

SUMMARY OF KEY METRICS

ZERO WASTE AUDIT AND WASTE CHARACTERIZATION STUDY

Metrics of note within the waste characterization of Sonoma County facilities were created using data from eighteen samples collected during the week of June 12, 2023. Samples derived from the landfill stream offer insight into the waste management patterns of each facility type. The data in **Table 1** shows organics, residue and paper as the top three materials in the County facilities' waste stream. **Tables 2 and 3** detail the County facility waste composition by material and facility type. The top ten most frequently encountered materials are listed in **Table 4**. Organic material is shown as the most prevalent material in four out of seven facility types. Residue represents the highest percentage of capture for the Airport and County of Sonoma offices. To supply an overall view of the County's waste generation, SCS has provided the quantity of material generated at County facilities per year. Total tons per year of landfill, recycling and organic material available for diversion is displayed in **Table 5**.

WASTE COMPOSITION

Table 1 displays composition of the landfill waste stream at all County facilities.

Table 1. County Facility Waste Composition

Category	Percent of Total
Paper	19.4%
Glass	4.6%
Metal	11.0%
Plastic	5.9%
Organics	25.9%
C&D Debris	3.8%
Textiles	4.1%
Hazardous Waste	4.2%
Residue	21.0%
Total	100.0%

Table 2 exhibits the waste composition in the landfill waste stream by facility type.

Table 2. Waste Composition by Facility Type

Category	Airport	Animal Shelter	Corp Yard/ Machinery/ Maintenance	Detention Center	Office	Recreation	Veterans Memorial
Paper	24.4%	9.6%	9.6%	23.6%	43.9%	12.5%	20.3%
Glass	2.5%	0.0%	0.5%	0.2%	1.8%	11.7%	4.9%
Metal	6.7%	2.4%	39.4%	0.5%	1.8%	5.2%	10.2%
Plastic	11.5%	0.4%	4.6%	3.3%	7.4%	5.0%	17.4%
Organics	6.7%	55.9%	4.9%	42.8%	19.9%	31.6%	26.0%
C&D Debris	10.0%	0.0%	14.6%	0.0%	0.2%	0.8%	0.8%
Textiles	0.9%	20.3%	2.2%	6.1%	1.1%	3.7%	0.4%
Hazardous Waste	1.6%	0.5%	13.1%	0.1%	3.6%	3.0%	2.5%
Residue	35.7%	11.0%	11.1%	23.4%	20.3%	26.5%	17.4%
Total	100%	100%	100%	100%	100%	100%	100%

Table 3 includes detailed composition of the landfill waste stream by facility type, and categorizes the materials as one of four criteria:

- Divertible Materials - This includes materials for which source reduction programs or methods, collection programs, and/or recycling infrastructure exist.
- Compostable Materials - This includes organic materials that are appropriate for municipal composting programs.
- Potentially Divertible Materials - This includes material for which methods and/or technology exist for recycling, reuse, or other beneficial uses, although programs to collect and process the materials are limited or nonexistent in the Sonoma County area.
- Other / Non-Divertible Materials - This includes materials that do not fit any of the Top Ten Material Types

Table 3. Detailed Waste Composition by Facility Type

MATERIAL		FACILITY							
		Airport	Animal Shelter	Corp Yard Machinery Maintenance	Detention Center	Office	Recreation	Veterans Memorial Building	Average
DIVERTIBLE									
PAPER	Recyclable Paper	4.7%	0.4%	3.2%	3.2%	14.1%	2.5%	5.1%	4.7%
GLASS	CRV Containers	2.5%	0.0%	0.5%	0.2%	1.5%	5.7%	0.3%	2.3%
	Non-CRV Containers	0.0%	0.0%	0.0%	0.1%	0.3%	6.1%	4.7%	2.2%
METAL	Aluminum cans	0.7%	1.0%	0.2%	0.2%	0.6%	1.2%	8.5%	1.2%
	Steel/Tin Cans	3.9%	1.3%	0.2%	0.1%	0.2%	0.9%	0.0%	0.7%
	Other Ferrous	0.0%	0.0%	26.7%	0.1%	0.5%	0.9%	0.1%	5.6%
	Other Non-Ferrous	0.6%	0.1%	0.7%	0.1%	0.3%	0.5%	1.7%	0.5%
PLASTIC	PET Bottles	1.3%	0.0%	0.6%	0.7%	2.8%	1.9%	4.7%	1.6%
	HDPE Containers	0.6%	0.1%	0.3%	0.6%	0.4%	0.4%	0.0%	0.4%
	#3-7 Containers	1.4%	0.3%	0.6%	0.5%	2.6%	1.3%	10.1%	1.8%
TEXTILES	Textiles	0.9%	20.3%	2.2%	6.1%	1.1%	3.7%	0.4%	4.1%
HAZARDOUS WASTE	Used Oil, Filters	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	1.0%
	Paint	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Other Universal Waste (fluorescent lamps, CRTs, CRT glass, mercury wastes, Non-empty aerosol cans, PV modules)	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.2%
	Covered Electronic waste	0.1%	0.0%	4.7%	0.0%	0.9%	1.5%	0.0%	1.5%
	Batteries	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C&D DEBRIS	Gypsum Board	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

MATERIAL		FACILITY							
		Airport	Animal Shelter	Corp Yard Machinery Maintenance	Detention Center	Office	Recreation	Veterans Memorial Building	Average
	Recyclable Wood	3.8%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.4%
	Rock, Soil, Fines	0.0%	0.0%	13.5%	0.0%	0.0%	0.0%	0.0%	2.7%
TOTAL DIVERTIBLE		20.6%	23.4%	59.8%	11.8%	25.2%	27.0%	35.4%	31.0%
COMPOSTABLE									
PAPER	Compostable Paper	17.7%	1.7%	4.2%	9.8%	18.7%	6.9%	15.0%	9.5%
ORGANICS	Food-Potentially donatable	0.1%	0.1%	0.8%	10.6%	1.6%	1.0%	6.4%	2.6%
	Food-Not Donatable	5.2%	0.6%	4.0%	30.6%	14.8%	29.3%	19.3%	18.0%
	Leaves, Grass, prunings, trimmings	0.0%	0.9%	0.0%	0.0%	0.2%	0.1%	0.2%	0.2%
	Compostable food service ware	0.5%	0.5%	0.0%	1.6%	2.8%	1.4%	0.0%	1.2%
	Remainder/ Composite Organics	0.9%	53.7%	0.0%	0.1%	0.5%	0.0%	0.0%	4.0%
TOTAL COMPOSTABLE		24.5%	57.6%	9.0%	52.6%	38.6%	38.7%	41.0%	35.3%
POTENTIALLY DIVERTIBLE									
C&D DEBRIS	Carpet	3.6%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.5%
TOTAL POTENTIALLY DIVERTIBLE		3.6%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.5%
OTHER / NON-DIVERTIBLE									
PAPER	Remainder/ Composite Paper	2.0%	7.5%	2.2%	10.5%	11.2%	3.1%	0.2%	5.3%
GLASS	Remainder/ Composite Glass	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
METAL	Remainder/ Composite Metal	1.5%	0.0%	11.5%	0.1%	0.4%	1.8%	0.0%	3.0%
PLASTIC	Film	0.5%	0.0%	0.2%	0.7%	0.1%	0.2%	1.2%	0.3%
	Durable Plastics	1.2%	0.0%	0.9%	0.1%	0.9%	0.3%	1.4%	0.6%

MATERIAL		FACILITY							
		Airport	Animal Shelter	Corp Yard Machinery Maintenance	Detention Center	Office	Recreation	Veterans Memorial Building	Average
	EPS Packaging/Food service ware	0.0%	0.0%	0.0%	0.6%	0.1%	0.1%	0.0%	0.1%
	Remainder/Composite Plastic	6.6%	0.0%	2.0%	0.1%	0.4%	0.9%	0.0%	1.2%
C&D DEBRIS	Treated wood	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.1%
	Remainder/Composite C&D	2.6%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%
HAZARDOUS WASTE	Remainder/Composite Hazardous and E-Waste	0.0%	0.0%	3.1%	0.0%	2.7%	0.1%	0.3%	1.1%
	Medical Waste	1.3%	0.5%	0.0%	0.1%	0.0%	0.4%	2.2%	0.4%
RESIDUAL	Residual	35.7%	11.0%	11.1%	23.4%	20.3%	26.7%	17.4%	21.0%
TOTAL NON-DIVERTIBLE		51.4%	19.0%	31.2%	35.6%	36.3%	33.5%	23.6%	33.2%

Table 4 indicates the presence and percentage of the ten most frequently encountered materials within each facility type.

Table 4. Ten Most Prevalent Material Types by Facility Type

Rank	Airport	Animal Shelter	Corp Yard Machinery Maintenance	Detention Center	Office	Recreation	Veterans Memorial Building
1	Residual (35.7%)	Remainder/ Composite Organics (53.7%)	Other Ferrous Metal (26.7%)	Food-Not Donatable (30.6%)	Residual (20.3%)	Food-Not Donatable (29.3%)	Food-Not Donatable (19.3%)
2	Compostable Paper (17.7%)	Textiles (20.3%)	Rock, Soil, Fines (13.5%)	Residual (23.4%)	Compostable Paper (18.7%)	Residual (26.7%)	Residual (17.4%)
3	Remainder/ Composite Plastic (6.6%)	Residual (11%)	Remainder/Composite Metal (11.5%)	Food-Potentially donatable (10.6%)	Recyclable Paper (14.1%)	Aluminum cans (8.5%)	Compostable Paper (15.0%)
4	Food-Not Donatable (5.2%)	Remainder/ Composite Paper (7.5%)	Residual (11.1%)	Remainder/ Composite Paper (10.5%)	Food-Not Donatable (14.8%)	Compostable Paper (6.9%)	#3-7 Containers (10.1%)
5	Recyclable Paper (4.7%)	Compostable Paper (1.7%)	Used Oil, Filters (5.3%)	Compostable Paper (9.8%)	Remainder/Composite Paper (11.2%)	Glass Non-CRV Containers (6.1%)	Aluminum cans (8.5%)
6	Steel/Tin Cans (3.9%)	Steel/Tin Cans (1.3%)	Covered Electronic waste (4.7%)	Textiles (6.1%)	Compostable food service ware (2.8%)	Glass CRV Containers (5.7%)	Food-Potentially donatable (6.4%)
7	Recyclable Wood (3.8%)	Aluminum Cans (1.0%)	Compostable Paper (4.2%)	Recyclable Paper (3.2%)	PET Bottles (2.8%)	Textiles (3.7%)	Recyclable Paper (5.1%)
8	Carpet (3.6%)	Leaves, grass, prunings, trimmings (0.9%)	Food-Not Donatable (4.0%)	Compostable food service ware (1.6%)	Remainder/Composite Hazardous and E-Waste (2.7%)	Remainder/Composite Paper (3.1%)	PET Bottles (4.7%)
9	Remainder/ Composite C&D (2.6%)	Food-Not Donatable (0.6%)	Recyclable Paper (3.2%)	PET Bottles (0.7%)	#3-7 Containers (2.6%)	Recyclable Paper (2.5%)	Non-CRV Containers (4.7%)
10	CRV Containers (2.5%)	Medical Waste (0.5%)	Remainder/Composite Hazardous and E-Waste (3.1%)	Film (0.7%)	Food-Potentially donatable (1.6%)	PET Bottles (1.9%)	Medical Waste (2.2%)

WASTE GENERATION

The quantity of material generated at County facilities per year by waste stream, based on the service levels provided by Recology, is shown in **Table 5**.

Table 5. Waste Generation (tons/year)

Facility	Garbage	Recycling	Organics
Airport	107.6	72.2	7.0
Animal Shelter	43.1	11.5	0.0
Corp Yard	263.5	317.3	20.7
Detention center	588.4	193.4	38.6
Recreation	819.6	85.1	50.8
Office	533.9	843.1	71.0
Veterans Memorial Building	200.9	89.3	32.2
TOTAL	2,748.2	1,667.6	244.4