the general category “Other Paper”.

Processed data from the Aucilla Landfill waste sort is shown in Table 3 below. Graphical representations of each waste sort can be found in Figures 6-8.

Table 3. Processed Data Collected in Aucilla Area Solid Waste Administration Service Area

	Percentage (%)		
WasteCalc Categories	Total	Commercial	Residential
Newspaper	0.3	0.2	0.5
Glass	0.9	2.2	3.7
Aluminum Cans	1.3	1	1.6
Plastic Bottles	4.9	4.5	5.6
Steel Cans	1.1	1	1.2
Corrugated Paper	11.9	17.4	4.6
Office Paper	2.2	2.8	1.3
Yard Trash	2.1	2.6	1.3
Other Plastics	14.4	16.9	13.2
Ferrous Metals	1.9	1.6	2.3
Non-Ferrous Metals	0.4	0.4	0.4
Other Paper	16.9	16.3	17.9
Textiles	6.3	4.9	8.1
C&D Debris	6.1	3.7	9.4
Food	9.3	9.2	9.4
Miscellaneous	16	15.3	19.4
White Goods	0	0	0
Tires	0	0	0

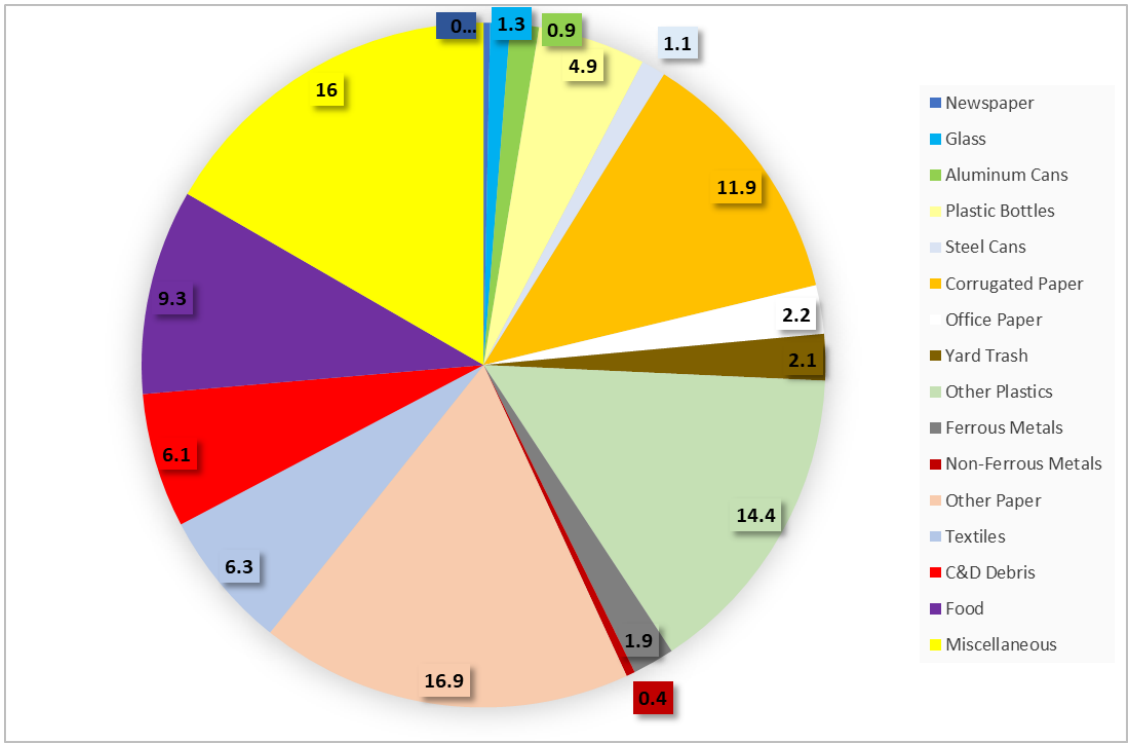


Figure 6. Representation of Total Waste Collected.

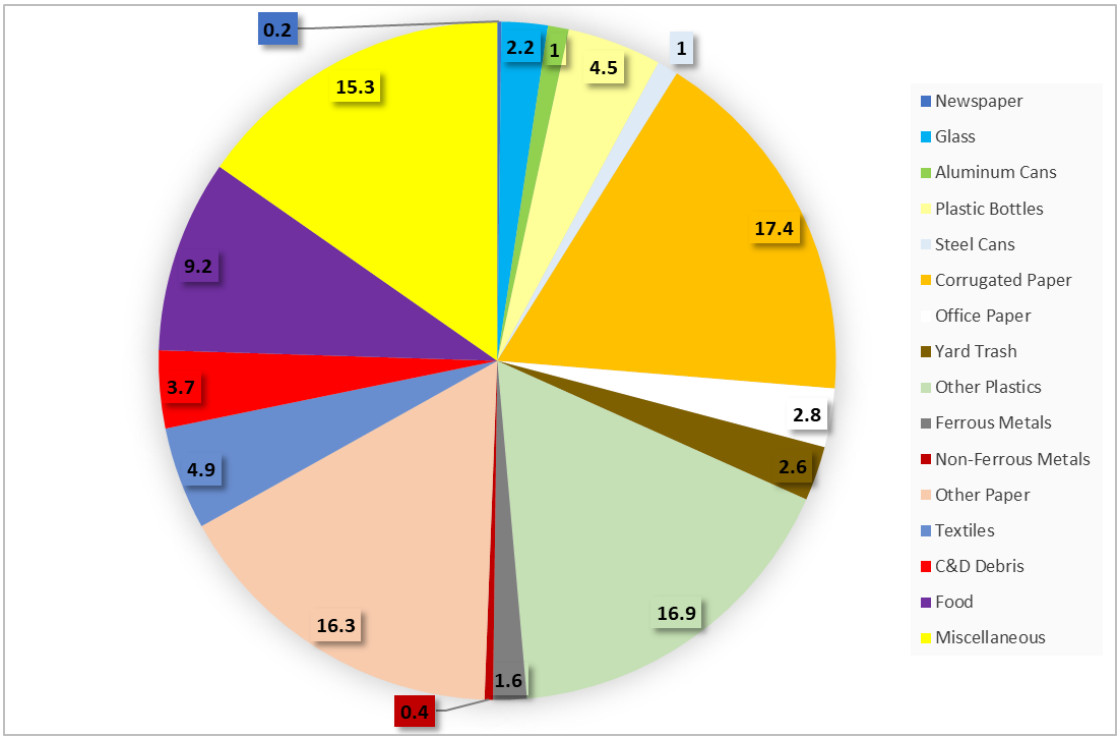


Figure 7. Representation of Commercial Waste Collected.

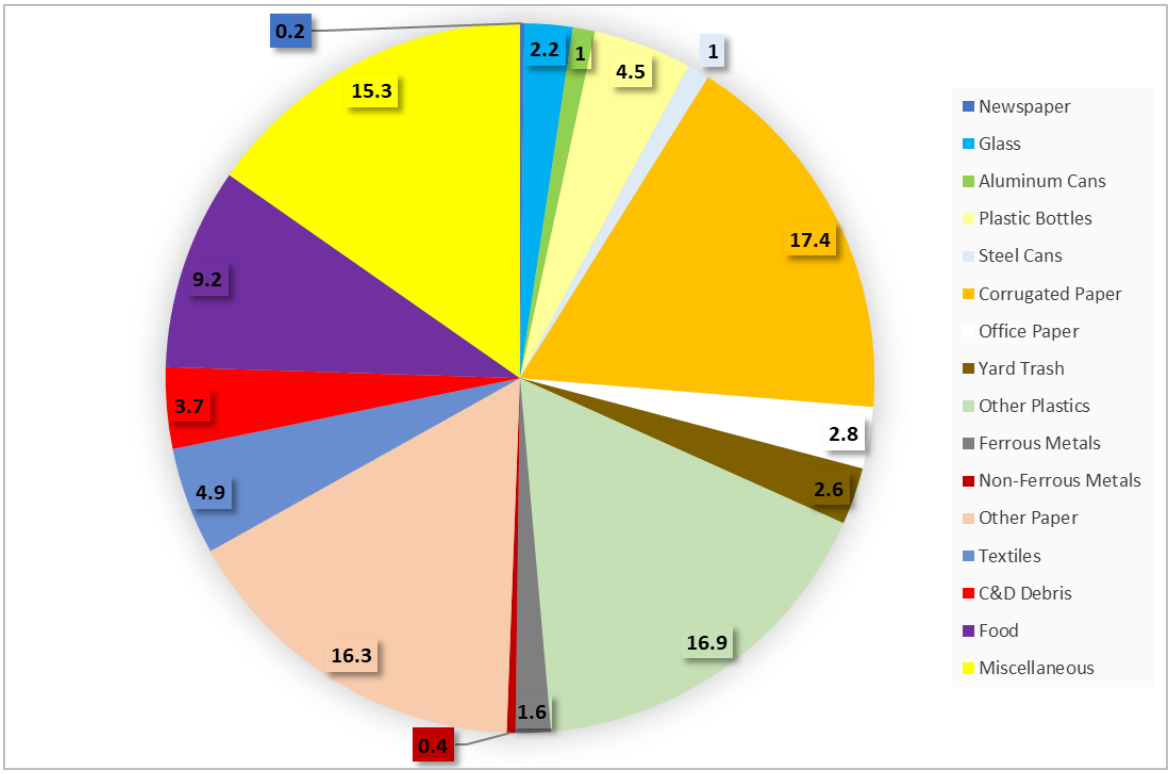


Figure 8. Representation of Residential Waste Collected.

3.3 Overview of Results

The highest component of the MSW stream in the Aucilla Area Solid Waste Administration was “Other Paper” at 16.9%. Contents typical in this category were polycoated aseptic containers, composite paper products, boxboards, glossy paper, soiled napkins, and pizza boxes. In the US Environmental Protection Agency’s (EPA) *Advancing Sustainable Material Management: 2015 Fact Sheet*, the highest component of US MSW in 2015 was “Other Paper” at 26%. The Aucilla Area Solid Waste Administration seems to have a similar outcome with a significant portion of the country. The lowest component was “Newspaper” at 0.3%. Materials that can be recycled, including glass, aluminum cans, steel cans, plastic bottles, corrugated boxes, and office paper are classified as recyclables. The percentage from each of these categories were summed to make a recyclable category. Approximately 22.6% of the MSW stream consists of recyclable material.

The highest component in the commercial MSW stream was “Corrugated Cardboard” at 17.4%. The lowest component in this stream was “Newspaper” at 0.2%. In the residential stream, the highest component was “Other Paper” at 17.9% and the lowest component was “Non-Ferrous Metals” at 0.4%.

4 CONCLUSION

Results of the Aucilla Area waste composition study can now be incorporated into the WasteCalc program. WasteCalc is an online tool created by FDEP and outside contractors that allow any county in Florida to input information about the amount of waste landfilled, recycled, and combusted. Currently, many counties in Florida have not had a

recent or any waste composition studies conducted. When this occurs, WasteCalc generates the material composition percentages based on counties that are similar in population density to that specific county. However, it is important to conduct waste composition studies in various counties so that WasteCalc can provide the counties with more accurate and representative information. This data obtained in this study will provide more accurate results for this area and counties similar to the counties that make up the Aucilla Area. The information provided may also help to make decisions about sustainable materials management in the future in the Aucilla Area.

5 APPENDIX

5.1 ATSM Tables for calculating sample size

TABLE 3 Values of Mean ($\bar{x}$) and Standard Deviation(s) for Within-Week Sampling to Determine MSW Component Composition[A]

Component	Standard Deviation(s)	Mean ($\bar{x}$)
Newsprint	0.07	0.10
Corrugated	0.06	0.14
Plastic	0.03	0.09
Yard waste	0.14	0.04
Food waste	0.03	0.10
Wood	0.06	0.06
Other organics	0.06	0.05
Ferrous	0.03	0.05
Aluminum	0.004	0.01
Glass	0.05	0.08
Other inorganics	0.03	0.06
		1.00

[A]The tabulated mean values and standard deviations are estimates based on field test data reported for MSW sampled during weekly sampling periods at several locations around the United States.

t-distribution

	Confidence Level									
	60%	70%	80%	85%	90%	95%	98%	99%	99.8%	99.9%
	Level of Significance									
2 Tailed	0.40	0.30	0.20	0.15	0.10	0.05	0.02	0.01	0.002	0.001
1 Tailed	0.20	0.15	0.10	0.075	0.05	0.025	0.01	0.005	0.001	0.0005
df										
1	1.376	1.963	3.133	4.195	6.320	12.69	31.81	63.67	—	—
2	1.060	1.385	1.883	2.278	2.912	4.271	6.816	9.520	19.65	26.30
3	0.978	1.250	1.637	1.924	2.352	3.179	4.525	5.797	9.937	12.39
4	0.941	1.190	1.533	1.778	2.132	2.776	3.744	4.596	7.115	8.499
5	0.919	1.156	1.476	1.699	2.015	2.570	3.365	4.030	5.876	6.835
6	0.906	1.134	1.440	1.650	1.943	2.447	3.143	3.707	5.201	5.946
7	0.896	1.119	1.415	1.617	1.895	2.365	2.999	3.500	4.783	5.403
8	0.889	1.108	1.397	1.592	1.860	2.306	2.897	3.356	4.500	5.039
9	0.883	1.100	1.383	1.574	1.833	2.262	2.822	3.250	4.297	4.780
10	0.879	1.093	1.372	1.559	1.813	2.228	2.764	3.170	4.144	4.586
11	0.875	1.088	1.363	1.548	1.796	2.201	2.719	3.106	4.025	4.437
12	0.873	1.083	1.356	1.538	1.782	2.179	2.682	3.055	3.930	4.318
13	0.870	1.079	1.350	1.530	1.771	2.160	2.651	3.013	3.852	4.221
14	0.868	1.076	1.345	1.523	1.761	2.145	2.625	2.977	3.788	4.141
15	0.866	1.074	1.341	1.517	1.753	2.131	2.603	2.947	3.733	4.073
16	0.865	1.071	1.337	1.512	1.746	2.120	2.584	2.921	3.687	4.015
17	0.863	1.069	1.333	1.508	1.740	2.110	2.567	2.899	3.646	3.965
18	0.862	1.067	1.330	1.504	1.734	2.101	2.553	2.879	3.611	3.922
19	0.861	1.066	1.328	1.500	1.729	2.093	2.540	2.861	3.580	3.884
20	0.860	1.064	1.325	1.497	1.725	2.086	2.529	2.846	3.552	3.850
21	0.859	1.063	1.323	1.494	1.721	2.080	2.518	2.832	3.528	3.820
22	0.858	1.061	1.321	1.492	1.717	2.074	2.509	2.819	3.505	3.792
23	0.857	1.060	1.319	1.489	1.714	2.069	2.500	2.808	3.485	3.768
24	0.857	1.059	1.318	1.487	1.711	2.064	2.493	2.797	3.467	3.746
25	0.856	1.058	1.316	1.485	1.708	2.060	2.486	2.788	3.451	3.725
26	0.856	1.058	1.315	1.483	1.706	2.056	2.479	2.779	3.435	3.707
27	0.855	1.057	1.314	1.482	1.703	2.052	2.473	2.771	3.421	3.690
28	0.855	1.056	1.313	1.480	1.701	2.048	2.468	2.764	3.409	3.674
29	0.854	1.055	1.311	1.479	1.699	2.045	2.463	2.757	3.397	3.660
30	0.854	1.055	1.310	1.477	1.697	2.042	2.458	2.750	3.386	3.646
40	0.851	1.050	1.303	1.468	1.684	2.021	2.424	2.705	3.307	3.551
50	0.849	1.047	1.299	1.462	1.676	2.009	2.404	2.678	3.262	3.496
60	0.848	1.045	1.296	1.458	1.671	2.000	2.391	2.661	3.232	3.460
70	0.847	1.044	1.294	1.456	1.667	1.994	2.381	2.648	3.211	3.435
80	0.846	1.043	1.292	1.453	1.664	1.990	2.374	2.639	3.196	3.417
90	0.846	1.042	1.291	1.452	1.662	1.987	2.369	2.632	3.184	3.402
100	0.845	1.042	1.290	1.451	1.660	1.984	2.365	2.626	3.174	3.391
∞	0.842	1.036	1.282	1.440	1.645	1.960	2.327	2.576	3.091	3.291

5.2 Sampling Sheet

Ticket # 191546

Is this waste Class I? (If not, we do not need)

SAMPLE #: 1

Truck number: 10992

Route number: 4003

Tonnage of Truck + sample: 70560 lbs 35.28 Tons

Tonnage of Truck: 20.39 Tons

Name of Hauler company: Waste Pro

Date sample arrived (month/day): 5/13/19

Time sample arrived (0:00 a.m./p.m.): 8:00

Circle waste type:

(Commercial)

If commercial:

multifamily residential

(mix of various commercial waste)

Single family residential

Other: _____

Where did the load come from?

Zone: Taylor Co & Perry

Approximate area (street names or neighborhoods):

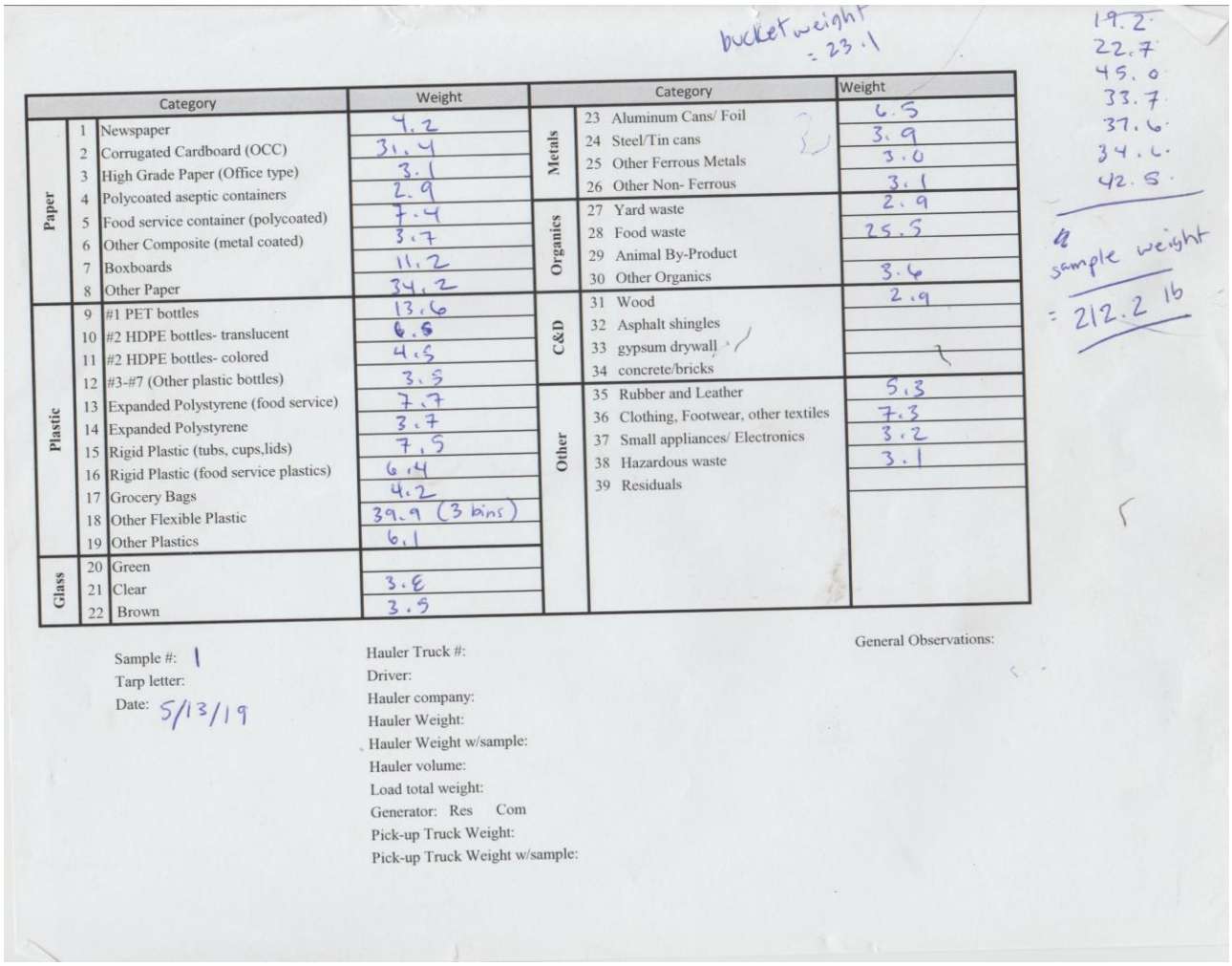
Byron Buttler, Jefferson St., Veterans Ave.

Additional notes/ observations from driver about load:

Any bulky items or white goods picked up in the load?

no

5.3 Data Collection Sheet



bucket weight = 23.1

		Category	Weight
Paper	1	Newspaper	4.2
	2	Corrugated Cardboard (OCC)	31.4
	3	High Grade Paper (Office type)	3.1
	4	Polycoated aseptic containers	2.9
	5	Food service container (polycoated)	7.4
	6	Other Composite (metal coated)	3.7
	7	Boxboards	11.2
	8	Other Paper	34.2
Plastic	9	#1 PET bottles	13.6
	10	#2 HDPE bottles- translucent	6.5
	11	#2 HDPE bottles- colored	4.5
	12	#3-#7 (Other plastic bottles)	3.5
	13	Expanded Polystyrene (food service)	7.7
	14	Expanded Polystyrene	3.7
	15	Rigid Plastic (tubs, cups,lids)	7.5
	16	Rigid Plastic (food service plastics)	6.4
	17	Grocery Bags	4.2
	18	Other Flexible Plastic	39.9 (3 bins)
	19	Other Plastics	6.1
Glass	20	Green	
	21	Clear	3.6
	22	Brown	3.5

		Category	Weight
Metals	23	Aluminum Cans/ Foil	6.5
	24	Steel/Tin cans	3.9
	25	Other Ferrous Metals	3.0
	26	Other Non- Ferrous	3.1
Organics	27	Yard waste	2.9
	28	Food waste	25.5
	29	Animal By-Product	
	30	Other Organics	3.6
C&D	31	Wood	2.9
	32	Asphalt shingles	
	33	gypsum drywall	
	34	concrete/bricks	
Other	35	Rubber and Leather	5.3
	36	Clothing, Footwear, other textiles	7.3
	37	Small appliances/ Electronics	3.2
	38	Hazardous waste	3.1
	39	Residuals	

19.2
22.7
45.0
33.7
37.6
34.6
42.5

4 sample weight
= 212.2 lb

Sample #: 1
Tarp letter:
Date: 5/13/19

Hauler Truck #:
Driver:
Hauler company:
Hauler Weight:
Hauler Weight w/sample:
Hauler volume:
Load total weight:
Generator: Res Com
Pick-up Truck Weight:
Pick-up Truck Weight w/sample:

General Observations: