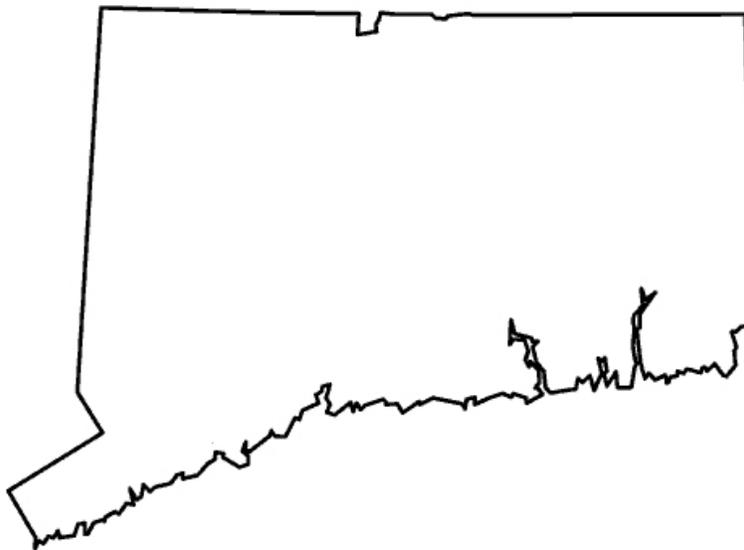


# **Connecticut State-wide Solid Waste Composition and Characterization Study, Final Report**



**Prepared for the State of Connecticut  
Department of Environmental Protection,  
Bureau of Materials Management and Compliance Assurance/  
Solid Waste Management Program,  
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**May 26, 2010**

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## Acknowledgements

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Assistance was provided by the five solid waste disposal facilities where waste sampling and surveying took place. We would like to thank the staff of Bristol Resource Recovery Facility (Bristol RRF), CRRRA Mid-CT Project (Hartford) RRF, CRRRA Southeast Project (Preston) RRF, New Haven Municipal Transfer Station and Wheelabrator Bridgeport RRF for their assistance during the study.

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# Executive Summary

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## **Purpose and Scope**

The State of Connecticut Department of Environmental Protection (CTDEP) commissioned a State-wide Municipal Solid Waste Disposal Characterization Study (Study) to estimate the composition of Municipal Solid Waste (MSW) from residential and Industrial/Commercial/Institutional (ICI) generators disposed of or transferred through Connecticut permitted solid waste management facilities.

The CTDEP selected five solid waste disposal facilities or transfer stations for the waste sampling activities to represent statewide composition:

- Bristol Resource Recovery Facility (Bristol RRF)
- CRRRA Mid-CT Project (Hartford) RRF
- CRRRA Southeast Project (Preston) RRF
- New Haven Municipal Transfer Station
- Wheelabrator Bridgeport RRF

The Study was carried out by a Project Team consisting of DSM Environmental Services, Inc. (Project Manager), Cascadia Consulting Group (Data Analysis), and MidAtlantic Solid Waste Consultants (MSW Consultants – Sorting and Sampling) over approximately one year, with waste sampling activities occurring at each of the selected facilities during February/March, 2009 and October, 2009.

MSW from residential and ICI generators was sampled to obtain statistically valid waste composition data. The composition data were then applied to CTDEP MSW tonnage, allocated between residential and ICI tonnage, to estimate total tons of waste by material type delivered to Connecticut facilities for calendar year (CY) 2009.

## **Summary of Study Design and Field Methods**

MSW delivered to the five selected solid waste facilities was sampled during two seasons, for approximately two to three days at each facility. A total of 258 samples were analyzed using a systematic selection procedure to identify representative vehicles to be selected for manual grab sampling at the host facility.

The systematically selected loads were directed to a designated tipping area for subsequent grab sampling. The driver was first interviewed by the Field Supervisor to confirm information including the origin of the load, waste generating sector, hauler, and vehicle type and number. This information was noted on a vehicle selection form, along with a unique sample identifying number.

A random sample of between 200 and 250 pounds was taken from the load after it was dumped and placed in 50 gallon holding barrels, specially labeled with the unique identification number. The material was then dumped onto the sorting table and manually sorted into the prescribed component categories. Plastic 18-gallon bins with sealed bottoms, each labeled and located around the sorting table, were used to contain the separated components. The materials were

sorted to particle size of 2-inches or less by hand, until no more than a small amount of homogeneous material remained.

A Crew Chief was responsible for overseeing all weighing and data recording of each manually sorted sample. The Crew Chief used a waste composition data sheet to record the composition weights. Each data sheet containing the sorted weights of each sample was matched with the Field Supervisor's sample sheet to assure accurate tracking of the samples each day.

The waste composition data sheets were subsequently tabulated by MSW Consultants and sent to Cascadia Consulting Group for entry into the database and subsequent analysis.

### Abstract of Results

The average composition of the 98 residential and 160 ICI samples were expressed as a percentage of the total by material type. These percentages were then applied to the estimated total residential and ICI waste, respectively, to estimate the composition, in tons, of waste disposed in CY 2009 by material type.

Based on waste disposal data provided by CTDEP, residents and businesses disposed of a combined 2,380,000 tons (rounded) of MSW in CY 2009. Figure E.1 graphically depicts the nine main categories of material, based on the application of the average waste composition to the overall tonnage.

At nearly 27%, **Organics** made up the largest share of the overall waste stream. **Paper** followed at nearly 26%, while both **Plastic** and **Construction and Demolition** each represented over 14% of the Connecticut overall disposed MSW stream.

Figure E.1

#### Overview of Waste Composition – Overall Statewide Disposed Waste

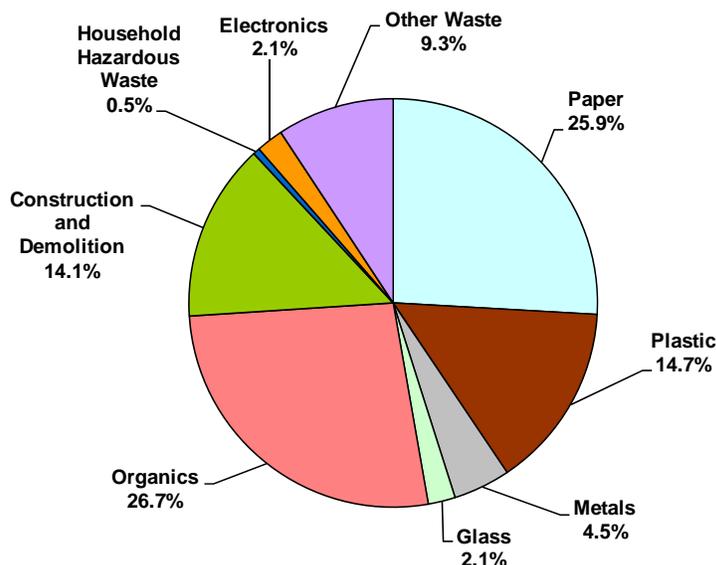


Table E.1, below presents the ten most common materials, by weight, in the overall (combined residential and ICI) disposed MSW, arranged in descending order. These ten materials represent over 56% of the disposed MSW. Food waste was the most prevalent material, at over 320,000 tons (13%). Other large components included compostable paper (8%), leaves and grass (7%), OCC/Kraft paper (6%), and treated wood (5%).

Five of the materials listed in Table E.1 may be important for future program development purposes. The first is the prevalence of organics in the waste stream, which could potentially be diverted for composting or for anaerobic digestion to recover energy. Together, food waste, compostable papers, and leaf and yard waste represent 29% (rounded) of total MSW disposed at CT facilities.

Second, approximately 9%, or 224,000 tons (rounded) of material disposed as MSW represents corrugated and kraft paper and other recyclable papers, indicating that there remains the potential to capture more paper from the existing recycling programs.

Third, durable plastic items, typically composed of High Density Polyethylene and Polypropylene plastics, represent another 86,000 tons of material. These plastics are potentially recyclable, and could be a significant new source of recycled plastic resin.

Fourth, treated wood comprises another 5%, or 111,000 tons of MSW. A number of power plants in Maine currently burn treated wood to produce power that qualifies for Renewable Energy Credits (REC) for sale to Connecticut utilities. It would appear that the potential exists for construction of a similar facility in Connecticut.

Fifth, carpet represents over 3%, or 83,000 tons (rounded) currently being disposed at Connecticut facilities. Carpet recycling has made significant advances over the past ten years, and may be feasible for more of this material in Connecticut.

**Table E.1**

**Ten Most Common Materials, by Weight – Overall Statewide Disposed Waste**

<b>Material</b>	<b>Est. Percent</b>	<b>Cum. Percent</b>	<b>Est. Tons</b>
Food Waste	13.5%	13.5%	321,481
Compostable Paper	8.2%	21.7%	195,185
Leaves & Grass	7.2%	29.0%	172,408
OCC/Kraft Paper	5.8%	34.8%	138,240
Wood - Treated	4.7%	39.4%	111,404
Durable Plastic Items	3.6%	43.1%	86,325
Other Recyclable Paper	3.6%	46.7%	85,517
Other Film	3.5%	50.2%	83,478
Carpet	3.5%	53.7%	83,125
R/C Organic	3.2%	56.8%	75,195
<b>Total</b>	<b>56.8%</b>		<b>1,352,359</b>

# Introduction

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## **Background, Purpose and Scope**

The State of Connecticut Department of Environmental Protection (CTDEP) commissioned a composition and characterization study of municipal solid waste (MSW) generated within the State of Connecticut. The primary purpose of the State-wide Waste Characterization Study (Study) was to estimate the composition of MSW from residential and Industrial/Commercial/Institutional (ICI) sectors disposed at Connecticut permitted solid waste facilities. The resultant data will help guide CTDEP as it embarks on an effort to boost the diversion rate, currently estimated at 30 percent, to 58 percent.

This Study was carried out by a Project Team consisting of DSM Environmental Services, Inc., Cascadia Consulting Group, and MidAtlantic Solid Waste Consultants (MSW Consultants). The roles of each firm are summarized below.

**DSM Environmental Services, Inc.** coordinated the Project Team in all activities and had primary responsibility for:

- Project Management
- Logistics
- Sample Site Selection
- Allocation of Residential and Commercial Waste
- Client Contact
- Problem Resolution
- Preparation of the Draft and Final Report

**Cascadia Consulting Group** was responsible for:

- Preparation of Draft and Final Study Design
- Overall QA/QC effort
- Statistical Analysis
- Report Tables Preparation
- Report Review

**MSW Consultants** was responsible for:

- Field Supervision
- On-site Logistics
- Sampling and Sorting
- Sort Crew Training
- Sorting QA/QC
- Compilation of Sorting Data

The Study included surveying by DSM to develop rough estimates of the breakdown between residential and ICI waste. CTDEP recognizes that limited resources were available for allocation of residential and ICI wastes, so that the resulting allocation is a rough approximation based on the limited surveying at sites where sampling occurred.

The Study was carried out over the course of two seasons (February/March 2009 and October, 2009), with waste sampling activities occurring at five permitted solid waste facilities throughout

the State. This Final Report presents the results of the Study. Aggregate, state-wide residential and ICI waste composition is presented, assuming that the five facilities where sorting occurred are representative of the State as a whole. Waste composition data are then presented for two seasons for each of the five facilities participating in the Study. Note that the sampling targets for this study were intended first and foremost to provide statewide results that could be stated with a high degree of statistical confidence. Results by season and by facility – which are calculated from a smaller number of samples – do not exhibit as high a statistical level of confidence; however, the data remain valuable for planning purposes at this level.

## Dates of Sorting and Surveys

Table 1 presents the waste characterization sampling dates at each of the five facilities. Table 2 presents the surveying dates at each of the five facilities. The first round of surveying was carried out in conjunction with the first round of sampling. The second round of surveying was carried out prior to the second round of sampling in an effort to finalize the recommended allocation of samples between residential and ICI loads.

**Table 1**  
**Sorting Dates at the Five Locations**

Location of Sorting	Season	Date
Bristol Resource Recovery Facility	Season 1	02/25/09 - 02/27/09
Wheelabrator Bridgeport RRF	Season 1	02/27/09 - 03/03/09
New Haven Municipal Transfer Station	Season 1	03/03/09 - 03/05/09
CRRR Southeast Project (Preston) RRF	Season 1	03/05/09 - 03/09/09
CRRR Mid-CT Project (Hartford) RRF	Season 1	03/09/09 - 03/11/09
Wheelabrator Bridgeport RRF	Season 2	10/15/09 - 10/17/09
Bristol Resource Recovery Facility	Season 2	10/19/09 - 10/21/09
New Haven Municipal Transfer Station	Season 2	10/21/09 - 10/22/09
CRRR Southeast Project (Preston) RRF	Season 2	10/23/09 - 10/26/09
CRRR Mid-CT Project (Hartford) RRF	Season 2	10/27/09 - 10/29/09

**Table 2**  
**Dates of Truck Surveys, By Location**

Location of Hauler Surveys	Season	Date	# Trucks
Bristol Resource Recovery Facility	Season 1	02/25/09	73
Wheelabrator Bridgeport RRF	Season 1	03/02/09	31
New Haven Municipal Transfer Station	Season 1	03/03/09	57
CRRR Southeast Project (Preston) RRF	Season 1	03/09/09	113
CRRR Mid-CT (Hartford) RRF	Season 1	03/10/09	199
Total for Season 1			473
Bristol Resource Recovery Facility	Season 2	07/23/09	99
Wheelabrator Bridgeport RRF	Season 2	07/28/09	100
New Haven Municipal Transfer Station	Season 2	07/27/09	66
CRRR Southeast Project (Preston) RRF	Season 2	07/31/09	94
CRRR Mid-CT (Hartford) RRF	Season 2	07/22/09	203
Total for Season 2			562
Total Trucks for Both Seasons			1035

## Study Design

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DSM met with CTDEP on December 4, 2008 to begin work on the Study. The proposed Study Design and list of materials was reviewed, and CTDEP agreed to select the five facilities for sampling that CTDEP believed would be representative of statewide waste composition.

CTDEP selected the following five facilities for sampling, which collectively receive approximately 77% percent of the total waste generated in Connecticut:

### **Bristol Resource Recovery Facility**

650 ton per day (TPD) mass burn waste-to-energy (WTE) facility located in Bristol, CT and owned and operated by Covanta Bristol, Inc. Sixteen municipalities deliver waste to this facility. They are located to the west of the Mid-CT Project (Hartford) RRF listed below.

### **CRRA Mid-CT Project (Hartford) RRF**

2,850 TPD refuse derived fuel (RDF) facility operated by CRRA, with the resulting fuel conveyed to an adjacent power plant operated by Covanta. The CRRA Mid-CT project accepts waste from 70 municipalities around Hartford, CT.

### **CRRA Southeast Project (Preston) RRF**

690 TPD mass burn WTE facility serving communities in southeastern CT around Preston, CT. CRRA owns this facility which is operated by Covanta.

### **New Haven Municipal Transfer Station**

Owned by the New Haven Solid Waste and Recycling Authority. Privately operated (under contract) 700 TPD facility accepting MSW and C&D wastes.

### **Wheelabrator Bridgeport RRF**

2,250 TPD mass burn WTE facility owned and operated by Wheelabrator Bridgeport, L.P. serving the greater Bridgeport area.

Once the five facilities had been selected the Project Team prepared a Final Study Design describing the sampling and analysis procedure and the final definition of materials for sorting. The Final Study Design was submitted to CTDEP in January 2009 for review, and was finalized in February 2009 based on comments from CTDEP. The final list of materials and their definitions are included as Appendix A to this report.

## **Definition of Waste Sectors**

Sectors of the MSW stream analyzed in the study are defined as follows:

- **Residential** – defined as waste brought to the five facilities in which 80% or more of the waste is from single-family and/or multifamily residential sources. Vehicles chosen for sampling in the Residential waste sector included **Residential Transfer Trucks** arriving from rural transfer stations as well as **Packer Trucks** carrying waste from household routes.

- **Institutional/Commercial/Industrial (ICI)** – defined as waste brought to the five facilities in which 80% or more of the waste is from institutional, commercial, or industrial sources. This sector excludes Construction and Demolition debris as well as Bulky Waste. Vehicles chosen for sampling in the ICI sector included **Roll-Off Trucks** and **Front Loading Packer Trucks**.
- **Unacceptable Loads** – Loads that contain less than 80% or either residential or ICI waste, and loads originating from outside of Connecticut.

## Logistics

Once the Final Study Design was completed the Project Team worked with the selected facilities to collect the following facility specific information necessary to develop the sampling plan:

- The facility's contact information;
- The facility's days and hours of operation;
- Vehicle traffic expected for each sector on each day of the week, and the estimated peak time of day for each type of load;
- What recycling or recovery operations exist at the facility, and how the Project Team could effectively obtain samples of waste prior to any diversionary measures;
- Unusual conditions (e.g., weather, anomalies in traffic patterns, etc.) that might affect data collection and necessitate special logistical arrangements;
- Procedure used to determine the net weight of vehicles (e.g. reliance on scale house records or use of net weight cards);
- The facility's ability to provide assistance (e.g. front loader, sorting space, vehicle selection, etc.).

## Site Visits

Following the data requests, site visits were scheduled at each facility. The site visits served the following crucial functions:

- Introduced the Study objectives to the Facility Manager, and introduced the waste sort Field Supervisor, and the truck surveyor to facility personnel;
- Clarified information provided in response to the information request;
- Finalized locations for setting up the work area, taking samples, queuing samples, discarding sorted samples, and other in-process activities;
- Confirmed procedures requiring coordination between the host facility personnel and the Project Team;
- Reviewed facility-specific health and safety procedures and emergency contact numbers;
- Established the procedure for surveying of in-coming trucks to allocate waste between residential and ICI loads;
- Answered any questions or concerns of the Facility Manager; and,
- Established tentative dates for surveying and sampling.

## Training and Supervision

At the outset of each sampling season, an MSW Consultants Trainer led a detailed training session the morning of the first day sampling. At the conclusion of the training, the sorting crew

was prepared to conduct the sorts. For the rest of the sampling season, the Crew Chief directed and supervised the sort crew. The same sorting crew members worked each of the five facilities each season, which further assured consistency and efficiency.

The training covered all aspects of the safety and health requirements, as well as sorting and weighing procedures and guidance to improve productivity. Training covered information found in the Health and Safety Plan (enclosed as Appendix C) and included:

- General facility overview;
- Learning and reviewing the material categories and definitions;
- Facility-specific health and safety requirements;
- Personal protective equipment (PPE) requirements;
- Waste handling techniques; and
- Productivity strategies and daily sorting quotas.

### **Load Selection**

MSW Consultants used a systematic selection procedure to identify the vehicles from which waste would be sampled. Systematic sampling is intended to remove any sampling bias that may arise during selection of specific incoming vehicles. To remove such bias, the Field Supervisor divided the expected total number of incoming residential and ICI loads at a facility by the number of samples needed that day from that facility. The resulting number is the sampling frequency and determines whether every third vehicle, every sixth vehicle, or every 20th vehicle is selected for sampling. This strategy is known as the “Nth Truck” approach.

Deviations from the nth truck occurred if the sorting crew completed sorting all the obtained samples and was waiting for the next sample to be taken. In that case the Field Supervisor deviated from the “N” truck protocol to take the next eligible truck. The Field Supervisor selected the next available truck that met the selection criteria whenever he needed another residential or commercial sample, or to assure that sufficient samples are stockpiled to meet the sort crew needs and/or the correct sample size and allocation for the facility. The Field Supervisor asked the driver if there was waste from outside of Connecticut on the load. If there was, the Field Supervisor skipped that truck and took the sample from the next truck meeting the selection criteria that contains only waste from Connecticut. The Project Team does not believe that this introduced any bias to the sampling procedure, because the next eligible load was automatically taken under this circumstance and no judgment entered into the decision.

The systematically selected loads were directed to a designated tipping area for subsequent grab sampling. During the interview process, the Field Supervisor confirmed information such as origin of the load, waste generating sector, hauler, vehicle type and number, and other data. This information was noted on a vehicle selection form, along with a unique identifying number associated with that vehicle on that day.

Table 3 presents the allocation of loads agreed on in the Final Study Design, and the final load allocation after all sampling had occurred. As illustrated by Table 3, the Project Team collected and characterized more samples in each category than required under the Study Design.

**Table 3  
Overall Samples Collected, by Site and Sector**

Facility	Residential		ICI		Actual Totals	Planned Totals
	Residential Transfer	Packer Loads	Compacted Dropboxes	Packer Loads		
Bristol Resource Recovery Facility	10	9	6	24	49	48
Wheelabrator Bridgeport RRF	2	15	7	24	48	48
New Haven Municipal Transfer Station	0	26	12	10	48	48
CRRRA Southeast Project (Preston) RRF	9	11	9	22	51	48
CRRRA Mid-CT Project (Hartford) RRF	7	9	10	36	62	48
<b>Actual Totals</b>	<b>28</b>	<b>70</b>	<b>44</b>	<b>116</b>	<b>258</b>	<b>240</b>
<b>Planned Totals</b>	<b>26</b>	<b>64</b>	<b>40</b>	<b>110</b>	<b>240</b>	

**Physical Sorting of MSW Samples**

Once the sample had been acquired and placed in 50 gallon holding barrels, specially labeled with the unique identification number, the material was unloaded onto the sorting table and manually sorted into the prescribed material categories. Plastic 18-gallon bins with sealed bottoms, each labeled and located around the sorting table, were used to contain the separated components. This is shown in Figure 1.

**Figure 1: Sorting Table and Bins**



Sorters were trained to specialize in certain material groups, with someone handling the paper categories, another plastic, another glass and metals, and so on. In this way, sorters became highly knowledgeable in a short period of time as to the definitions of individual material categories.

The Crew Chief monitored the bins as each sample was being sorted, requiring a re-sort of materials that were improperly classified. Open bins allowed the Crew Chief to see the material at all times. The Crew Chief also verified the sorting accuracy of each component during the weigh-out.

The materials were sorted to particle size of 2-inches or less by hand, until no more than a small amount of homogeneous material remained. This layer of mixed 2-inch-minus material was allocated to the appropriate categories based on the best judgment of the Crew Chief—most often a combination of Other Paper, Other Organics, or Food Waste. Small particles passing through a separate ½ inch screen were then swept into a separate container and recorded as their own material category called “Bottom Fines & Dirt” (categorized under the Organics material group).

## Data Recording

The weigh-out and data recording process is arguably the most critical process of the sort. The Crew Chief was singularly responsible for overseeing all weighing and data recording of each manually sorted sample. Once each sample had been sorted, and fines swept from the table, the weigh-out was performed. Each bin containing sorted materials from the just-completed samples were carried over to a digital scale. Sorting laborers assisted with carrying and weighing the bins of sorted material, while the Crew Chief recorded all data. After each bin was weighed, the bins were emptied in the prescribed discard area for final disposal.

The Crew Chief used a waste composition data sheet to record the composition weights. Each data sheet containing the sorted weights of each sample was matched up against the Field Supervisor’s sample sheet to ensure accurate tracking of the samples each day.

## Data Analysis Procedures

Following each seasonal fieldwork, all field forms were transported back to MSW Consultant’s office and entered into sample tally sheets. The sample tally sheets were then electronically sent to Cascadia Consulting Group for entry in an Access database created specifically for the Connecticut Statewide Study.

The sample tally sheets were checked by the Cascadia Data Manager, who verified that all required data had been recorded properly. As an additional step in quality control, an inspection of randomly selected records was carried out to monitor the accuracy of the data entry process.

Once these steps had been taken, Cascadia Consulting conducted the waste composition analysis as follows.

Composition estimates represent the **ratio of the components’ weight to the total waste** for each noted material component in a particular segment of the waste stream. They are derived by summing each component’s weight across all of the relevant samples and dividing by the sum of the total weight of waste, as shown in the following equation:

$$r_j = \frac{\sum_i c_{ij}}{\sum_i w_i}$$

where:

$c$  = *weight of particular material component*

$w$  = *sum of all component weights*

for  $i = 1$  to  $n$

where  $n =$  number of selected samples

for  $j = 1$  to  $m$

where  $m =$  number of material components

The confidence interval for this estimate is derived in two steps. First, the variance around the estimate was calculated, accounting for the fact that the ratio included two random variables (the component and total sample weights). The **variance of the ratio estimator** equation follows:

$$\hat{V}_{r_j} = \left(\frac{1}{n}\right) \cdot \left(\frac{1}{\bar{w}^2}\right) \cdot \left(\frac{\sum_i (c_{ij} - r_j w_i)^2}{n-1}\right)$$

where:

$$\bar{w} = \frac{\sum_i w_i}{n}$$

(Note: the standard deviation is the square root of the variance term.)

Second, **confidence intervals** at the 90% confidence level are calculated for a component's mean as follows:

$$r_j \pm \left(t \cdot \sqrt{\hat{V}_{r_j}}\right)$$

where:

$t =$  the value of the  $t$ -statistic corresponding to a 90% confidence level

A weighted average of composition percents is used when the findings for small segments of the waste stream are aggregated to describe a larger piece of the waste stream. The **weighted average for an aggregated composition estimate** is performed as follows:

$$O_j = (p_1 * r_{j1}) + (p_2 * r_{j2}) + (p_3 * r_{j3}) + \dots$$

where:

$p =$  the proportion of tonnage contributed by the noted substream (i.e., the weighting factor)

$r =$  ratio of component weight to total waste weight in the noted substream (i.e., the composition percent for the given material component)

for  $j = 1$  to  $m$

where  $m =$  number of material components

The **variance of the weighted average** is calculated:

$$VarO_j = (p_1^2 * \hat{V}_{r_{j1}}) + (p_2^2 * \hat{V}_{r_{j2}}) + (p_3^2 * \hat{V}_{r_{j3}}) + \dots$$

(Note: the **standard deviation** is the square root of the variance term.)

## Explanation of Mean Estimates and Confidence Intervals

Data from the sorting process were treated with a statistical procedure that provided three kinds of information for each of the material categories found in the tables below:

*the sample mean estimate, which is the percent-by-weight represented by the individual material within the set (or subset) of samples that were examined.*

*the confidence interval, which represents upper and lower boundaries around the mean estimate. Calculating the confidence interval at the 90% confidence level, means that the Project Team is 90% certain that the true mean composition percent for a given material lies between the upper and lower boundaries around the sample mean estimate.*

*the standard deviation, which is measurement of the variability of the amount of a given material from one sample to another.*

## Quality Control

The sampling and sorting crew used several strategies to ensure the accuracy of all data collected in the field. These steps included:

- Developing a thorough sampling plan with the host facility to verify that there would be enough vehicles to choose from on each sampling day.
- Talking to the driver of each selected vehicle to verify the type of waste load.
- Using two-way radios to communicate with the gatehouse staff person and to resolve any questions about vehicle selection immediately.
- Checking to ensure the sample met the minimum weight criterion at the moment when the sample was extracted from the selected load.
- Training the entire sampling crew in the definitions of each material, and referring to the written definitions as often as needed during sorting.
- Using two to three people to read, record, and verify the weight of each material as it crosses the scales after sorting.

Steps were also taken to ensure proper record keeping and transfer of the sample data to Cascadia for analysis. These steps included:

- Assigning a unique combination of date and Field Sample Number to each sample, and writing that information on the data form used to record material weights for the sample.
- Encoding the type of waste load into the Field Sample Number. For example, on a particular date, samples of commercial waste would be numbered Com-1, Com-2, etc.
- Using the Vehicle Selection Form to track the numbers of each type of load that have been obtained and sampled.
- Verifying that data forms were obtained for each day the data collection crew was in the field.
- Entering of data into Cascadia prescribed data forms for electronic delivery to Cascadia for analysis.

Finally, Cascadia cross checked all data received from MSW Consultants to verify that the data made intuitive sense during the analysis. Cascadia's analysis was then checked by DSM, as Project Manager, and by MSW Consultants during development of draft reports prior to release to CT DEP for review.

## Statewide Allocation of Residential and ICI Waste

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The results of the composition analyses are expressed as percentages, which can then be applied to total disposed tons to determine quantities of waste by material type.

CTDEP does not collect data on the percent of MSW disposed in Connecticut which is ICI versus residential MSW. Therefore, DSM conducted two days of truck surveys at each facility where sorting took place to develop rough estimates of the breakdown between ICI and residential MSW.

### Truck Survey Methodology

DSM conducted the first round of truck surveys during one of the three days that MSW Consultants was carrying out the first round of sampling at each facility. The scale house was identified as a safe and efficient place to conduct the surveys. In all cases the drivers had to stop to weigh in and receive a weight ticket which in most cases recorded a net weight based on the average tare weight for the truck. The survey was conducted when the weight ticket was handed to the driver.

The location, date, truck type, time of day, truck number, net weight of waste (total weight minus truck weight) and percentage of ICI or residential MSW was recorded for each truck surveyed. The drivers were first asked to identify the load as ICI or residential. A second question was then asked to determine whether the entire load was either residential or ICI, or whether some portion of the load was a different type of waste. For example, while a driver would typically identify waste collected from dumpsters at a condominium complex or apartment building as "ICI" waste – especially if it were collected as part of an ICI route – that waste is actually residential MSW even though it is collected commercially.

If the driver reported that his load included MSW from condominiums or apartments, then the surveyor would ask the driver to estimate what percent of the MSW on the truck was from condominiums or apartments and what percent was from businesses. Similarly, a driver of a rear loading packer truck typically used to collect residential waste might report that they had collected from some small businesses on the residential route, in which case the driver would be asked to estimate what percent was business waste.

Drivers of the large transfer trailers delivering waste to the surveyed facilities were not surveyed because there was no way for the driver to know what type of waste was in the transfer trailers. This represented a significant amount of the total waste delivered to some surveyed facilities.

A second round of hauler surveys were then carried out in July 2009, with the results of the two rounds of surveying averaged to allocate waste deliveries at each participating facility between residential and ICI MSW. Finally, the total tons by truck type from all five facilities (see Table 4) was used to allocate residential and ICI MSW on a state-wide basis.

These hauler surveys were used to: confirm the number of samples of residential versus ICI waste to be sorted during the second round of sampling and to allocate state-wide disposed MSW quantities—provided by CTDEP— between ICI and residential MSW.

## Allocation of Overall State-wide ICI vs. Residential Waste

Table 4 summarizes the results of the vehicle surveys for each of the five facilities included in the study.<sup>1</sup> For each facility, incoming tonnages are shown for each of the vehicle types carrying residential and ICI waste into the facility for sampling. The residential (3,541) and ICI (2,768) tonnages were then converted to a percentage of the overall incoming tonnage captured during the surveys (6,309 tons). As illustrated by Table 4, residential MSW represents 56% of the incoming tonnage and ICI represents 44%.

**Table 4**  
**ICI / Residential Tons by Truck Type**

Facility	Residential		ICI	
	Residential Transfer	Packer Loads	Compacted Dropboxes	Packer Loads
Bristol Resource Recovery Facility	88	594	101	332
CRRA Mid-CT (Hartford) RRF	78	1291	232	805
CRRA Southeastern Project (Preston) RRF	153	477	136	361
New Haven Municipal Transfer Station	6	235	60	199
Wheelabrator Bridgeport RRF	63	556	139	403
<b>Subtotals</b>	<i>388</i>	<i>3153</i>	<i>668</i>	<i>2100</i>
	Residential		ICI	
<b>Total Tons</b>	<b>3541</b>		<b>2768</b>	
<b>Percentages</b>	<b>56%</b>		<b>44%</b>	

These percentages were then applied to the State of Connecticut's CY 2009 total disposed tonnage figure of 2,379,687 tons, which was allocated as 1,334,651 tons (56%) of residential waste and 1,045,036 tons (44%) of ICI waste.

The Project Team believes it is important to recognize that the allocation of ICI and residential waste for all waste generated in Connecticut – encompassing wastes disposed *in-state* as well as wastes that are *exported* for final disposal – may differ from the allocation derived from the truck surveys performed for this project, which encompassed only wastes that are disposed *in-state*.

Four out of the five host facilities in this study – at which the truck surveys were conducted – are waste-to-energy facilities that have waste flows guaranteed by a range of flow control and/or municipally contracted arrangements. The municipalities that supply wastes to these facilities have much greater control over residentially generated wastes, which are (in Connecticut as well as nationally) predominantly managed by municipal governments. Conversely, commercial

<sup>1</sup>The Wheelabrator Bridgeport RRF facility was surveyed by DSM during the first season on March 2, 2009 during a winter storm. No Residential Transfer Trucks (40 yard open and closed roll offs with residential waste) were delivered on that day due to the storm. Therefore, tonnage data from February 27, 2009 (a day that MSW Consultants collected samples) was requested from the Wheelabrator Bridgeport RRF facility to better represent normal conditions. Table 4, a summary of both seasons, includes the February 27, 2009 data from Wheelabrator Bridgeport RRF and was used to allocate the facility specific sampling data presented in the composition tables.

waste generators are more commonly required to seek waste collection and disposal service directly from private haulers (i.e., open market), who may or may not opt to deliver these wastes to the local WTE facility. There are 137 permitted transfer stations in Connecticut. It is possible that a majority of the tons delivered to the larger transfer stations was ICI wastes, which could bypass in-state WTE facilities and be disposed at landfills in other states.

Therefore, although the Project Team believes the results of the truck survey are representative of the origin of wastes received at the five host facilities, and most likely representative of the universe of wastes generated and disposed *within* the boundaries of Connecticut, it may be that the ICI/Residential allocation percentages derived in this exercise understate the contribution of ICI waste to the statewide (i.e., in-state disposed plus exports) waste stream.<sup>2</sup>

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<sup>2</sup> Allocation of waste between residential and ICI sources is a common problem in many states. DSM conducted a detailed study to allocate wastes generated in Delaware, where virtually all wastes generated in the State are disposed at Delaware Solid Waste Authority landfills, and determined that the allocation in Delaware was 45% ICI and 55% residential. It is also possible that the economic recession impacted on the survey data gathered by DSM in 2009.

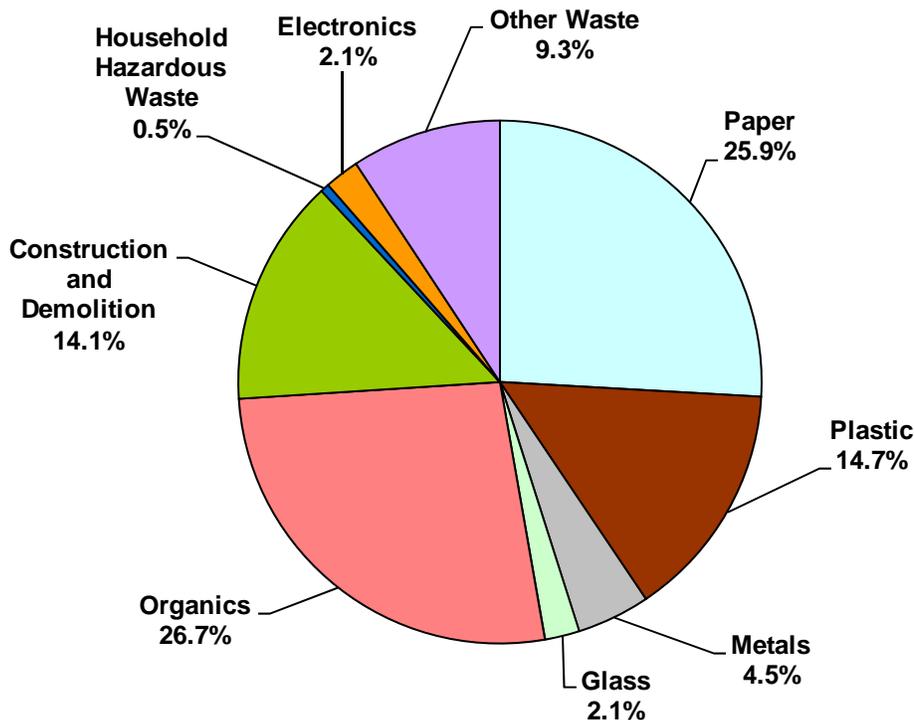
## Statewide Waste Composition

This section presents the estimated composition of all MSW disposed at Connecticut disposal facilities, based on the allocation of statewide MSW between residential and ICI waste as described above. The results are presented as follows: First, Figure 2 graphically depicts the composition by the nine broad material classes: paper; plastic; metal; glass; organics; construction and demolition; household hazardous waste; electronics; and, other waste. Second, Table 5 presents the ten most prevalent materials, by weight. Finally, Table 6 presents the full composition results for all waste materials.

These tables are followed by a presentation of the estimated composition of the statewide residential waste stream and the statewide ICI waste stream.

Figure 2 presents the proportion of the nine main classes of material in the overall waste stream, based on their share of the overall tonnage. At nearly 27%, **Organics** made up the largest share of the overall waste stream. **Paper** followed at nearly 26% while both **Plastic** and **Construction and Demolition** each represented over 14% of the Connecticut overall disposed waste stream.

**Figure 2: Overview of Waste Composition – Overall Statewide Disposed Waste**



In calendar year 2009, residents and businesses disposed of 2,380,000 tons of MSW (rounded) at Connecticut facilities. Based on this tonnage disposal estimate, of the 68 material categories included in the Waste Characterization, Table 5 presents the ten most common materials, by weight, in the statewide disposed MSW stream, arranged in descending order.

*Food waste* was the most prevalent material, at over 320,000 tons (14%). Other large components included *compostable paper* (8%), *leave and grass* (7%) *OCC/Kraft paper* (6%), and treated wood (5%). Total, statewide MSW composition, representing all 68 materials, is presented in Table 6. Approximately 19% of the materials listed in Table 6 are State mandated recyclables.

**Table 5**  
**Ten Most Common Materials, by Weight – Overall Statewide Disposed Waste**

<b>Material</b>	<b>Est. Percent</b>	<b>Cum. Percent</b>	<b>Est. Tons</b>
Food Waste	13.5%	13.5%	321,481
Compostable Paper	8.2%	21.7%	195,185
Leaves & Grass	7.2%	29.0%	172,408
OCC/Kraft Paper	5.8%	34.8%	138,240
Wood - Treated	4.7%	39.4%	111,404
Durable Plastic Items	3.6%	43.1%	86,325
Other Recyclable Paper	3.6%	46.7%	85,517
Other Film	3.5%	50.2%	83,478
Carpet	3.5%	53.7%	83,125
R/C Organic	3.2%	56.8%	75,195
<b>Total</b>	<b>56.8%</b>		<b>1,352,359</b>

**Table 6  
Detailed Composition, Statewide Disposed MSW**

Material	Est. Percent	+ / -	Stand. Dev.	Est. Tons	Material	Est. Percent	+ / -	Stand. Dev.	Est. Tons
<b>Paper</b>	<b>25.9%</b>			<b>616,223</b>	<b>Organics</b>	<b>26.7%</b>			<b>636,215</b>
OCC/Kraft Paper	5.8%	0.6%	0.39%	138,240	Food Waste	13.5%	1.2%	0.74%	321,481
Offshore Cardboard	0.4%	0.1%	0.08%	10,357	Branches & Stumps	0.4%	0.3%	0.17%	10,149
High Grade Office Paper	1.7%	0.4%	0.22%	41,229	Prunings & Trimmings	2.2%	1.1%	0.68%	51,550
Magazines/Catalogs	1.3%	0.2%	0.11%	30,570	Leaves & Grass	7.2%	1.4%	0.87%	172,408
Newsprint	2.0%	0.6%	0.36%	47,510	Manures	0.2%	0.1%	0.09%	5,432
Phone Books & Directories	0.3%	0.1%	0.08%	7,797	R/C Organic	3.2%	0.5%	0.28%	75,195
Other Recyclable Paper	3.6%	0.3%	0.19%	85,517					
Compostable Paper	8.2%	0.7%	0.43%	195,185	<b>Construction and Demolition</b>	<b>14.1%</b>			<b>334,817</b>
R/C Paper	2.5%	0.5%	0.32%	59,819	Asphalt, Brick, & Concrete	0.1%	0.1%	0.06%	2,752
					Wood - Treated	4.7%	1.0%	0.62%	111,404
<b>Plastic</b>	<b>14.7%</b>			<b>349,480</b>	Wood - Untreated	2.7%	0.7%	0.40%	63,566
PET Bottles/Jars (non-haz)	0.5%	0.1%	0.03%	12,531	Asphalt Roofing	0.3%	0.3%	0.19%	6,145
PET Containers-non bottles (non-haz)	0.1%	0.0%	0.02%	3,126	Drywall/Gypsum Board	0.6%	0.5%	0.33%	15,263
Plastic CT Dep. Bev. Containers	0.5%	0.3%	0.18%	10,734	Carpet	3.5%	1.9%	1.12%	83,125
HDPE Bottles (non-haz)	0.5%	0.1%	0.05%	10,829	Carpet Padding	0.8%	0.4%	0.23%	17,945
HDPE Containers other than Bottles	0.2%	0.0%	0.03%	4,398	R/C C&D	1.5%	0.4%	0.24%	34,616
Plastic Containers #3-#7 (non-haz)	0.5%	0.1%	0.06%	11,546					
Expanded Poly. Non-Food Grade	0.8%	0.6%	0.34%	20,095	<b>Household Hazardous Waste (HHW)</b>	<b>0.5%</b>			<b>12,986</b>
Expanded Poly. Food-grade	0.7%	0.1%	0.07%	16,021	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%	142
Durable Plastic Items	3.6%	0.8%	0.48%	86,325	Batteries - Lead Acid	0.0%	0.0%	0.01%	178
Film	0.6%	0.2%	0.09%	13,329	Other Batteries	0.1%	0.0%	0.01%	1,562
Grocery/Merchandise Bags	0.5%	0.1%	0.03%	11,823	Paint	0.0%	0.0%	0.03%	815
Other Film	3.5%	0.3%	0.20%	83,478	Sharps	0.0%	0.0%	0.01%	281
Pallets - Plastic	0.3%	0.2%	0.10%	6,989	Vehicle & Equipment Fluids	0.0%	0.0%	0.02%	950
R/C Plastic	2.4%	0.4%	0.24%	58,258	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.1%	0.04%	4,298
					Pesticides & Fertilizers	0.0%	0.0%	0.00%	50
<b>Metal</b>	<b>4.5%</b>			<b>107,475</b>	Other Hazardous Waste & HHW	0.2%	0.2%	0.10%	4,711
Alc. Beverage Containers	0.1%	0.0%	0.01%	1,249					
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.03%	3,519	<b>Electronics</b>	<b>2.1%</b>			<b>50,738</b>
Tin/Steel Containers	0.8%	0.1%	0.08%	18,878	Computer-related Electronics	0.4%	0.2%	0.15%	9,125
Other Ferrous	1.6%	0.4%	0.27%	38,452	Other Small Consumer Electronics	0.4%	0.1%	0.09%	10,225
Other Non-Ferrous	0.6%	0.3%	0.20%	14,936	TVs and Computer Monitors	1.0%	0.5%	0.33%	22,734
Appliances	0.5%	0.3%	0.19%	12,185	Other Large Electronics	0.4%	0.3%	0.17%	8,655
Compressed Fuel Containers	0.1%	0.1%	0.05%	1,849					
R/C Metal	0.7%	0.2%	0.14%	16,408	<b>Other Waste</b>	<b>9.3%</b>			<b>220,687</b>
					Bulky Items	2.5%	0.8%	0.50%	60,223
<b>Glass</b>	<b>2.1%</b>			<b>51,065</b>	Textiles (other than carpet)	4.1%	0.6%	0.34%	96,521
Clear & Amber Glass Containers	1.2%	0.5%	0.30%	27,659	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.01%	196
Green & Other Colored Glass Cont.	0.2%	0.1%	0.04%	4,272	Bottom Fines & Dirt	1.4%	0.2%	0.10%	33,303
Glass CT Dep. Bev. Containers	0.3%	0.1%	0.08%	7,364	Other Miscellaneous	1.3%	0.4%	0.22%	30,445
Flat Glass - Uncoated	0.2%	0.1%	0.06%	3,621					
R/C Glass	0.3%	0.3%	0.16%	8,150					
					<b>Totals</b>	<b>100.0%</b>			
					<b>Sample Count</b>	<b>258</b>			
					<b>Tonnage</b>	<b>2,379,687</b>			

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## Residential Waste Composition

The residential waste composition is based on 98 samples analyzed over two seasons. Figure 3 presents a breakdown of the nine main classes of material in this residential stream, assuming that residential waste represents 1,335,000 tons (rounded) of total disposed MSW. At just over 32%, **Organics** made up the largest share of the residential waste stream. **Paper** followed at 25% and **Plastic** represented 13% of the residential stream.

**Figure 3: Overview of Waste Composition – Statewide Residential Disposed Waste**

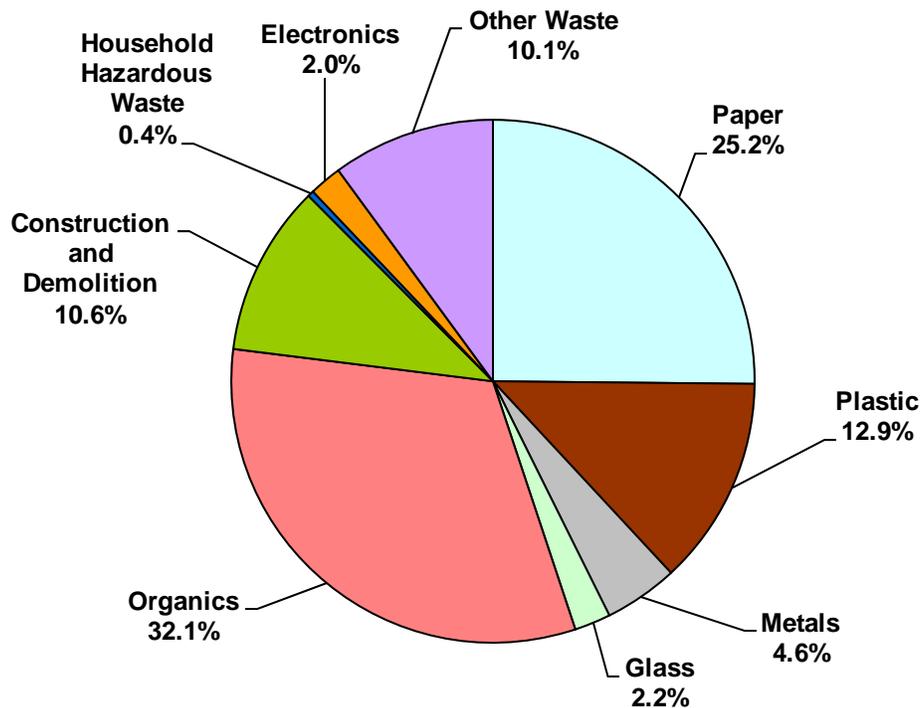


Table 7 presents the ten most common materials, by weight, in the overall disposed residential waste stream. *Food waste* was the most prevalent material, at over 195,000 tons (14%). Other large components included *leaves and grass* (11%), *compostable paper* (10%), *other recyclable paper*, *R/C organics*, *carpet*, *other film*, and *treated wood*, each representing nearly 4% of the residential waste stream. Complete residential MSW composition, representing all 68 materials, is presented in Table 8.

**Table 7**  
**Ten Most Common Materials, by Weight – Overall Residential Disposed Waste**

<b>Material</b>	<b>Est. Percent</b>	<b>Cum. Percent</b>	<b>Est. Tons</b>
Food Waste	13.7%	13.7%	195,894
Leaves & Grass	10.7%	24.4%	152,383
Compostable Paper	9.8%	34.2%	140,561
Other Recyclable Paper	4.2%	38.4%	59,474
R/C Organic	4.0%	42.4%	56,790
Carpet	4.0%	46.4%	56,708
Other Film	3.9%	50.2%	55,501
Wood - Treated	3.8%	54.1%	54,798
Prunings & Trimmings	3.1%	57.2%	44,272
Durable Plastic Items	2.8%	60.0%	40,420
<b>Total</b>	<b>60.0%</b>		<b>856,801</b>

**Table 8  
Statewide Residential Disposed Waste**

Material	Est. Percent	+ / -	Stand. Dev.	Est. Tons	Material	Est. Percent	+ / -	Stand. Dev.	Est. Tons
<b>Paper</b>	<b>25.2%</b>			<b>335,752</b>	<b>Organics</b>	<b>32.1%</b>			<b>428,088</b>
OCC/Kraft Paper	2.7%	0.6%	0.39%	35,683	Food Waste	13.7%	1.6%	0.97%	183,112
Offshore Cardboard	0.4%	0.1%	0.09%	4,722	Branches & Stumps	0.3%	0.3%	0.20%	4,139
High Grade Office Paper	1.5%	0.5%	0.30%	19,445	Prunings & Trimmings	3.1%	1.9%	1.19%	41,384
Magazines/Catalogs	1.6%	0.3%	0.18%	21,787	Leaves & Grass	10.7%	2.4%	1.46%	142,441
Newsprint	2.3%	1.0%	0.60%	30,903	Manures	0.3%	0.2%	0.14%	3,928
Phone Books & Directories	0.3%	0.2%	0.10%	4,163	R/C Organic	4.0%	0.5%	0.31%	53,084
Other Recyclable Paper	4.2%	0.4%	0.26%	55,594	<b>Construction and Demolition</b>	<b>10.6%</b>			<b>141,057</b>
Compostable Paper	9.8%	1.1%	0.66%	131,389	Asphalt, Brick, & Concrete	0.0%	0.0%	0.03%	665
R/C Paper	2.4%	0.3%	0.19%	32,065	Wood - Treated	3.8%	1.3%	0.80%	51,222
<b>Plastic</b>	<b>12.9%</b>			<b>172,626</b>	Wood - Untreated	0.5%	0.2%	0.13%	7,225
PET Bottles/Jars (non-haz)	0.6%	0.1%	0.04%	7,779	Asphalt Roofing	0.1%	0.1%	0.03%	698
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.03%	2,076	Drywall/Gypsum Board	0.7%	0.9%	0.54%	8,969
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.04%	2,942	Carpet	4.0%	3.2%	1.93%	53,008
HDPE Bottles (non-haz)	0.5%	0.1%	0.05%	6,691	Carpet Padding	0.4%	0.2%	0.14%	5,007
HDPE Containers other than Bottles	0.2%	0.0%	0.03%	2,018	R/C C&D	1.1%	0.4%	0.22%	14,263
Plastic Containers #3-#7 (non-haz)	0.5%	0.1%	0.06%	7,041	<b>Household Hazardous Waste (HHW)</b>	<b>0.4%</b>			<b>5,147</b>
Expanded Poly. Non-Food Grade	0.1%	0.0%	0.02%	1,196	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%	36
Expanded Poly. Food-grade	0.8%	0.2%	0.10%	10,160	Batteries - Lead Acid	0.0%	0.0%	0.00%	26
Durable Plastic Items	2.8%	0.9%	0.57%	37,782	Other Batteries	0.1%	0.0%	0.02%	1,101
Film	0.4%	0.1%	0.09%	5,678	Paint	0.1%	0.1%	0.05%	744
Grocery/Merchandise Bags	0.7%	0.1%	0.05%	9,005	Sharps	0.0%	0.0%	0.00%	125
Other Film	3.9%	0.5%	0.32%	51,880	Vehicle & Equipment Fluids	0.0%	0.0%	0.01%	271
Pallets - Plastic	0.1%	0.1%	0.06%	1,423	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.03%	1,443
R/C Plastic	2.0%	0.3%	0.16%	26,953	Pesticides & Fertilizers	0.0%	0.0%	0.00%	22
<b>Metal</b>	<b>4.6%</b>			<b>60,953</b>	Other Hazardous Waste & HHW	0.1%	0.1%	0.05%	1,378
Alc. Beverage Containers	0.1%	0.0%	0.03%	866	<b>Electronics</b>	<b>2.0%</b>			<b>26,811</b>
Alc. CT Dep. Bev. Containers	0.1%	0.0%	0.02%	1,507	Computer-related Electronics	0.1%	0.1%	0.06%	1,637
Tin/Steel Containers	0.9%	0.2%	0.10%	12,297	Other Small Consumer Electronics	0.6%	0.2%	0.14%	7,369
Other Ferrous	1.5%	0.6%	0.36%	19,389	TVs and Computer Monitors	1.1%	0.9%	0.54%	15,021
Other Non-Ferrous	0.8%	0.6%	0.36%	10,818	Other Large Electronics	0.2%	0.2%	0.11%	2,784
Appliances	0.7%	0.5%	0.33%	8,934	<b>Other Waste</b>	<b>10.1%</b>			<b>134,295</b>
Compressed Fuel Containers	0.0%	0.0%	0.01%	116	Bulky Items	2.2%	1.1%	0.67%	29,341
R/C Metal	0.5%	0.2%	0.14%	7,026	Textiles (other than carpet)	5.4%	0.9%	0.55%	71,819
<b>Glass</b>	<b>2.2%</b>			<b>29,921</b>	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.01%	102
Clear & Amber Glass Containers	1.3%	0.6%	0.38%	16,862	Bottom Fines & Dirt	1.8%	0.3%	0.16%	23,903
Green & Other Colored Glass Cont.	0.2%	0.1%	0.06%	2,279	Other Miscellaneous	0.7%	0.3%	0.17%	9,130
Glass CT Dep. Bev. Containers	0.3%	0.2%	0.11%	3,760	<b>Totals</b>	<b>100.0%</b>			
Flat Glass - Uncoated	0.0%	0.0%	0.02%	293	<b>Sample Count</b>	<b>98</b>			
R/C Glass	0.5%	0.5%	0.28%	6,729		<b>1,334,651</b>			

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

One of the benefits of separately reporting residential from ICI waste is that it provides a clearer picture of certain materials that are more predominantly generated by one or the other generator. The following observations can be made about residential wastes in Connecticut:

- The contribution of Other (Mixed) Recyclable papers is higher from the residential waste stream. This suggests that advances in single stream recycling, in tandem with expanding the targeted list of paper grades, should have some impact in diverting incremental residential wastes.
- Compostable papers – such as tissues, napkins, paper towels, and paper plates/cups – are more commonly generated by residential generators.
- It should be noted that Other Film usually contains a significant fraction of liquid and particulate contamination because of its high surface to volume ratio and pliancy. The 3.9 percent estimated amount of Other Film is probably double the dry weight of this material.
- Residential generators contribute a higher percentage of glass beverage containers to the disposed waste stream, again suggesting that improvements in existing curbside recycling programs are still possible.

- Leaves, grass, and pruning/trimming are predominantly disposed in residential waste. Despite a more limited growing season in Connecticut compared to other regions of the country, it is possible that expansion of green waste collection program access would provide meaningful incremental diversion.
- Residential generators contributed relatively lower fractions of HHW. This suggests that residents are informed about the hazards of improper HHW disposal, and that HHW programs are accessible in Connecticut.
- Residential generators contribute TVs and computer monitors to the disposed electronics waste stream, but not so much other types of electronics including computers.
- Textile disposal is driven significantly by the residential sector.

## ICI Waste Composition

ICI waste composition is based on 160 samples analyzed over two seasons. Assuming that ICI represented 44% of the total MSW disposed, then roughly 1,045,000 tons (rounded) of ICI wastes were disposed in 2009. Figure 4 presents the nine main classes of material in this overall ICI waste stream, based on their share of the overall tonnage. At nearly 27%, **Paper** made up the largest share of the overall waste stream. **Organics** followed at nearly 20%, **Construction and Demolition** at over 18%, and **Plastic** at nearly 17%.

Figure 4: Overview of Waste Composition –Statewide ICI Disposed Waste

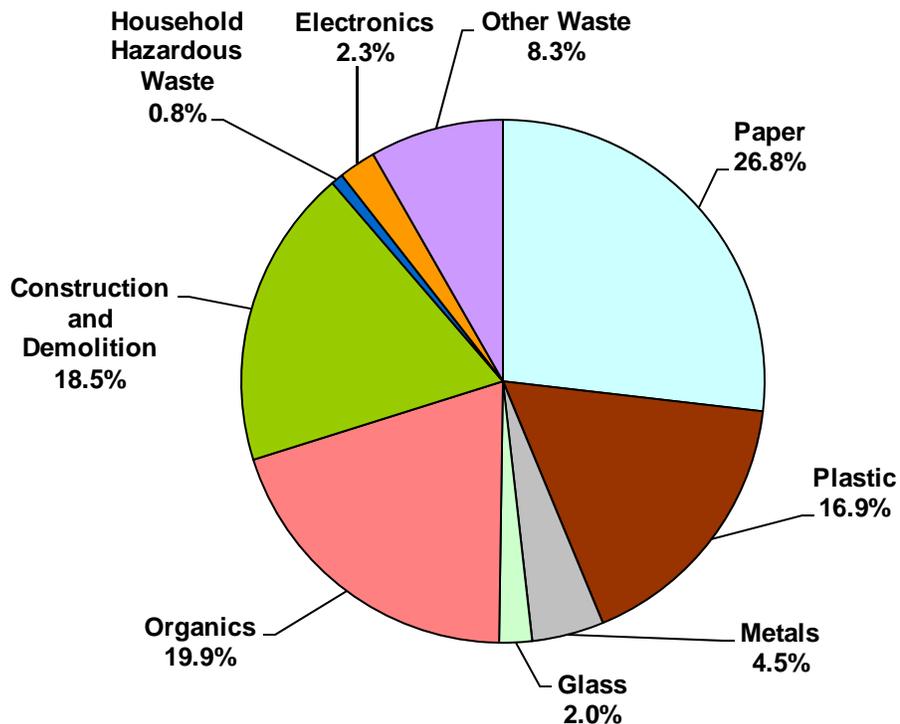


Table 9 presents the ten most common materials, by weight, found in the ICI waste stream, arranged in descending order. *Food waste* was the most prevalent material with over 138,000 tons (13%). Other large components included *OCC/Kraft paper* (10%), *compostable paper* (6%), *treated wood* (6%) and *untreated wood* (5%). Full composition results for all 68 materials are presented in Table 10.

**Table 9**  
**Ten Most Common Materials, by Weight – Overall Statewide ICI Disposed Waste**

<b>Material</b>	<b>Est. Percent</b>	<b>Cum. Percent</b>	<b>Est. Tons</b>
Food Waste	13.2%	13.2%	138,369
OCC/Kraft Paper	9.8%	23.1%	102,556
Compostable Paper	6.1%	29.2%	63,795
Wood - Treated	5.8%	34.9%	60,182
Wood - Untreated	5.4%	40.3%	56,340
Durable Plastic Items	4.6%	45.0%	48,543
Other Film	3.0%	48.0%	31,598
R/C Plastic	3.0%	51.0%	31,305
Carpet	2.9%	53.9%	30,117
Leaves & Grass	2.9%	56.7%	29,968
<b>Total</b>	<b>56.7%</b>		<b>592,774</b>

**Table 10  
Statewide ICI Disposed Waste**

Material	Est. Percent	+ / -	Stand. Dev.	Est. Tons	Material	Est. Percent	+ / -	Stand. Dev.	Est. Tons
<b>Paper</b>	<b>26.8%</b>			<b>280,471</b>	<b>Organics</b>	<b>19.9%</b>			<b>208,127</b>
OCC/Kraft Paper	9.8%	1.2%	0.73%	102,556	Food Waste	13.2%	1.9%	1.14%	138,369
Offshore Cardboard	0.5%	0.2%	0.14%	5,635	Branches & Stumps	0.6%	0.5%	0.31%	6,010
High Grade Office Paper	2.1%	0.5%	0.32%	21,784	Prunings & Trimmings	1.0%	0.5%	0.28%	10,166
Magazines/Catalogs	0.8%	0.2%	0.10%	8,783	Leaves & Grass	2.9%	1.1%	0.66%	29,968
Newsprint	1.6%	0.5%	0.31%	16,607	Manures	0.1%	0.2%	0.09%	1,503
Phone Books & Directories	0.3%	0.2%	0.13%	3,634	R/C Organic	2.1%	0.8%	0.51%	22,111
Other Recyclable Paper	2.9%	0.5%	0.30%	29,923					
Compostable Paper	6.1%	0.8%	0.51%	63,795	<b>Construction and Demolition</b>	<b>18.5%</b>			<b>193,759</b>
R/C Paper	2.7%	1.2%	0.70%	27,754	Asphalt, Brick, & Concrete	0.2%	0.2%	0.14%	2,086
					Wood - Treated	5.8%	1.6%	0.99%	60,182
<b>Plastic</b>	<b>16.9%</b>			<b>176,854</b>	Wood - Untreated	5.4%	1.5%	0.89%	56,340
PET Bottles/Jars (non-haz)	0.5%	0.1%	0.06%	4,751	Asphalt Roofing	0.5%	0.7%	0.44%	5,447
PET Containers-non bottles (non-haz)	0.1%	0.0%	0.02%	1,049	Drywall/Gypsum Board	0.6%	0.5%	0.29%	6,294
Plastic CT Dep. Bev. Containers	0.7%	0.7%	0.40%	7,792	Carpet	2.9%	1.2%	0.71%	30,117
HDPE Bottles (non-haz)	0.4%	0.2%	0.10%	4,137	Carpet Padding	1.2%	0.8%	0.50%	12,938
HDPE Containers other than Bottles	0.2%	0.1%	0.05%	2,380	R/C C&D	1.9%	0.8%	0.47%	20,354
Plastic Containers #3-#7 (non-haz)	0.4%	0.2%	0.12%	4,504					
Expanded Poly. Non-Food Grade	1.8%	1.3%	0.77%	18,899	<b>Household Hazardous Waste (HHW)</b>	<b>0.8%</b>			<b>7,839</b>
Expanded Poly. Food-grade	0.6%	0.2%	0.10%	5,861	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%	106
Durable Plastic Items	4.6%	1.4%	0.83%	48,543	Batteries - Lead Acid	0.0%	0.0%	0.01%	151
Film	0.7%	0.3%	0.18%	7,650	Other Batteries	0.0%	0.0%	0.01%	461
Grocery/Merchandise Bags	0.3%	0.1%	0.04%	2,818	Paint	0.0%	0.0%	0.01%	71
Other Film	3.0%	0.4%	0.22%	31,598	Sharps	0.0%	0.0%	0.01%	156
Pallets - Plastic	0.5%	0.4%	0.22%	5,566	Vehicle & Equipment Fluids	0.1%	0.1%	0.04%	679
R/C Plastic	3.0%	0.8%	0.51%	31,305	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.3%	0.1%	0.09%	2,855
					Pesticides & Fertilizers	0.0%	0.0%	0.00%	28
<b>Metal</b>	<b>4.5%</b>			<b>46,523</b>	Other Hazardous Waste & HHW	0.3%	0.4%	0.22%	3,333
Alc. Beverage Containers	0.0%	0.0%	0.00%	382					
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.07%	2,012	<b>Electronics</b>	<b>2.3%</b>			<b>23,928</b>
Tin/Steel Containers	0.6%	0.2%	0.14%	6,581	Computer-related Electronics	0.7%	0.5%	0.33%	7,488
Other Ferrous	1.8%	0.7%	0.40%	19,063	Other Small Consumer Electronics	0.3%	0.1%	0.09%	2,856
Other Non-Ferrous	0.4%	0.1%	0.06%	4,118	TVs and Computer Monitors	0.7%	0.5%	0.32%	7,713
Appliances	0.3%	0.2%	0.15%	3,250	Other Large Electronics	0.6%	0.6%	0.36%	5,871
Compressed Fuel Containers	0.2%	0.2%	0.12%	1,733					
R/C Metal	0.9%	0.4%	0.27%	9,382	<b>Other Waste</b>	<b>8.3%</b>			<b>86,392</b>
					Bulky Items	3.0%	1.2%	0.74%	30,881
<b>Glass</b>	<b>2.0%</b>			<b>21,144</b>	Textiles (other than carpet)	2.4%	0.5%	0.32%	24,702
Clear & Amber Glass Containers	1.0%	0.8%	0.48%	10,797	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.01%	94
Green & Other Colored Glass Cont.	0.2%	0.1%	0.06%	1,993	Bottom Fines & Dirt	0.9%	0.1%	0.08%	9,400
Glass CT Dep. Bev. Containers	0.3%	0.2%	0.12%	3,604	Other Miscellaneous	2.0%	0.7%	0.45%	21,315
Flat Glass - Uncoated	0.3%	0.2%	0.14%	3,328					
R/C Glass	0.1%	0.0%	0.03%	1,422	<b>Totals</b>	<b>100.0%</b>			
					<b>Sample Count</b>	<b>160</b>			
					<b>Tonnage</b>	<b>1,045,036</b>			

A number of interesting observations can be made about ICI waste and its relative contribution to the aggregate disposed waste stream:

- OCC and High Grade Office paper are predominantly contributed by ICI generators. This highlights the potential to increase commercial recycling.
- Durable Plastic Items are disposed at a higher rate by the ICI sector.
- Leaves, grass and pruning/trimmings are not widely disposed from the ICI sector. It is more likely that these green wastes are separately managed and processed outside of the MSW disposal facility network by landscapers and grounds keeping companies.
- ICI generators contributed a higher proportion of HHW materials, including a number of “not elsewhere classified” HHW materials.
- Although ICI generators disposed of a slightly lower fraction of electronics as a whole, ICI generators contribute a larger fraction of Computer-related Electronics and Other Large Electronics.

## Waste Composition, by Facility, Season One

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This section provides waste composition data (but not disposed quantity calculations) for each of the five host facilities for season one. It is important to note that the seasonal composition estimates, and especially the composition estimates for each individual host facility, are based on a significantly smaller number of samples compared to the state-wide results in the prior section. Accordingly, the confidence intervals for these results are significantly wider, and readers are cautioned in relying on the reported sample mean composition. However, the data by facility and by season are useful for planning purposes.

## Bristol Resource Recovery Facility

Twenty-four samples were collected during season one: 12 residential and 12 ICI. Tables 11 through 13 present overall waste composition, residential, and ICI composition, respectively.

**Table 11**  
**Overall Waste Season One - Bristol Resource Recovery Facility**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>31.4%</b>			<b>Organics</b>	<b>21.7%</b>		
OCC/Kraft Paper	5.6%	1.9%	1.17%	Food Waste	12.1%	3.7%	2.27%
Offshore Cardboard	0.8%	0.8%	0.47%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	4.0%	2.3%	1.38%	Prunings & Trimmings	2.8%	3.0%	1.82%
Magazines/Catalogs	1.7%	0.7%	0.43%	Leaves & Grass	1.3%	1.7%	1.03%
Newsprint	1.7%	0.6%	0.35%	Manures	0.3%	0.5%	0.30%
Phone Books & Directories	0.2%	0.2%	0.12%	R/C Organic	5.2%	1.8%	1.06%
Other Recyclable Paper	2.2%	0.8%	0.46%				
Compostable Paper	9.4%	2.2%	1.37%	<b>Construction and Demolition</b>	<b>11.2%</b>		
R/C Paper	5.8%	2.3%	1.39%	Asphalt, Brick, & Concrete	0.1%	0.1%	0.07%
				Wood - Treated	5.8%	3.1%	1.87%
<b>Plastic</b>	<b>14.9%</b>			Wood - Untreated	0.6%	0.5%	0.32%
PET Bottles/Jars (non-haz)	0.9%	0.3%	0.20%	Asphalt Roofing	0.0%	0.0%	0.02%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.06%	Drywall/Gypsum Board	0.1%	0.1%	0.04%
Plastic CT Dep. Bev. Containers	0.2%	0.0%	0.02%	Carpet	2.4%	3.0%	1.83%
HDPE Bottles (non-haz)	0.6%	0.2%	0.11%	Carpet Padding	0.6%	1.0%	0.60%
HDPE Containers other than Bottles	0.2%	0.2%	0.10%	R/C C&D	1.7%	1.2%	0.74%
Plastic Containers #3-#7 (non-haz)	0.5%	0.2%	0.14%				
Expanded Poly. Non-Food Grade	0.2%	0.1%	0.06%	<b>Household Hazardous Waste (HHW)</b>	<b>1.0%</b>		
Expanded Poly. Food-grade	0.6%	0.2%	0.10%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	1.8%	1.7%	1.03%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.9%	1.2%	0.75%	Other Batteries	0.2%	0.2%	0.10%
Grocery/Merchandise Bags	0.7%	0.2%	0.14%	Paint	0.5%	0.7%	0.44%
Other Film	4.4%	0.6%	0.34%	Sharps	0.0%	0.0%	0.01%
Pallets - Plastic	0.3%	0.3%	0.20%	Vehicle & Equipment Fluids	0.1%	0.1%	0.06%
R/C Plastic	3.4%	1.0%	0.61%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.2%	0.11%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.9%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.05%
Alc. Beverage Containers	0.0%	0.0%	0.00%				
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.09%	<b>Electronics</b>	<b>1.3%</b>		
Tin/Steel Containers	1.8%	0.9%	0.57%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	0.6%	0.4%	0.22%	Other Small Consumer Electronics	0.8%	0.8%	0.48%
Other Non-Ferrous	0.3%	0.1%	0.08%	TVs and Computer Monitors	0.2%	0.3%	0.17%
Appliances	0.7%	1.1%	0.65%	Other Large Electronics	0.2%	0.3%	0.15%
Compressed Fuel Containers	0.1%	0.2%	0.10%				
R/C Metal	1.2%	1.6%	0.97%	<b>Other Waste</b>	<b>9.6%</b>		
				Bulky Items	1.0%	1.2%	0.72%
<b>Glass</b>	<b>3.9%</b>			Textiles (other than carpet)	5.5%	1.4%	0.88%
Clear & Amber Glass Containers	1.0%	0.3%	0.16%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.09%	Bottom Fines & Dirt	1.5%	0.4%	0.25%
Glass CT Dep. Bev. Containers	0.1%	0.1%	0.06%	Other Miscellaneous	1.6%	0.8%	0.48%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	2.7%	4.1%	2.50%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>24</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 12**  
**Residential Waste Season One - Bristol Resource Recovery Facility**

<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>	<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>
<b>Paper</b>	<b>31.7%</b>			<b>Organics</b>	<b>22.9%</b>		
OCC/Kraft Paper	2.3%	0.8%	0.48%	Food Waste	13.9%	4.7%	2.86%
Offshore Cardboard	0.1%	0.1%	0.04%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	4.4%	2.9%	1.76%	Prunings & Trimmings	1.6%	2.4%	1.48%
Magazines/Catalogs	1.9%	0.9%	0.54%	Leaves & Grass	0.4%	0.4%	0.26%
Newsprint	2.0%	0.7%	0.45%	Manures	0.4%	0.6%	0.39%
Phone Books & Directories	0.3%	0.3%	0.15%	R/C Organic	6.6%	2.3%	1.39%
Other Recyclable Paper	2.7%	1.0%	0.60%	<b>Construction and Demolition</b>	<b>8.5%</b>		
Compostable Paper	11.0%	2.9%	1.75%	Asphalt, Brick, & Concrete	0.1%	0.2%	0.10%
R/C Paper	7.0%	3.0%	1.80%	Wood - Treated	2.5%	1.8%	1.11%
<b>Plastic</b>	<b>15.1%</b>			Wood - Untreated	0.5%	0.6%	0.34%
PET Bottles/Jars (non-haz)	1.1%	0.4%	0.26%	Asphalt Roofing	0.0%	0.0%	0.03%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.08%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.2%	0.0%	0.03%	Carpet	3.1%	3.9%	2.39%
HDPE Bottles (non-haz)	0.7%	0.2%	0.15%	Carpet Padding	0.8%	1.3%	0.78%
HDPE Containers other than Bottles	0.1%	0.0%	0.03%	R/C C&D	1.6%	1.5%	0.91%
Plastic Containers #3-#7 (non-haz)	0.6%	0.3%	0.19%	<b>Household Hazardous Waste (HHW)</b>	<b>1.1%</b>		
Expanded Poly. Non-Food Grade	0.2%	0.1%	0.05%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	0.7%	0.2%	0.12%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	2.0%	2.2%	1.33%	Other Batteries	0.1%	0.1%	0.07%
Film	0.0%	0.1%	0.03%	Paint	0.6%	0.9%	0.57%
Grocery/Merchandise Bags	0.9%	0.3%	0.18%	Sharps	0.0%	0.0%	0.02%
Other Film	5.2%	0.7%	0.43%	Vehicle & Equipment Fluids	0.1%	0.1%	0.08%
Pallets - Plastic	0.1%	0.2%	0.15%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.2%	0.15%
R/C Plastic	3.2%	1.0%	0.61%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>5.4%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.05%
Alc. Beverage Containers	0.0%	0.0%	0.00%	<b>Electronics</b>	<b>1.2%</b>		
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.05%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	2.1%	1.2%	0.74%	Other Small Consumer Electronics	1.0%	1.0%	0.62%
Other Ferrous	0.4%	0.2%	0.15%	TVs and Computer Monitors	0.2%	0.3%	0.16%
Other Non-Ferrous	0.3%	0.2%	0.09%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.9%	1.4%	0.85%	<b>Other Waste</b>	<b>9.2%</b>		
Compressed Fuel Containers	0.1%	0.2%	0.10%	Bulky Items	0.1%	0.1%	0.08%
R/C Metal	1.5%	2.1%	1.27%	Textiles (other than carpet)	6.6%	1.8%	1.11%
<b>Glass</b>	<b>5.0%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	1.2%	0.3%	0.21%	Bottom Fines & Dirt	1.8%	0.5%	0.32%
Green & Other Colored Glass Cont.	0.1%	0.2%	0.11%	Other Miscellaneous	0.7%	0.6%	0.38%
Glass CT Dep. Bev. Containers	0.1%	0.1%	0.08%				
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	3.5%	5.4%	3.26%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>12</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 13**  
**ICI Waste Season One - Bristol Resource Recovery Facility**

<b>Material</b>	<b>Est.</b>	<b>Stand.</b>	<b>Material</b>	<b>Est.</b>	<b>Stand.</b>		
	<b>Percent</b>	<b>+ / -</b>		<b>Percent</b>	<b>+ / -</b>		
					<b>Dev.</b>		
<b>Paper</b>	<b>30.5%</b>		<b>Organics</b>	<b>17.7%</b>			
OCC/Kraft Paper	16.6%	7.8%	4.73%	Food Waste	6.1%	4.1%	2.52%
Offshore Cardboard	3.0%	3.3%	2.02%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	2.6%	2.1%	1.28%	Prunings & Trimmings	6.7%	10.0%	6.09%
Magazines/Catalogs	1.0%	0.8%	0.49%	Leaves & Grass	4.4%	7.1%	4.30%
Newsprint	0.7%	0.3%	0.16%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.1%	0.1%	0.06%	R/C Organic	0.6%	0.5%	0.31%
Other Recyclable Paper	0.6%	0.3%	0.17%				
Compostable Paper	3.9%	2.0%	1.19%	<b>Construction and Demolition</b>	<b>20.3%</b>		
R/C Paper	2.1%	1.0%	0.61%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
				Wood - Treated	17.0%	11.7%	7.10%
<b>Plastic</b>	<b>14.4%</b>			Wood - Untreated	0.8%	1.3%	0.77%
PET Bottles/Jars (non-haz)	0.3%	0.1%	0.07%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.0%	0.0%	0.02%	Drywall/Gypsum Board	0.2%	0.3%	0.19%
Plastic CT Dep. Bev. Containers	0.1%	0.1%	0.04%	Carpet	0.1%	0.1%	0.05%
HDPE Bottles (non-haz)	0.3%	0.1%	0.07%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.7%	0.7%	0.41%	R/C C&D	2.3%	1.6%	1.00%
Plastic Containers #3-#7 (non-haz)	0.2%	0.1%	0.07%				
Expanded Poly. Non-Food Grade	0.2%	0.3%	0.18%	<b>Household Hazardous Waste (HHW)</b>	<b>0.6%</b>		
Expanded Poly. Food-grade	0.2%	0.1%	0.06%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%
Durable Plastic Items	1.3%	1.2%	0.70%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	3.9%	5.3%	3.20%	Other Batteries	0.4%	0.6%	0.34%
Grocery/Merchandise Bags	0.3%	0.2%	0.11%	Paint	0.0%	0.0%	0.00%
Other Film	1.9%	0.6%	0.34%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.8%	1.1%	0.69%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	4.1%	2.8%	1.70%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.00%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>3.2%</b>			Other Hazardous Waste & HHW	0.2%	0.2%	0.13%
Alc. Beverage Containers	0.0%	0.0%	0.00%				
Alc. CT Dep. Bev. Containers	0.4%	0.5%	0.33%	<b>Electronics</b>	<b>1.6%</b>		
Tin/Steel Containers	0.7%	0.8%	0.46%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	1.3%	1.4%	0.82%	Other Small Consumer Electronics	0.1%	0.1%	0.05%
Other Non-Ferrous	0.3%	0.2%	0.14%	TVs and Computer Monitors	0.5%	0.9%	0.52%
Appliances	0.0%	0.0%	0.00%	Other Large Electronics	1.0%	1.1%	0.66%
Compressed Fuel Containers	0.3%	0.4%	0.26%				
R/C Metal	0.2%	0.3%	0.15%	<b>Other Waste</b>	<b>11.2%</b>		
				Bulky Items	4.1%	5.1%	3.08%
<b>Glass</b>	<b>0.5%</b>			Textiles (other than carpet)	2.0%	1.6%	0.97%
Clear & Amber Glass Containers	0.2%	0.1%	0.07%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.0%	0.1%	0.05%	Bottom Fines & Dirt	0.4%	0.2%	0.09%
Glass CT Dep. Bev. Containers	0.1%	0.1%	0.04%	Other Miscellaneous	4.7%	2.7%	1.65%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.1%	0.1%	0.09%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>12</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## Wheelabrator Bridgeport RRF

Twenty-four samples were analyzed during season one: 12 residential and 12 ICI. Tables 14 through 16 present overall waste composition, residential and commercial composition, respectively.

**Table 14**  
**Overall Waste Season One - Wheelabrator Bridgeport RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>30.2%</b>			<b>Organics</b>	<b>24.2%</b>		
OCC/Kraft Paper	9.3%	3.0%	1.82%	Food Waste	13.6%	3.6%	2.21%
Offshore Cardboard	0.5%	0.2%	0.13%	Branches & Stumps	1.6%	1.8%	1.12%
High Grade Office Paper	1.6%	0.9%	0.52%	Prunings & Trimmings	1.2%	1.2%	0.70%
Magazines/Catalogs	1.8%	0.7%	0.45%	Leaves & Grass	1.6%	1.4%	0.88%
Newsprint	1.5%	0.4%	0.26%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.2%	0.2%	0.13%	R/C Organic	6.3%	3.7%	2.22%
Other Recyclable Paper	3.8%	0.8%	0.50%				
Compostable Paper	7.8%	1.3%	0.80%	<b>Construction and Demolition</b>	<b>9.3%</b>		
R/C Paper	3.7%	0.9%	0.53%	Asphalt, Brick, & Concrete	0.1%	0.1%	0.09%
				Wood - Treated	1.8%	0.9%	0.53%
<b>Plastic</b>	<b>14.7%</b>			Wood - Untreated	3.0%	3.3%	2.03%
PET Bottles/Jars (non-haz)	0.9%	0.2%	0.15%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.04%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	1.4%	1.8%	1.11%	Carpet	2.0%	1.8%	1.10%
HDPE Bottles (non-haz)	0.5%	0.1%	0.09%	Carpet Padding	0.9%	0.9%	0.53%
HDPE Containers other than Bottles	0.1%	0.0%	0.03%	R/C C&D	1.5%	1.4%	0.86%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.07%				
Expanded Poly. Non-Food Grade	0.1%	0.0%	0.02%	<b>Household Hazardous Waste (HHW)</b>	<b>0.6%</b>		
Expanded Poly. Food-grade	0.6%	0.3%	0.17%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%
Durable Plastic Items	3.0%	1.8%	1.11%	Batteries - Lead Acid	0.0%	0.0%	0.01%
Film	0.1%	0.1%	0.05%	Other Batteries	0.1%	0.1%	0.03%
Grocery/Merchandise Bags	0.7%	0.2%	0.12%	Paint	0.0%	0.0%	0.03%
Other Film	4.1%	0.8%	0.48%	Sharps	0.1%	0.1%	0.06%
Pallets - Plastic	0.3%	0.4%	0.24%	Vehicle & Equipment Fluids	0.0%	0.1%	0.04%
R/C Plastic	2.6%	0.6%	0.38%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.3%	0.4%	0.22%
				Pesticides & Fertilizers	0.0%	0.0%	0.01%
<b>Metal</b>	<b>5.2%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.03%
Alc. Beverage Containers	0.2%	0.2%	0.14%				
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.06%	<b>Electronics</b>	<b>3.8%</b>		
Tin/Steel Containers	0.7%	0.2%	0.13%	Computer-related Electronics	0.7%	1.1%	0.68%
Other Ferrous	1.3%	1.0%	0.62%	Other Small Consumer Electronics	1.3%	1.0%	0.60%
Other Non-Ferrous	0.8%	0.3%	0.19%	TVs and Computer Monitors	0.2%	0.2%	0.14%
Appliances	0.7%	0.9%	0.54%	Other Large Electronics	1.6%	2.6%	1.57%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	1.4%	0.9%	0.53%	<b>Other Waste</b>	<b>8.4%</b>		
				Bulky Items	1.3%	0.7%	0.40%
<b>Glass</b>	<b>3.5%</b>			Textiles (other than carpet)	4.3%	1.3%	0.80%
Clear & Amber Glass Containers	2.7%	3.2%	1.93%	Restaurant Fats, Oils, & Grease	0.0%	0.1%	0.04%
Green & Other Colored Glass Cont.	0.4%	0.2%	0.14%	Bottom Fines & Dirt	1.4%	0.3%	0.18%
Glass CT Dep. Bev. Containers	0.3%	0.1%	0.08%	Other Miscellaneous	1.3%	0.8%	0.50%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.1%	0.1%	0.05%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>24</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 15**  
**Residential Waste Season One - Wheelabrator Bridgeport RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>30.9%</b>			<b>Organics</b>	<b>26.7%</b>		
OCC/Kraft Paper	5.9%	2.5%	1.49%	Food Waste	12.4%	4.3%	2.59%
Offshore Cardboard	0.6%	0.2%	0.15%	Branches & Stumps	2.9%	3.3%	2.03%
High Grade Office Paper	1.6%	0.9%	0.55%	Prunings & Trimmings	2.1%	2.1%	1.28%
Magazines/Catalogs	3.0%	1.3%	0.81%	Leaves & Grass	2.9%	2.6%	1.60%
Newsprint	2.1%	0.5%	0.29%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.3%	0.4%	0.23%	R/C Organic	6.4%	2.3%	1.40%
Other Recyclable Paper	4.6%	0.7%	0.41%	<b>Construction and Demolition</b>	<b>4.3%</b>		
Compostable Paper	8.9%	1.4%	0.88%	Asphalt, Brick, & Concrete	0.2%	0.3%	0.16%
R/C Paper	3.8%	0.9%	0.54%	Wood - Treated	1.6%	1.1%	0.66%
<b>Plastic</b>	<b>14.2%</b>			Wood - Untreated	0.1%	0.1%	0.05%
PET Bottles/Jars (non-haz)	1.2%	0.3%	0.20%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.06%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.3%	0.2%	0.09%	Carpet	0.7%	1.0%	0.61%
HDPE Bottles (non-haz)	0.7%	0.2%	0.14%	Carpet Padding	1.0%	1.2%	0.74%
HDPE Containers other than Bottles	0.0%	0.0%	0.01%	R/C C&D	0.8%	1.0%	0.59%
Plastic Containers #3-#7 (non-haz)	0.5%	0.2%	0.09%	<b>Household Hazardous Waste (HHW)</b>	<b>0.5%</b>		
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.03%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.02%
Expanded Poly. Food-grade	0.8%	0.3%	0.16%	Batteries - Lead Acid	0.0%	0.0%	0.02%
Durable Plastic Items	1.9%	1.5%	0.89%	Other Batteries	0.1%	0.1%	0.05%
Film	0.1%	0.1%	0.07%	Paint	0.0%	0.0%	0.02%
Grocery/Merchandise Bags	0.9%	0.3%	0.19%	Sharps	0.0%	0.0%	0.02%
Other Film	3.8%	0.7%	0.45%	Vehicle & Equipment Fluids	0.1%	0.1%	0.07%
Pallets - Plastic	0.5%	0.7%	0.44%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.08%
R/C Plastic	3.3%	1.1%	0.66%	Pesticides & Fertilizers	0.0%	0.0%	0.02%
<b>Metal</b>	<b>5.4%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.03%
Alc. Beverage Containers	0.4%	0.4%	0.25%	<b>Electronics</b>	<b>2.3%</b>		
Alc. CT Dep. Bev. Containers	0.2%	0.2%	0.10%	Computer-related Electronics	0.0%	0.0%	0.02%
Tin/Steel Containers	1.0%	0.3%	0.18%	Other Small Consumer Electronics	2.0%	1.7%	1.04%
Other Ferrous	1.1%	0.5%	0.31%	TVs and Computer Monitors	0.2%	0.4%	0.24%
Other Non-Ferrous	1.0%	0.4%	0.27%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	1.2%	1.6%	0.99%	<b>Other Waste</b>	<b>10.0%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	1.5%	0.7%	0.43%
R/C Metal	0.5%	0.4%	0.26%	Textiles (other than carpet)	6.0%	1.6%	0.97%
<b>Glass</b>	<b>5.8%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	4.7%	5.8%	3.53%	Bottom Fines & Dirt	1.6%	0.4%	0.22%
Green & Other Colored Glass Cont.	0.5%	0.4%	0.22%	Other Miscellaneous	0.9%	0.7%	0.41%
Glass CT Dep. Bev. Containers	0.5%	0.2%	0.15%	<b>Totals</b>	<b>100.0%</b>		
Flat Glass - Uncoated	0.0%	0.0%	0.01%	<b>Sample Count</b>	<b>12</b>		
R/C Glass	0.2%	0.1%	0.09%				

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 16**  
**ICI Waste Season One - Wheelabrator Bridgeport RRF**

<b>Material</b>	<b>Est.</b>	<b>Stand.</b>	<b>Material</b>	<b>Est.</b>	<b>Stand.</b>
	<b>Percent</b>	<b>+ / -</b>		<b>Percent</b>	<b>+ / -</b>
					<b>Dev.</b>
<b>Paper</b>	<b>29.5%</b>		<b>Organics</b>	<b>21.3%</b>	
OCC/Kraft Paper	13.4%	5.9%	Food Waste	15.0%	6.2%
Offshore Cardboard	0.5%	0.4%	Branches & Stumps	0.1%	0.1%
High Grade Office Paper	1.6%	1.5%	Prunings & Trimmings	0.1%	0.1%
Magazines/Catalogs	0.4%	0.2%	Leaves & Grass	0.0%	0.0%
Newsprint	0.8%	0.8%	Manures	0.0%	0.0%
Phone Books & Directories	0.0%	0.0%	R/C Organic	6.1%	7.6%
Other Recyclable Paper	2.8%	1.6%			
Compostable Paper	6.4%	2.3%	<b>Construction and Demolition</b>	<b>15.4%</b>	
R/C Paper	3.5%	1.6%	Asphalt, Brick, & Concrete	0.0%	0.0%
			Wood - Treated	2.1%	1.4%
<b>Plastic</b>	<b>15.4%</b>		Wood - Untreated	6.6%	7.4%
PET Bottles/Jars (non-haz)	0.7%	0.4%	Asphalt Roofing	0.0%	0.0%
PET Containers-non bottles (non-haz)	0.0%	0.0%	Drywall/Gypsum Board	0.0%	0.0%
Plastic CT Dep. Bev. Containers	2.7%	4.0%	Carpet	3.6%	3.8%
HDPE Bottles (non-haz)	0.2%	0.2%	Carpet Padding	0.8%	1.3%
HDPE Containers other than Bottles	0.1%	0.1%	R/C C&D	2.3%	2.9%
Plastic Containers #3-#7 (non-haz)	0.3%	0.2%			
Expanded Poly. Non-Food Grade	0.0%	0.0%	<b>Household Hazardous Waste (HHW)</b>	<b>0.8%</b>	
Expanded Poly. Food-grade	0.5%	0.5%	Ballasts, CFLs, & Other FLs	0.0%	0.0%
Durable Plastic Items	4.4%	3.6%	Batteries - Lead Acid	0.0%	0.0%
Film	0.1%	0.1%	Other Batteries	0.0%	0.0%
Grocery/Merchandise Bags	0.4%	0.2%	Paint	0.1%	0.1%
Other Film	4.3%	1.5%	Sharps	0.1%	0.2%
Pallets - Plastic	0.0%	0.0%	Vehicle & Equipment Fluids	0.0%	0.0%
R/C Plastic	1.6%	0.5%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.5%	0.8%
			Pesticides & Fertilizers	0.0%	0.0%
<b>Metal</b>	<b>4.9%</b>		Other Hazardous Waste & HHW	0.1%	0.1%
Alc. Beverage Containers	0.0%	0.0%			
Alc. CT Dep. Bev. Containers	0.1%	0.1%	<b>Electronics</b>	<b>5.6%</b>	
Tin/Steel Containers	0.4%	0.3%	Computer-related Electronics	1.5%	2.5%
Other Ferrous	1.6%	2.2%	Other Small Consumer Electronics	0.5%	0.6%
Other Non-Ferrous	0.6%	0.5%	TVs and Computer Monitors	0.1%	0.1%
Appliances	0.0%	0.0%	Other Large Electronics	3.5%	5.7%
Compressed Fuel Containers	0.0%	0.0%			
R/C Metal	2.3%	1.9%	<b>Other Waste</b>	<b>6.4%</b>	
			Bulky Items	1.1%	1.2%
<b>Glass</b>	<b>0.7%</b>		Textiles (other than carpet)	2.2%	2.2%
Clear & Amber Glass Containers	0.3%	0.2%	Restaurant Fats, Oils, & Grease	0.1%	0.2%
Green & Other Colored Glass Cont.	0.3%	0.3%	Bottom Fines & Dirt	1.2%	0.5%
Glass CT Dep. Bev. Containers	0.1%	0.1%	Other Miscellaneous	1.8%	1.6%
Flat Glass - Uncoated	0.0%	0.0%			
R/C Glass	0.0%	0.0%			
			<b>Totals</b>	<b>100.0%</b>	
			<b>Sample Count</b>	<b>12</b>	

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## New Haven Municipal Transfer Station

Twenty-four samples were analyzed in season one: 12 residential and 12 ICI. The overall, residential, and ICI results for New Haven for season one are presented in Tables 17 through 19.

**Table 17**  
**Overall Waste Season One - New Haven Municipal Transfer Station**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>29.4%</b>			<b>Organics</b>	<b>24.1%</b>		
OCC/Kraft Paper	9.4%	2.8%	1.69%	Food Waste	14.7%	2.8%	1.68%
Offshore Cardboard	0.4%	0.1%	0.08%	Branches & Stumps	1.0%	1.6%	1.00%
High Grade Office Paper	1.3%	1.2%	0.75%	Prunings & Trimmings	1.4%	1.4%	0.88%
Magazines/Catalogs	1.2%	0.6%	0.39%	Leaves & Grass	1.0%	0.6%	0.39%
Newsprint	2.5%	0.9%	0.53%	Manures	1.1%	1.7%	1.05%
Phone Books & Directories	0.8%	0.6%	0.34%	R/C Organic	5.0%	1.6%	0.96%
Other Recyclable Paper	4.1%	1.1%	0.65%				
Compostable Paper	7.4%	1.6%	1.00%	<b>Construction and Demolition</b>	<b>11.1%</b>		
R/C Paper	2.4%	0.5%	0.33%	Asphalt, Brick, & Concrete	0.1%	0.2%	0.09%
				Wood - Treated	2.7%	1.9%	1.18%
<b>Plastic</b>	<b>14.5%</b>			Wood - Untreated	2.7%	2.2%	1.33%
PET Bottles/Jars (non-haz)	1.2%	0.3%	0.17%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.06%	Drywall/Gypsum Board	0.1%	0.1%	0.08%
Plastic CT Dep. Bev. Containers	0.3%	0.1%	0.06%	Carpet	2.8%	3.1%	1.89%
HDPE Bottles (non-haz)	0.7%	0.2%	0.09%	Carpet Padding	0.7%	1.2%	0.74%
HDPE Containers other than Bottles	0.2%	0.2%	0.10%	R/C C&D	1.9%	1.6%	0.95%
Plastic Containers #3-#7 (non-haz)	0.3%	0.1%	0.04%				
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.05%	<b>Household Hazardous Waste (HHW)</b>	<b>0.4%</b>		
Expanded Poly. Food-grade	0.7%	0.3%	0.17%	Ballasts, CFLs, & Other FLs	0.1%	0.1%	0.05%
Durable Plastic Items	1.0%	0.6%	0.36%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	1.6%	1.3%	0.80%	Other Batteries	0.1%	0.0%	0.02%
Grocery/Merchandise Bags	0.9%	0.2%	0.10%	Paint	0.0%	0.0%	0.00%
Other Film	3.7%	0.7%	0.42%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.4%	0.7%	0.42%	Vehicle & Equipment Fluids	0.1%	0.1%	0.07%
R/C Plastic	3.2%	1.5%	0.89%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.06%
				Pesticides & Fertilizers	0.0%	0.1%	0.03%
<b>Metal</b>	<b>4.2%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.06%
Alc. Beverage Containers	0.1%	0.0%	0.02%				
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.07%	<b>Electronics</b>	<b>1.8%</b>		
Tin/Steel Containers	2.0%	1.2%	0.75%	Computer-related Electronics	0.7%	1.0%	0.59%
Other Ferrous	0.3%	0.2%	0.11%	Other Small Consumer Electronics	0.7%	0.5%	0.32%
Other Non-Ferrous	0.6%	0.3%	0.18%	TVs and Computer Monitors	0.4%	0.6%	0.37%
Appliances	0.0%	0.0%	0.00%	Other Large Electronics	0.0%	0.0%	0.00%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	1.0%	0.8%	0.50%	<b>Other Waste</b>	<b>11.8%</b>		
				Bulky Items	0.7%	1.1%	0.68%
<b>Glass</b>	<b>2.6%</b>			Textiles (other than carpet)	6.9%	2.1%	1.29%
Clear & Amber Glass Containers	1.3%	0.3%	0.18%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.08%	Bottom Fines & Dirt	2.1%	0.4%	0.24%
Glass CT Dep. Bev. Containers	0.6%	0.3%	0.20%	Other Miscellaneous	2.2%	3.0%	1.84%
Flat Glass - Uncoated	0.2%	0.4%	0.23%				
R/C Glass	0.4%	0.3%	0.17%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>24</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 18**  
**Residential Waste Season One - New Haven Municipal Transfer Station**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>27.1%</b>			<b>Organics</b>	<b>26.6%</b>		
OCC/Kraft Paper	2.7%	0.8%	0.46%	Food Waste	17.5%	3.1%	1.86%
Offshore Cardboard	0.5%	0.2%	0.13%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	0.3%	0.2%	0.11%	Prunings & Trimmings	0.9%	0.8%	0.51%
Magazines/Catalogs	1.1%	0.7%	0.43%	Leaves & Grass	1.8%	1.1%	0.70%
Newsprint	2.5%	0.7%	0.42%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	1.4%	1.0%	0.61%	R/C Organic	6.4%	2.0%	1.21%
Other Recyclable Paper	5.6%	1.7%	1.03%	<b>Construction and Demolition</b>	<b>6.9%</b>		
Compostable Paper	9.9%	2.4%	1.48%	Asphalt, Brick, & Concrete	0.2%	0.3%	0.17%
R/C Paper	3.0%	0.6%	0.39%	Wood - Treated	2.2%	1.2%	0.70%
<b>Plastic</b>	<b>15.3%</b>			Wood - Untreated	1.5%	1.7%	1.06%
PET Bottles/Jars (non-haz)	1.5%	0.3%	0.16%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.05%	Drywall/Gypsum Board	0.2%	0.2%	0.14%
Plastic CT Dep. Bev. Containers	0.4%	0.1%	0.07%	Carpet	1.3%	1.3%	0.80%
HDPE Bottles (non-haz)	0.9%	0.2%	0.14%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.1%	0.2%	0.11%	R/C C&D	1.5%	1.8%	1.09%
Plastic Containers #3-#7 (non-haz)	0.2%	0.1%	0.05%	<b>Household Hazardous Waste (HHW)</b>	<b>0.4%</b>		
Expanded Poly. Non-Food Grade	0.2%	0.1%	0.09%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	0.8%	0.2%	0.09%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	1.2%	0.8%	0.46%	Other Batteries	0.1%	0.0%	0.02%
Film	0.9%	1.0%	0.58%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	1.4%	0.3%	0.16%	Sharps	0.0%	0.0%	0.00%
Other Film	4.3%	0.6%	0.35%	Vehicle & Equipment Fluids	0.0%	0.0%	0.01%
Pallets - Plastic	0.8%	1.2%	0.75%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.2%	0.11%
R/C Plastic	2.2%	0.6%	0.36%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>3.9%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.06%
Alc. Beverage Containers	0.1%	0.1%	0.03%	<b>Electronics</b>	<b>2.1%</b>		
Alc. CT Dep. Bev. Containers	0.4%	0.2%	0.12%	Computer-related Electronics	0.2%	0.2%	0.10%
Tin/Steel Containers	1.6%	0.2%	0.14%	Other Small Consumer Electronics	1.3%	0.9%	0.56%
Other Ferrous	0.4%	0.3%	0.18%	TVs and Computer Monitors	0.7%	1.1%	0.65%
Other Non-Ferrous	0.6%	0.2%	0.14%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>15.1%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	0.0%	0.0%	0.00%
R/C Metal	0.8%	0.5%	0.30%	Textiles (other than carpet)	11.7%	3.8%	2.29%
<b>Glass</b>	<b>2.7%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	1.5%	0.4%	0.27%	Bottom Fines & Dirt	3.0%	0.6%	0.34%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.06%	Other Miscellaneous	0.4%	0.2%	0.14%
Glass CT Dep. Bev. Containers	0.6%	0.5%	0.28%				
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.5%	0.5%	0.29%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>12</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 19**  
**ICI Waste Season One - New Haven Municipal Transfer Station**

<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>	<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>
<b>Paper</b>	<b>32.4%</b>			<b>Organics</b>	<b>20.9%</b>		
OCC/Kraft Paper	17.9%	6.3%	3.80%	Food Waste	11.0%	4.9%	3.01%
Offshore Cardboard	0.2%	0.2%	0.10%	Branches & Stumps	2.2%	3.7%	2.28%
High Grade Office Paper	2.5%	2.8%	1.70%	Prunings & Trimmings	2.1%	3.1%	1.90%
Magazines/Catalogs	1.3%	1.2%	0.71%	Leaves & Grass	0.0%	0.0%	0.00%
Newsprint	2.5%	1.8%	1.08%	Manures	2.4%	3.9%	2.39%
Phone Books & Directories	0.0%	0.0%	0.00%	R/C Organic	3.1%	2.6%	1.55%
Other Recyclable Paper	2.2%	1.1%	0.68%	<b>Construction and Demolition</b>	<b>16.6%</b>		
Compostable Paper	4.2%	2.1%	1.26%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	1.5%	0.9%	0.57%	Wood - Treated	3.4%	4.2%	2.53%
<b>Plastic</b>	<b>13.5%</b>			Wood - Untreated	4.3%	4.5%	2.72%
PET Bottles/Jars (non-haz)	0.8%	0.5%	0.32%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.3%	0.2%	0.12%	Drywall/Gypsum Board	0.0%	0.0%	0.03%
Plastic CT Dep. Bev. Containers	0.2%	0.2%	0.09%	Carpet	4.8%	6.9%	4.18%
HDPE Bottles (non-haz)	0.5%	0.2%	0.12%	Carpet Padding	1.7%	2.8%	1.69%
HDPE Containers other than Bottles	0.2%	0.3%	0.18%	R/C C&D	2.4%	2.7%	1.65%
Plastic Containers #3-#7 (non-haz)	0.3%	0.1%	0.08%	<b>Household Hazardous Waste (HHW)</b>	<b>0.5%</b>		
Expanded Poly. Non-Food Grade	0.0%	0.0%	0.01%	Ballasts, CFLs, & Other FLs	0.1%	0.2%	0.12%
Expanded Poly. Food-grade	0.5%	0.6%	0.36%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	0.9%	1.0%	0.58%	Other Batteries	0.1%	0.1%	0.05%
Film	2.4%	2.7%	1.67%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.3%	0.1%	0.09%	Sharps	0.0%	0.0%	0.00%
Other Film	2.9%	1.4%	0.83%	Vehicle & Equipment Fluids	0.2%	0.3%	0.17%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.00%
R/C Plastic	4.3%	3.3%	1.98%	Pesticides & Fertilizers	0.1%	0.1%	0.08%
<b>Metal</b>	<b>4.6%</b>			Other Hazardous Waste & HHW	0.1%	0.2%	0.10%
Alc. Beverage Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>1.3%</b>		
Alc. CT Dep. Bev. Containers	0.1%	0.0%	0.01%	Computer-related Electronics	1.3%	2.2%	1.34%
Tin/Steel Containers	2.5%	2.8%	1.71%	Other Small Consumer Electronics	0.0%	0.0%	0.01%
Other Ferrous	0.2%	0.2%	0.11%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Other Non-Ferrous	0.5%	0.6%	0.37%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>7.6%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	1.5%	2.6%	1.56%
R/C Metal	1.3%	1.8%	1.07%	Textiles (other than carpet)	0.6%	0.5%	0.30%
<b>Glass</b>	<b>2.6%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	1.1%	0.4%	0.22%	Bottom Fines & Dirt	1.0%	0.5%	0.31%
Green & Other Colored Glass Cont.	0.2%	0.2%	0.15%	Other Miscellaneous	4.4%	6.9%	4.19%
Glass CT Dep. Bev. Containers	0.6%	0.4%	0.27%				
Flat Glass - Uncoated	0.5%	0.9%	0.53%				
R/C Glass	0.2%	0.2%	0.09%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>12</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## CRRRA Southeast Project (Preston) RRF

Twenty-three samples were analyzed in season one: 12 residential and 11 ICI. The overall, residential, and ICI results for season one are presented in Tables 20 through 22.

**Table 20**  
**Overall Waste Season One - CRRRA Southeast Project (Preston) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>27.7%</b>			<b>Organics</b>	<b>25.6%</b>		
OCC/Kraft Paper	6.0%	1.6%	0.95%	Food Waste	19.6%	4.0%	2.40%
Offshore Cardboard	0.4%	0.3%	0.19%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	2.2%	1.1%	0.66%	Prunings & Trimmings	1.3%	1.3%	0.78%
Magazines/Catalogs	1.5%	0.5%	0.33%	Leaves & Grass	0.5%	0.8%	0.48%
Newsprint	1.3%	0.6%	0.36%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.2%	0.2%	0.09%	R/C Organic	4.2%	1.6%	0.99%
Other Recyclable Paper	4.2%	0.8%	0.48%				
Compostable Paper	9.1%	2.2%	1.31%	<b>Construction and Demolition</b>	<b>10.9%</b>		
R/C Paper	2.9%	1.0%	0.60%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
				Wood - Treated	5.2%	3.4%	2.05%
<b>Plastic</b>	<b>15.3%</b>			Wood - Untreated	1.3%	1.5%	0.90%
PET Bottles/Jars (non-haz)	0.8%	0.3%	0.19%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.03%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.05%	Carpet	2.3%	1.9%	1.13%
HDPE Bottles (non-haz)	0.5%	0.2%	0.10%	Carpet Padding	0.8%	0.9%	0.55%
HDPE Containers other than Bottles	0.1%	0.1%	0.08%	R/C C&D	1.3%	1.4%	0.84%
Plastic Containers #3-#7 (non-haz)	1.1%	0.8%	0.48%				
Expanded Poly. Non-Food Grade	0.5%	0.5%	0.30%	<b>Household Hazardous Waste (HHW)</b>	<b>1.0%</b>		
Expanded Poly. Food-grade	0.7%	0.2%	0.12%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	2.4%	1.4%	0.87%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.2%	0.1%	0.09%	Other Batteries	0.1%	0.0%	0.02%
Grocery/Merchandise Bags	0.5%	0.1%	0.09%	Paint	0.0%	0.0%	0.00%
Other Film	4.6%	1.0%	0.64%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Vehicle & Equipment Fluids	0.1%	0.2%	0.11%
R/C Plastic	3.6%	2.7%	1.64%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.6%	0.5%	0.28%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.8%</b>			Other Hazardous Waste & HHW	0.2%	0.3%	0.15%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.04%	<b>Electronics</b>	<b>1.9%</b>		
Tin/Steel Containers	0.5%	0.2%	0.10%	Computer-related Electronics	0.2%	0.4%	0.25%
Other Ferrous	0.5%	0.3%	0.20%	Other Small Consumer Electronics	0.5%	0.4%	0.23%
Other Non-Ferrous	0.4%	0.1%	0.08%	TVs and Computer Monitors	0.8%	1.4%	0.84%
Appliances	2.5%	2.7%	1.64%	Other Large Electronics	0.4%	0.6%	0.37%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.7%	0.4%	0.26%	<b>Other Waste</b>	<b>10.9%</b>		
				Bulky Items	4.0%	4.2%	2.56%
<b>Glass</b>	<b>1.9%</b>			Textiles (other than carpet)	3.0%	1.2%	0.74%
Clear & Amber Glass Containers	1.0%	0.4%	0.26%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.3%	0.3%	0.18%	Bottom Fines & Dirt	1.5%	0.5%	0.30%
Glass CT Dep. Bev. Containers	0.3%	0.3%	0.17%	Other Miscellaneous	2.3%	1.2%	0.70%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.2%	0.2%	0.11%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>23</b>		

**Table 21**  
**Residential Waste Season One - CRRA Southeast Project (Preston) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>23.6%</b>			<b>Organics</b>	<b>24.9%</b>		
OCC/Kraft Paper	3.9%	2.2%	1.36%	Food Waste	15.3%	6.2%	3.75%
Offshore Cardboard	0.6%	0.6%	0.35%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	1.9%	1.6%	0.96%	Prunings & Trimmings	1.9%	2.3%	1.40%
Magazines/Catalogs	1.3%	0.6%	0.36%	Leaves & Grass	0.9%	1.4%	0.88%
Newsprint	1.0%	0.3%	0.21%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.4%	0.3%	0.16%	R/C Organic	6.8%	2.8%	1.72%
Other Recyclable Paper	3.6%	1.0%	0.58%	<b>Construction and Demolition</b>	<b>12.8%</b>		
Compostable Paper	8.4%	2.2%	1.37%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	2.4%	1.0%	0.63%	Wood - Treated	5.1%	4.5%	2.72%
<b>Plastic</b>	<b>13.0%</b>			Wood - Untreated	1.0%	1.2%	0.75%
PET Bottles/Jars (non-haz)	0.6%	0.3%	0.15%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.05%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.06%	Carpet	4.2%	3.4%	2.06%
HDPE Bottles (non-haz)	0.5%	0.3%	0.17%	Carpet Padding	1.4%	1.6%	1.00%
HDPE Containers other than Bottles	0.1%	0.1%	0.08%	R/C C&D	1.2%	1.4%	0.82%
Plastic Containers #3-#7 (non-haz)	0.6%	0.2%	0.14%	<b>Household Hazardous Waste (HHW)</b>	<b>0.2%</b>		
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.03%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	0.5%	0.2%	0.14%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	3.3%	2.3%	1.39%	Other Batteries	0.1%	0.1%	0.03%
Film	0.2%	0.2%	0.15%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.5%	0.2%	0.14%	Sharps	0.0%	0.0%	0.00%
Other Film	4.0%	1.3%	0.77%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.01%
R/C Plastic	2.2%	1.0%	0.62%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>6.7%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.06%
Alc. Beverage Containers	0.0%	0.0%	0.01%	<b>Electronics</b>	<b>1.9%</b>		
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.04%	Computer-related Electronics	0.5%	0.7%	0.45%
Tin/Steel Containers	0.6%	0.3%	0.17%	Other Small Consumer Electronics	0.7%	0.7%	0.40%
Other Ferrous	0.4%	0.5%	0.32%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Other Non-Ferrous	0.4%	0.2%	0.12%	Other Large Electronics	0.7%	1.1%	0.68%
Appliances	4.5%	4.9%	2.98%	<b>Other Waste</b>	<b>14.7%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	7.3%	7.7%	4.67%
R/C Metal	0.7%	0.5%	0.30%	Textiles (other than carpet)	4.3%	1.8%	1.08%
<b>Glass</b>	<b>2.2%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	1.2%	0.4%	0.26%	Bottom Fines & Dirt	1.1%	0.5%	0.32%
Green & Other Colored Glass Cont.	0.3%	0.4%	0.27%	Other Miscellaneous	2.0%	1.5%	0.93%
Glass CT Dep. Bev. Containers	0.3%	0.3%	0.17%				
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.4%	0.3%	0.21%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>12</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 22**  
**ICI Waste Season One - CRRA Southeast Project (Preston) RRF**

<b>Material</b>	<b>Est.</b>	<b>+ / -</b>	<b>Stand.</b>	<b>Material</b>	<b>Est.</b>	<b>+ / -</b>	<b>Stand.</b>
	<b>Percent</b>		<b>Dev.</b>		<b>Percent</b>		<b>Dev.</b>
<b>Paper</b>	<b>32.6%</b>			<b>Organics</b>	<b>26.4%</b>		
OCC/Kraft Paper	8.4%	2.2%	1.33%	Food Waste	24.8%	4.5%	2.75%
Offshore Cardboard	0.1%	0.1%	0.05%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	2.5%	1.4%	0.88%	Prunings & Trimmings	0.5%	0.6%	0.34%
Magazines/Catalogs	1.8%	1.0%	0.58%	Leaves & Grass	0.0%	0.0%	0.01%
Newsprint	1.6%	1.2%	0.75%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.1%	0.1%	0.07%	R/C Organic	1.1%	1.1%	0.69%
Other Recyclable Paper	4.9%	1.3%	0.81%	<b>Construction and Demolition</b>	<b>8.6%</b>		
Compostable Paper	9.9%	3.9%	2.38%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	3.4%	1.8%	1.10%	Wood - Treated	5.3%	5.1%	3.12%
<b>Plastic</b>	<b>18.1%</b>			Wood - Untreated	1.8%	2.9%	1.79%
PET Bottles/Jars (non-haz)	1.1%	0.6%	0.37%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.04%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.08%	Carpet	0.0%	0.0%	0.00%
HDPE Bottles (non-haz)	0.5%	0.1%	0.05%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.2%	0.2%	0.15%	R/C C&D	1.6%	2.6%	1.57%
Plastic Containers #3-#7 (non-haz)	1.6%	1.7%	1.05%	<b>Household Hazardous Waste (HHW)</b>	<b>1.9%</b>		
Expanded Poly. Non-Food Grade	0.9%	1.1%	0.66%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	0.9%	0.4%	0.21%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	1.3%	1.5%	0.94%	Other Batteries	0.0%	0.0%	0.02%
Film	0.1%	0.1%	0.07%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.3%	0.2%	0.10%	Sharps	0.0%	0.0%	0.00%
Other Film	5.4%	1.7%	1.06%	Vehicle & Equipment Fluids	0.2%	0.4%	0.25%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	1.3%	1.0%	0.63%
R/C Plastic	5.4%	5.9%	3.56%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>2.6%</b>			Other Hazardous Waste & HHW	0.3%	0.5%	0.33%
Alc. Beverage Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>2.0%</b>		
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.08%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	0.5%	0.2%	0.10%	Other Small Consumer Electronics	0.2%	0.3%	0.16%
Other Ferrous	0.6%	0.3%	0.21%	TVs and Computer Monitors	1.8%	3.1%	1.87%
Other Non-Ferrous	0.5%	0.2%	0.10%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>6.2%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	0.0%	0.0%	0.00%
R/C Metal	0.8%	0.7%	0.45%	Textiles (other than carpet)	1.5%	1.6%	0.98%
<b>Glass</b>	<b>1.6%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	0.8%	0.8%	0.48%	Bottom Fines & Dirt	1.9%	0.9%	0.54%
Green & Other Colored Glass Cont.	0.3%	0.4%	0.23%	Other Miscellaneous	2.7%	1.8%	1.07%
Glass CT Dep. Bev. Containers	0.4%	0.5%	0.31%				
Flat Glass - Uncoated	0.0%	0.0%	0.00%	<b>Totals</b>	<b>100.0%</b>		
R/C Glass	0.0%	0.0%	0.01%	<b>Sample Count</b>	<b>11</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## CRRA Mid-CT Project (Hartford) RRF

Thirty-four samples were analyzed: 6 residential and 28 ICI. The overall, residential, and ICI results for season one are presented in Tables 23 through 25.

**Table 23**  
**Overall Waste Season One - CRRA Mid-CT Project (Hartford) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>32.6%</b>			<b>Organics</b>	<b>19.2%</b>		
OCC/Kraft Paper	4.5%	1.3%	0.76%	Food Waste	13.2%	3.1%	1.91%
Offshore Cardboard	0.9%	0.4%	0.22%	Branches & Stumps	0.1%	0.2%	0.12%
High Grade Office Paper	1.8%	1.0%	0.61%	Prunings & Trimmings	1.3%	0.6%	0.34%
Magazines/Catalogs	1.4%	0.5%	0.29%	Leaves & Grass	1.7%	2.0%	1.21%
Newsprint	4.3%	3.0%	1.81%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.4%	0.3%	0.19%	R/C Organic	2.9%	0.7%	0.40%
Other Recyclable Paper	3.7%	0.6%	0.39%				
Compostable Paper	10.9%	2.0%	1.24%	<b>Construction and Demolition</b>	<b>15.5%</b>		
R/C Paper	4.8%	2.6%	1.59%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
				Wood - Treated	4.1%	1.5%	0.94%
<b>Plastic</b>	<b>15.6%</b>			Wood - Untreated	2.3%	0.8%	0.51%
PET Bottles/Jars (non-haz)	0.6%	0.1%	0.06%	Asphalt Roofing	0.1%	0.1%	0.07%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.06%	Drywall/Gypsum Board	0.6%	0.8%	0.51%
Plastic CT Dep. Bev. Containers	0.1%	0.1%	0.09%	Carpet	6.9%	8.9%	5.43%
HDPE Bottles (non-haz)	0.5%	0.2%	0.12%	Carpet Padding	0.3%	0.5%	0.30%
HDPE Containers other than Bottles	0.1%	0.1%	0.07%	R/C C&D	1.3%	1.0%	0.63%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.05%				
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.04%	<b>Household Hazardous Waste (HHW)</b>	<b>1.0%</b>		
Expanded Poly. Food-grade	0.4%	0.2%	0.10%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%
Durable Plastic Items	3.9%	3.1%	1.86%	Batteries - Lead Acid	0.0%	0.1%	0.03%
Film	0.3%	0.2%	0.11%	Other Batteries	0.0%	0.0%	0.01%
Grocery/Merchandise Bags	0.5%	0.1%	0.07%	Paint	0.0%	0.0%	0.00%
Other Film	4.7%	1.3%	0.78%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.3%	0.5%	0.30%	Vehicle & Equipment Fluids	0.0%	0.1%	0.03%
R/C Plastic	3.3%	1.1%	0.66%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.1%	0.07%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>2.6%</b>			Other Hazardous Waste & HHW	0.6%	0.9%	0.52%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.2%	0.2%	0.09%	<b>Electronics</b>	<b>2.3%</b>		
Tin/Steel Containers	0.8%	0.2%	0.15%	Computer-related Electronics	0.4%	0.6%	0.33%
Other Ferrous	0.6%	0.5%	0.27%	Other Small Consumer Electronics	0.4%	0.3%	0.20%
Other Non-Ferrous	0.6%	0.1%	0.09%	TVs and Computer Monitors	1.4%	1.9%	1.13%
Appliances	0.0%	0.0%	0.00%	Other Large Electronics	0.1%	0.2%	0.11%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.4%	0.2%	0.13%	<b>Other Waste</b>	<b>9.3%</b>		
				Bulky Items	2.0%	1.5%	0.93%
<b>Glass</b>	<b>1.8%</b>			Textiles (other than carpet)	4.4%	2.1%	1.26%
Clear & Amber Glass Containers	0.8%	0.8%	0.46%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.2%	0.2%	0.13%	Bottom Fines & Dirt	1.6%	0.6%	0.39%
Glass CT Dep. Bev. Containers	0.2%	0.1%	0.06%	Other Miscellaneous	1.3%	0.5%	0.32%
Flat Glass - Uncoated	0.3%	0.3%	0.18%				
R/C Glass	0.3%	0.1%	0.09%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>34</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 24**  
**Residential Waste Season One - CRRA Mid-CT Project (Hartford) RRF**

<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>	<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>
<b>Paper</b>	<b>35.5%</b>			<b>Organics</b>	<b>23.2%</b>		
OCC/Kraft Paper	0.9%	0.9%	0.54%	Food Waste	14.6%	4.8%	2.93%
Offshore Cardboard	0.7%	0.2%	0.15%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	1.4%	1.7%	1.01%	Prunings & Trimmings	1.0%	0.3%	0.20%
Magazines/Catalogs	1.8%	0.8%	0.51%	Leaves & Grass	3.1%	3.7%	2.22%
Newsprint	6.6%	5.5%	3.32%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.2%	0.4%	0.23%	R/C Organic	4.4%	1.0%	0.60%
Other Recyclable Paper	4.7%	0.9%	0.54%	<b>Construction and Demolition</b>	<b>12.1%</b>		
Compostable Paper	15.3%	3.3%	2.03%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	3.9%	0.2%	0.10%	Wood - Treated	1.7%	1.9%	1.13%
<b>Plastic</b>	<b>14.4%</b>			Wood - Untreated	0.0%	0.0%	0.00%
PET Bottles/Jars (non-haz)	0.7%	0.0%	0.03%	Asphalt Roofing	0.1%	0.2%	0.13%
PET Containers-non bottles (non-haz)	0.1%	0.2%	0.12%	Drywall/Gypsum Board	0.1%	0.1%	0.07%
Plastic CT Dep. Bev. Containers	0.2%	0.3%	0.16%	Carpet	10.2%	16.4%	9.98%
HDPE Bottles (non-haz)	0.6%	0.3%	0.18%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.0%	0.1%	0.05%	R/C C&D	0.0%	0.0%	0.01%
Plastic Containers #3-#7 (non-haz)	0.6%	0.1%	0.08%	<b>Household Hazardous Waste (HHW)</b>	<b>0.3%</b>		
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.08%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	0.5%	0.3%	0.19%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	2.0%	2.8%	1.73%	Other Batteries	0.1%	0.0%	0.01%
Film	0.3%	0.3%	0.17%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.7%	0.2%	0.12%	Sharps	0.0%	0.0%	0.00%
Other Film	6.0%	2.2%	1.36%	Vehicle & Equipment Fluids	0.0%	0.1%	0.04%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.1%	0.08%
R/C Plastic	2.5%	0.8%	0.46%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>2.8%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.05%
Alc. Beverage Containers	0.0%	0.0%	0.01%	<b>Electronics</b>	<b>2.4%</b>		
Alc. CT Dep. Bev. Containers	0.1%	0.0%	0.03%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	1.2%	0.4%	0.27%	Other Small Consumer Electronics	0.4%	0.6%	0.34%
Other Ferrous	0.4%	0.5%	0.30%	TVs and Computer Monitors	2.0%	3.4%	2.06%
Other Non-Ferrous	0.8%	0.2%	0.15%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>7.7%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	0.0%	0.0%	0.00%
R/C Metal	0.4%	0.3%	0.17%	Textiles (other than carpet)	5.0%	3.7%	2.22%
<b>Glass</b>	<b>1.5%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	0.9%	1.4%	0.83%	Bottom Fines & Dirt	2.4%	1.2%	0.71%
Green & Other Colored Glass Cont.	0.0%	0.0%	0.01%	Other Miscellaneous	0.4%	0.2%	0.15%
Glass CT Dep. Bev. Containers	0.2%	0.2%	0.10%				
Flat Glass - Uncoated	0.0%	0.0%	0.03%				
R/C Glass	0.4%	0.2%	0.15%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>6</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 25**  
**ICI Waste Season One - CRRR Mid-CT Project (Hartford) RRF**

<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>	<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>
<b>Paper</b>	<b>29.1%</b>			<b>Organics</b>	<b>14.6%</b>		
OCC/Kraft Paper	8.7%	2.5%	1.54%	Food Waste	11.5%	3.8%	2.32%
Offshore Cardboard	1.0%	0.7%	0.45%	Branches & Stumps	0.3%	0.4%	0.26%
High Grade Office Paper	2.3%	1.0%	0.60%	Prunings & Trimmings	1.6%	1.2%	0.70%
Magazines/Catalogs	0.9%	0.4%	0.22%	Leaves & Grass	0.2%	0.3%	0.17%
Newsprint	1.6%	0.9%	0.54%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.6%	0.5%	0.32%	R/C Organic	1.1%	0.8%	0.49%
Other Recyclable Paper	2.5%	0.9%	0.55%	<b>Construction and Demolition</b>	<b>19.6%</b>		
Compostable Paper	5.7%	2.1%	1.26%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	5.8%	5.7%	3.47%	Wood - Treated	6.9%	2.5%	1.54%
<b>Plastic</b>	<b>17.0%</b>			Wood - Untreated	5.0%	1.8%	1.12%
PET Bottles/Jars (non-haz)	0.5%	0.2%	0.12%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.0%	0.0%	0.01%	Drywall/Gypsum Board	1.3%	1.8%	1.11%
Plastic CT Dep. Bev. Containers	0.1%	0.1%	0.04%	Carpet	2.9%	1.8%	1.11%
HDPE Bottles (non-haz)	0.4%	0.3%	0.16%	Carpet Padding	0.7%	1.1%	0.65%
HDPE Containers other than Bottles	0.2%	0.2%	0.14%	R/C C&D	2.7%	2.3%	1.38%
Plastic Containers #3-#7 (non-haz)	0.3%	0.1%	0.07%	<b>Household Hazardous Waste (HHW)</b>	<b>1.8%</b>		
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.03%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.03%
Expanded Poly. Food-grade	0.2%	0.1%	0.05%	Batteries - Lead Acid	0.1%	0.1%	0.08%
Durable Plastic Items	6.3%	5.8%	3.51%	Other Batteries	0.0%	0.0%	0.01%
Film	0.4%	0.2%	0.13%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.2%	0.1%	0.07%	Sharps	0.0%	0.0%	0.00%
Other Film	3.2%	0.9%	0.55%	Vehicle & Equipment Fluids	0.0%	0.1%	0.05%
Pallets - Plastic	0.7%	1.1%	0.65%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.3%	0.2%	0.12%
R/C Plastic	4.3%	2.2%	1.33%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>2.3%</b>			Other Hazardous Waste & HHW	1.3%	1.9%	1.14%
Alc. Beverage Containers	0.0%	0.0%	0.01%	<b>Electronics</b>	<b>2.2%</b>		
Alc. CT Dep. Bev. Containers	0.3%	0.3%	0.20%	Computer-related Electronics	0.9%	1.2%	0.73%
Tin/Steel Containers	0.4%	0.1%	0.07%	Other Small Consumer Electronics	0.4%	0.3%	0.18%
Other Ferrous	0.9%	0.8%	0.48%	TVs and Computer Monitors	0.6%	0.6%	0.38%
Other Non-Ferrous	0.3%	0.2%	0.10%	Other Large Electronics	0.2%	0.4%	0.23%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>11.2%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	4.3%	3.3%	2.02%
R/C Metal	0.4%	0.3%	0.20%	Textiles (other than carpet)	3.8%	1.3%	0.81%
<b>Glass</b>	<b>2.2%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	0.7%	0.4%	0.23%	Bottom Fines & Dirt	0.8%	0.3%	0.17%
Green & Other Colored Glass Cont.	0.4%	0.5%	0.29%	Other Miscellaneous	2.3%	1.1%	0.68%
Glass CT Dep. Bev. Containers	0.2%	0.1%	0.07%				
Flat Glass - Uncoated	0.6%	0.7%	0.40%				
R/C Glass	0.3%	0.2%	0.10%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>28</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## Waste Composition, by Facility, Season Two

This section provides waste composition data (but not disposed quantity calculations) for each of the five host facilities for season two.

### Bristol Resource Recovery Facility

Twenty-five samples were collected during season two: 7 residential and 18 ICI. The overall, residential, and ICI results for season two are presented in Tables 26 through 28.

**Table 26**  
**Overall Waste Season Two - Bristol Resource Recovery Facility**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>22.0%</b>			<b>Organics</b>	<b>28.8%</b>		
OCC/Kraft Paper	4.5%	2.1%	1.27%	Food Waste	9.9%	1.8%	1.06%
Offshore Cardboard	0.2%	0.3%	0.15%	Branches & Stumps	1.3%	1.8%	1.11%
High Grade Office Paper	0.7%	0.5%	0.29%	Prunings & Trimmings	0.8%	0.6%	0.36%
Magazines/Catalogs	1.4%	0.4%	0.24%	Leaves & Grass	13.8%	3.1%	1.87%
Newsprint	1.7%	1.1%	0.66%	Manures	0.6%	0.9%	0.53%
Phone Books & Directories	0.8%	0.8%	0.50%	R/C Organic	2.4%	0.8%	0.50%
Other Recyclable Paper	4.6%	1.4%	0.86%				
Compostable Paper	7.1%	1.0%	0.62%	<b>Construction and Demolition</b>	<b>16.4%</b>		
R/C Paper	1.0%	0.2%	0.10%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
				Wood - Treated	4.5%	2.0%	1.23%
<b>Plastic</b>	<b>13.4%</b>			Wood - Untreated	2.2%	1.9%	1.14%
PET Bottles/Jars (non-haz)	0.4%	0.1%	0.05%	Asphalt Roofing	0.1%	0.1%	0.05%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.04%	Drywall/Gypsum Board	0.8%	0.9%	0.56%
Plastic CT Dep. Bev. Containers	0.3%	0.0%	0.02%	Carpet	6.0%	6.0%	3.62%
HDPE Bottles (non-haz)	0.3%	0.1%	0.06%	Carpet Padding	0.8%	0.9%	0.52%
HDPE Containers other than Bottles	0.4%	0.2%	0.10%	R/C C&D	2.2%	1.1%	0.68%
Plastic Containers #3-#7 (non-haz)	0.4%	0.2%	0.11%				
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.05%	<b>Household Hazardous Waste (HHW)</b>	<b>0.4%</b>		
Expanded Poly. Food-grade	0.9%	0.3%	0.18%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	5.5%	1.3%	0.79%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.6%	0.6%	0.34%	Other Batteries	0.0%	0.0%	0.01%
Grocery/Merchandise Bags	0.3%	0.2%	0.12%	Paint	0.0%	0.0%	0.00%
Other Film	3.2%	1.1%	0.69%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Vehicle & Equipment Fluids	0.1%	0.1%	0.09%
R/C Plastic	1.0%	0.2%	0.15%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.04%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>5.9%</b>			Other Hazardous Waste & HHW	0.2%	0.4%	0.23%
Alc. Beverage Containers	0.1%	0.0%	0.02%				
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>1.2%</b>		
Tin/Steel Containers	0.8%	0.7%	0.42%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	3.8%	2.5%	1.53%	Other Small Consumer Electronics	0.0%	0.0%	0.00%
Other Non-Ferrous	0.3%	0.1%	0.04%	TVs and Computer Monitors	0.9%	0.9%	0.56%
Appliances	0.5%	0.8%	0.47%	Other Large Electronics	0.2%	0.4%	0.24%
Compressed Fuel Containers	0.2%	0.3%	0.21%				
R/C Metal	0.2%	0.3%	0.17%	<b>Other Waste</b>	<b>10.4%</b>		
				Bulky Items	5.1%	3.1%	1.88%
<b>Glass</b>	<b>1.5%</b>			Textiles (other than carpet)	3.0%	1.3%	0.79%
Clear & Amber Glass Containers	0.8%	0.7%	0.41%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.04%	Bottom Fines & Dirt	1.3%	0.3%	0.19%
Glass CT Dep. Bev. Containers	0.0%	0.0%	0.02%	Other Miscellaneous	1.0%	1.1%	0.66%
Flat Glass - Uncoated	0.3%	0.5%	0.29%				
R/C Glass	0.3%	0.2%	0.11%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>25</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 27**  
**Residential Waste Season Two - Bristol Resource Recovery Facility**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>22.7%</b>			<b>Organics</b>	<b>33.2%</b>		
OCC/Kraft Paper	2.9%	3.4%	2.07%	Food Waste	9.1%	1.8%	1.08%
Offshore Cardboard	0.0%	0.0%	0.00%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	0.0%	0.0%	0.00%	Prunings & Trimmings	0.4%	0.5%	0.30%
Magazines/Catalogs	1.7%	0.6%	0.38%	Leaves & Grass	20.7%	4.3%	2.62%
Newsprint	2.4%	2.0%	1.24%	Manures	1.1%	1.7%	1.01%
Phone Books & Directories	0.8%	1.2%	0.75%	R/C Organic	2.0%	1.4%	0.84%
Other Recyclable Paper	4.7%	1.3%	0.77%	<b>Construction and Demolition</b>	<b>13.7%</b>		
Compostable Paper	9.2%	1.7%	1.05%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	1.1%	0.1%	0.04%	Wood - Treated	4.4%	2.5%	1.51%
<b>Plastic</b>	<b>11.0%</b>			Wood - Untreated	0.2%	0.2%	0.14%
PET Bottles/Jars (non-haz)	0.4%	0.1%	0.07%	Asphalt Roofing	0.0%	0.0%	0.01%
PET Containers-non bottles (non-haz)	0.0%	0.0%	0.03%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.3%	0.0%	0.01%	Carpet	7.3%	10.7%	6.52%
HDPE Bottles (non-haz)	0.3%	0.1%	0.09%	Carpet Padding	0.3%	0.3%	0.17%
HDPE Containers other than Bottles	0.5%	0.3%	0.16%	R/C C&D	1.4%	0.6%	0.37%
Plastic Containers #3-#7 (non-haz)	0.4%	0.3%	0.18%	<b>Household Hazardous Waste (HHW)</b>	<b>0.5%</b>		
Expanded Poly. Non-Food Grade	0.1%	0.2%	0.10%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	1.3%	0.6%	0.34%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	2.6%	1.1%	0.68%	Other Batteries	0.1%	0.0%	0.02%
Film	0.0%	0.0%	0.02%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.5%	0.4%	0.22%	Sharps	0.0%	0.0%	0.00%
Other Film	3.6%	2.0%	1.24%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.1%	0.04%
R/C Plastic	0.9%	0.3%	0.19%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.5%</b>			Other Hazardous Waste & HHW	0.4%	0.7%	0.43%
Alc. Beverage Containers	0.0%	0.1%	0.04%	<b>Electronics</b>	<b>0.8%</b>		
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.02%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	0.3%	0.3%	0.16%	Other Small Consumer Electronics	0.0%	0.0%	0.00%
Other Ferrous	3.5%	3.8%	2.33%	TVs and Computer Monitors	0.3%	0.5%	0.31%
Other Non-Ferrous	0.4%	0.1%	0.07%	Other Large Electronics	0.5%	0.8%	0.46%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>12.2%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	5.9%	5.1%	3.08%
R/C Metal	0.3%	0.5%	0.32%	Textiles (other than carpet)	3.3%	2.2%	1.34%
<b>Glass</b>	<b>1.4%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	1.1%	1.3%	0.76%	Bottom Fines & Dirt	1.8%	0.6%	0.34%
Green & Other Colored Glass Cont.	0.0%	0.0%	0.00%	Other Miscellaneous	1.2%	1.8%	1.07%
Glass CT Dep. Bev. Containers	0.0%	0.0%	0.00%				
Flat Glass - Uncoated	0.0%	0.0%	0.00%	<b>Totals</b>	<b>100.0%</b>		
R/C Glass	0.3%	0.3%	0.18%	<b>Sample Count</b>	<b>7</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 28**  
**ICI Waste Season Two - Bristol Resource Recovery Facility**

<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>	<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>
<b>Paper</b>	<b>21.2%</b>			<b>Organics</b>	<b>23.8%</b>		
OCC/Kraft Paper	6.3%	2.2%	1.35%	Food Waste	10.7%	3.1%	1.90%
Offshore Cardboard	0.3%	0.5%	0.32%	Branches & Stumps	2.8%	3.9%	2.35%
High Grade Office Paper	1.4%	1.0%	0.61%	Prunings & Trimmings	1.3%	1.1%	0.69%
Magazines/Catalogs	1.1%	0.4%	0.27%	Leaves & Grass	6.2%	4.4%	2.67%
Newsprint	1.0%	0.3%	0.20%	Manures	0.1%	0.1%	0.05%
Phone Books & Directories	0.8%	1.1%	0.65%	R/C Organic	2.8%	0.8%	0.51%
Other Recyclable Paper	4.5%	2.7%	1.62%				
Compostable Paper	4.8%	1.0%	0.61%	<b>Construction and Demolition</b>	<b>19.5%</b>		
R/C Paper	0.9%	0.3%	0.21%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
				Wood - Treated	4.5%	3.3%	1.99%
<b>Plastic</b>	<b>16.1%</b>			Wood - Untreated	4.3%	3.9%	2.40%
PET Bottles/Jars (non-haz)	0.3%	0.1%	0.08%	Asphalt Roofing	0.1%	0.2%	0.10%
PET Containers-non bottles (non-haz)	0.3%	0.1%	0.08%	Drywall/Gypsum Board	1.7%	2.0%	1.19%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.04%	Carpet	4.4%	3.9%	2.36%
HDPE Bottles (non-haz)	0.3%	0.1%	0.08%	Carpet Padding	1.4%	1.8%	1.08%
HDPE Containers other than Bottles	0.3%	0.2%	0.12%	R/C C&D	3.1%	2.3%	1.39%
Plastic Containers #3-#7 (non-haz)	0.4%	0.2%	0.10%				
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.03%	<b>Household Hazardous Waste (HHW)</b>	<b>0.3%</b>		
Expanded Poly. Food-grade	0.5%	0.1%	0.09%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	8.7%	2.4%	1.48%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	1.2%	1.2%	0.71%	Other Batteries	0.0%	0.0%	0.01%
Grocery/Merchandise Bags	0.2%	0.1%	0.04%	Paint	0.0%	0.0%	0.00%
Other Film	2.7%	0.8%	0.47%	Sharps	0.0%	0.0%	0.01%
Pallets - Plastic	0.0%	0.0%	0.00%	Vehicle & Equipment Fluids	0.2%	0.3%	0.18%
R/C Plastic	1.1%	0.4%	0.24%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.06%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>7.4%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.1%	0.0%	0.02%				
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.03%	<b>Electronics</b>	<b>1.7%</b>		
Tin/Steel Containers	1.3%	1.4%	0.87%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	4.2%	3.2%	1.92%	Other Small Consumer Electronics	0.0%	0.0%	0.00%
Other Non-Ferrous	0.2%	0.1%	0.04%	TVs and Computer Monitors	1.7%	1.9%	1.13%
Appliances	1.0%	1.6%	0.99%	Other Large Electronics	0.0%	0.0%	0.00%
Compressed Fuel Containers	0.4%	0.7%	0.44%				
R/C Metal	0.1%	0.1%	0.06%	<b>Other Waste</b>	<b>8.4%</b>		
				Bulky Items	4.2%	3.3%	1.99%
<b>Glass</b>	<b>1.5%</b>			Textiles (other than carpet)	2.7%	1.3%	0.77%
Clear & Amber Glass Containers	0.5%	0.3%	0.21%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.08%	Bottom Fines & Dirt	0.7%	0.2%	0.10%
Glass CT Dep. Bev. Containers	0.1%	0.1%	0.04%	Other Miscellaneous	0.9%	1.2%	0.71%
Flat Glass - Uncoated	0.6%	1.0%	0.61%				
R/C Glass	0.2%	0.2%	0.11%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>18</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## Wheelabrator Bridgeport RRF

Twenty-four samples were analyzed during season two: 5 residential and 19 ICI. The overall, residential, and ICI results for season two are presented in Tables 29 through 31.

**Table 29**  
**Overall Waste Season Two - Wheelabrator Bridgeport RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>27.7%</b>			<b>Organics</b>	<b>26.1%</b>		
OCC/Kraft Paper	12.0%	3.3%	1.99%	Food Waste	13.7%	5.4%	3.27%
Offshore Cardboard	0.0%	0.0%	0.00%	Branches & Stumps	0.0%	0.0%	0.03%
High Grade Office Paper	1.3%	1.5%	0.90%	Prunings & Trimmings	1.1%	1.4%	0.86%
Magazines/Catalogs	1.0%	0.5%	0.30%	Leaves & Grass	9.1%	4.0%	2.43%
Newsprint	3.3%	2.2%	1.36%	Manures	0.2%	0.2%	0.13%
Phone Books & Directories	0.6%	0.7%	0.43%	R/C Organic	2.1%	0.9%	0.54%
Other Recyclable Paper	3.4%	1.4%	0.85%				
Compostable Paper	5.5%	1.6%	0.98%	<b>Construction and Demolition</b>	<b>15.2%</b>		
R/C Paper	0.7%	0.2%	0.12%	Asphalt, Brick, & Concrete	0.6%	0.9%	0.56%
				Wood - Treated	5.2%	4.2%	2.56%
<b>Plastic</b>	<b>13.9%</b>			Wood - Untreated	6.0%	3.1%	1.91%
PET Bottles/Jars (non-haz)	0.4%	0.2%	0.13%	Asphalt Roofing	2.1%	3.5%	2.14%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.09%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.05%	Carpet	0.3%	0.5%	0.28%
HDPE Bottles (non-haz)	0.2%	0.1%	0.07%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.1%	0.1%	0.06%	R/C C&D	1.0%	0.9%	0.52%
Plastic Containers #3-#7 (non-haz)	0.4%	0.2%	0.11%				
Expanded Poly. Non-Food Grade	2.8%	4.3%	2.62%	<b>Household Hazardous Waste (HHW)</b>	<b>0.2%</b>		
Expanded Poly. Food-grade	0.4%	0.2%	0.12%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	3.5%	1.6%	0.95%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	1.5%	1.0%	0.58%	Other Batteries	0.2%	0.2%	0.10%
Grocery/Merchandise Bags	0.3%	0.2%	0.10%	Paint	0.0%	0.0%	0.01%
Other Film	1.8%	0.8%	0.46%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.4%	0.4%	0.23%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	1.7%	0.8%	0.48%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.01%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.0%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.1%	0.1%	0.04%				
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>0.5%</b>		
Tin/Steel Containers	0.9%	0.3%	0.19%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	1.3%	1.2%	0.73%	Other Small Consumer Electronics	0.0%	0.0%	0.02%
Other Non-Ferrous	0.7%	0.4%	0.22%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Appliances	0.1%	0.2%	0.10%	Other Large Electronics	0.5%	0.6%	0.35%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.9%	0.7%	0.43%	<b>Other Waste</b>	<b>11.0%</b>		
				Bulky Items	2.8%	3.4%	2.04%
<b>Glass</b>	<b>1.4%</b>			Textiles (other than carpet)	5.9%	2.8%	1.68%
Clear & Amber Glass Containers	0.7%	0.3%	0.19%	Restaurant Fats, Oils, & Grease	0.0%	0.1%	0.05%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.05%	Bottom Fines & Dirt	2.0%	0.8%	0.46%
Glass CT Dep. Bev. Containers	0.4%	0.2%	0.15%	Other Miscellaneous	0.3%	0.3%	0.18%
Flat Glass - Uncoated	0.2%	0.2%	0.12%				
R/C Glass	0.1%	0.1%	0.06%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>24</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 30**  
**Residential Waste Season Two - Wheelabrator Bridgeport RRF**

<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>	<b>Material</b>	<b>Est. Percent</b>	<b>+ / -</b>	<b>Stand. Dev.</b>
<b>Paper</b>	<b>24.6%</b>			<b>Organics</b>	<b>36.6%</b>		
OCC/Kraft Paper	7.4%	4.5%	2.71%	Food Waste	16.8%	8.5%	5.18%
Offshore Cardboard	0.0%	0.0%	0.00%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	0.1%	0.1%	0.09%	Prunings & Trimmings	1.6%	2.7%	1.63%
Magazines/Catalogs	1.4%	0.9%	0.53%	Leaves & Grass	15.2%	7.6%	4.64%
Newsprint	2.1%	1.0%	0.61%	Manures	0.0%	0.0%	0.02%
Phone Books & Directories	0.3%	0.5%	0.31%	R/C Organic	2.9%	1.6%	0.97%
Other Recyclable Paper	5.3%	2.7%	1.65%	<b>Construction and Demolition</b>	<b>6.9%</b>		
Compostable Paper	7.1%	2.6%	1.59%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
R/C Paper	0.9%	0.4%	0.23%	Wood - Treated	4.6%	7.3%	4.44%
<b>Plastic</b>	<b>11.5%</b>			Wood - Untreated	0.2%	0.3%	0.21%
PET Bottles/Jars (non-haz)	0.4%	0.2%	0.15%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.2%	0.3%	0.17%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.3%	0.1%	0.09%	Carpet	0.1%	0.1%	0.06%
HDPE Bottles (non-haz)	0.3%	0.2%	0.13%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.2%	0.2%	0.12%	R/C C&D	2.0%	1.7%	1.01%
Plastic Containers #3-#7 (non-haz)	0.7%	0.3%	0.21%	<b>Household Hazardous Waste (HHW)</b>	<b>0.3%</b>		
Expanded Poly. Non-Food Grade	0.0%	0.0%	0.00%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%
Expanded Poly. Food-grade	0.5%	0.3%	0.19%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	3.0%	2.0%	1.24%	Other Batteries	0.3%	0.3%	0.20%
Film	1.6%	1.1%	0.65%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.5%	0.3%	0.19%	Sharps	0.0%	0.0%	0.01%
Other Film	1.9%	1.2%	0.73%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.00%
R/C Plastic	1.8%	0.8%	0.49%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>2.7%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.2%	0.1%	0.07%	<b>Electronics</b>	<b>0.0%</b>		
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.03%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	1.2%	0.4%	0.26%	Other Small Consumer Electronics	0.0%	0.1%	0.04%
Other Ferrous	0.0%	0.0%	0.03%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Other Non-Ferrous	0.4%	0.1%	0.08%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>16.0%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	4.0%	6.4%	3.87%
R/C Metal	0.9%	0.8%	0.51%	Textiles (other than carpet)	8.7%	5.0%	3.05%
<b>Glass</b>	<b>1.4%</b>			Restaurant Fats, Oils, & Grease	0.1%	0.2%	0.10%
Clear & Amber Glass Containers	0.9%	0.4%	0.27%	Bottom Fines & Dirt	3.1%	1.4%	0.87%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.08%	Other Miscellaneous	0.1%	0.1%	0.05%
Glass CT Dep. Bev. Containers	0.2%	0.2%	0.12%				
Flat Glass - Uncoated	0.2%	0.3%	0.20%				
R/C Glass	0.0%	0.0%	0.00%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>5</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 31**  
**ICI Waste Season Two - Wheelabrator Bridgeport RRF**

<b>Material</b>	<b>Est.</b>		<b>Stand.</b>	<b>Material</b>	<b>Est.</b>		<b>Stand.</b>
	<b>Percent</b>	<b>+ / -</b>	<b>Dev.</b>		<b>Percent</b>	<b>+ / -</b>	<b>Dev.</b>
<b>Paper</b>	<b>30.9%</b>			<b>Organics</b>	<b>15.0%</b>		
OCC/Kraft Paper	16.8%	4.8%	2.92%	Food Waste	10.3%	6.4%	3.89%
Offshore Cardboard	0.0%	0.0%	0.00%	Branches & Stumps	0.1%	0.1%	0.06%
High Grade Office Paper	2.6%	3.0%	1.85%	Prunings & Trimmings	0.5%	0.5%	0.32%
Magazines/Catalogs	0.6%	0.5%	0.28%	Leaves & Grass	2.6%	1.4%	0.87%
Newsprint	4.6%	4.5%	2.73%	Manures	0.3%	0.5%	0.27%
Phone Books & Directories	0.8%	1.4%	0.82%	R/C Organic	1.3%	0.7%	0.41%
Other Recyclable Paper	1.3%	0.3%	0.16%				
Compostable Paper	3.8%	1.8%	1.12%	<b>Construction and Demolition</b>	<b>24.0%</b>		
R/C Paper	0.4%	0.1%	0.07%	Asphalt, Brick, & Concrete	1.1%	1.9%	1.15%
				Wood - Treated	5.8%	3.9%	2.37%
<b>Plastic</b>	<b>16.4%</b>			Wood - Untreated	12.1%	6.5%	3.94%
PET Bottles/Jars (non-haz)	0.5%	0.4%	0.23%	Asphalt Roofing	4.4%	7.3%	4.43%
PET Containers-non bottles (non-haz)	0.1%	0.0%	0.03%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.1%	0.1%	0.05%	Carpet	0.6%	0.9%	0.58%
HDPE Bottles (non-haz)	0.1%	0.1%	0.03%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.1%	0.1%	0.04%	R/C C&D	0.0%	0.0%	0.01%
Plastic Containers #3-#7 (non-haz)	0.1%	0.1%	0.04%				
Expanded Poly. Non-Food Grade	5.8%	8.9%	5.42%	<b>Household Hazardous Waste (HHW)</b>	<b>0.1%</b>		
Expanded Poly. Food-grade	0.3%	0.2%	0.14%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	3.9%	2.4%	1.45%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	1.3%	1.6%	0.99%	Other Batteries	0.0%	0.0%	0.01%
Grocery/Merchandise Bags	0.1%	0.0%	0.02%	Paint	0.0%	0.0%	0.01%
Other Film	1.8%	0.9%	0.55%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.8%	0.8%	0.48%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	1.6%	1.4%	0.85%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.01%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>5.4%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.1%	0.0%	0.02%				
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>1.0%</b>		
Tin/Steel Containers	0.6%	0.5%	0.27%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	2.6%	2.5%	1.50%	Other Small Consumer Electronics	0.0%	0.0%	0.00%
Other Non-Ferrous	1.0%	0.7%	0.44%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Appliances	0.2%	0.3%	0.21%	Other Large Electronics	1.0%	1.2%	0.72%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.9%	1.2%	0.71%	<b>Other Waste</b>	<b>5.6%</b>		
				Bulky Items	1.5%	1.4%	0.84%
<b>Glass</b>	<b>1.4%</b>			Textiles (other than carpet)	2.8%	2.1%	1.25%
Clear & Amber Glass Containers	0.5%	0.4%	0.26%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.03%	Bottom Fines & Dirt	0.8%	0.3%	0.21%
Glass CT Dep. Bev. Containers	0.5%	0.5%	0.28%	Other Miscellaneous	0.5%	0.6%	0.36%
Flat Glass - Uncoated	0.2%	0.2%	0.10%				
R/C Glass	0.1%	0.2%	0.12%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>19</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## New Haven Municipal Transfer Station

Twenty-four samples were analyzed during season two: 14 residential and 10 ICI. The overall, residential, and ICI results for season two are presented in Tables 32 through 34.

**Table 32**  
**Overall Waste Season Two - New Haven Municipal Transfer Station**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>24.7%</b>			<b>Organics</b>	<b>24.0%</b>		
OCC/Kraft Paper	11.5%	4.4%	2.67%	Food Waste	11.7%	3.7%	2.26%
Offshore Cardboard	0.5%	0.8%	0.49%	Branches & Stumps	0.2%	0.3%	0.19%
High Grade Office Paper	3.0%	1.8%	1.11%	Prunings & Trimmings	0.5%	0.6%	0.35%
Magazines/Catalogs	0.6%	0.4%	0.22%	Leaves & Grass	8.1%	3.4%	2.04%
Newsprint	1.4%	0.5%	0.33%	Manures	0.1%	0.2%	0.10%
Phone Books & Directories	0.3%	0.3%	0.16%	R/C Organic	3.4%	2.1%	1.28%
Other Recyclable Paper	2.8%	0.7%	0.43%				
Compostable Paper	3.9%	0.8%	0.49%	<b>Construction and Demolition</b>	<b>22.0%</b>		
R/C Paper	0.7%	0.2%	0.13%	Asphalt, Brick, & Concrete	0.8%	1.3%	0.79%
				Wood - Treated	12.9%	12.0%	7.32%
<b>Plastic</b>	<b>11.1%</b>			Wood - Untreated	1.1%	1.7%	1.03%
PET Bottles/Jars (non-haz)	0.2%	0.1%	0.07%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.05%	Drywall/Gypsum Board	2.5%	2.5%	1.54%
Plastic CT Dep. Bev. Containers	0.3%	0.1%	0.04%	Carpet	1.2%	1.2%	0.72%
HDPE Bottles (non-haz)	0.4%	0.1%	0.08%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.2%	0.1%	0.06%	R/C C&D	3.4%	3.4%	2.06%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.09%				
Expanded Poly. Non-Food Grade	0.0%	0.1%	0.03%	<b>Household Hazardous Waste (HHW)</b>	<b>0.1%</b>		
Expanded Poly. Food-grade	0.7%	0.2%	0.15%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	4.0%	1.9%	1.13%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.4%	0.2%	0.14%	Other Batteries	0.0%	0.0%	0.02%
Grocery/Merchandise Bags	0.5%	0.1%	0.08%	Paint	0.0%	0.0%	0.00%
Other Film	2.4%	0.5%	0.29%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Vehicle & Equipment Fluids	0.0%	0.0%	0.01%
R/C Plastic	1.4%	0.8%	0.50%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.02%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>3.9%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.1%	0.0%	0.01%	<b>Electronics</b>	<b>2.0%</b>		
Tin/Steel Containers	0.7%	0.3%	0.20%	Computer-related Electronics	0.1%	0.1%	0.06%
Other Ferrous	0.6%	0.5%	0.31%	Other Small Consumer Electronics	0.3%	0.4%	0.24%
Other Non-Ferrous	0.5%	0.4%	0.23%	TVs and Computer Monitors	0.4%	0.7%	0.42%
Appliances	0.1%	0.2%	0.15%	Other Large Electronics	1.2%	1.4%	0.83%
Compressed Fuel Containers	1.1%	1.8%	1.08%				
R/C Metal	0.7%	0.7%	0.43%	<b>Other Waste</b>	<b>10.0%</b>		
				Bulky Items	3.0%	3.4%	2.09%
<b>Glass</b>	<b>2.2%</b>			Textiles (other than carpet)	4.9%	1.7%	1.03%
Clear & Amber Glass Containers	0.8%	0.5%	0.29%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.08%	Bottom Fines & Dirt	0.9%	0.2%	0.11%
Glass CT Dep. Bev. Containers	0.3%	0.2%	0.12%	Other Miscellaneous	1.2%	1.5%	0.93%
Flat Glass - Uncoated	0.9%	1.5%	0.88%				
R/C Glass	0.1%	0.1%	0.05%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>24</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 33**  
**Residential Waste Season Two - New Haven Municipal Transfer Station**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>17.8%</b>			<b>Organics</b>	<b>35.3%</b>		
OCC/Kraft Paper	3.2%	1.3%	0.82%	Food Waste	14.9%	4.4%	2.69%
Offshore Cardboard	0.0%	0.0%	0.01%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	3.3%	3.0%	1.82%	Prunings & Trimmings	1.3%	1.4%	0.87%
Magazines/Catalogs	0.8%	0.6%	0.39%	Leaves & Grass	15.8%	5.5%	3.32%
Newsprint	1.9%	1.1%	0.65%	Manures	0.3%	0.4%	0.25%
Phone Books & Directories	0.3%	0.3%	0.19%	R/C Organic	3.0%	1.0%	0.63%
Other Recyclable Paper	3.9%	1.4%	0.87%				
Compostable Paper	3.6%	1.0%	0.62%	<b>Construction and Demolition</b>	<b>10.4%</b>		
R/C Paper	0.7%	0.4%	0.23%	Asphalt, Brick, & Concrete	0.0%	0.1%	0.03%
				Wood - Treated	3.7%	3.3%	1.98%
<b>Plastic</b>	<b>12.0%</b>			Wood - Untreated	0.1%	0.2%	0.10%
PET Bottles/Jars (non-haz)	0.4%	0.2%	0.12%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.04%	Drywall/Gypsum Board	2.7%	2.5%	1.53%
Plastic CT Dep. Bev. Containers	0.5%	0.1%	0.09%	Carpet	1.9%	2.2%	1.34%
HDPE Bottles (non-haz)	0.5%	0.2%	0.10%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.3%	0.2%	0.10%	R/C C&D	1.9%	2.4%	1.46%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.08%				
Expanded Poly. Non-Food Grade	0.0%	0.0%	0.00%	<b>Household Hazardous Waste (HHW)</b>	<b>0.1%</b>		
Expanded Poly. Food-grade	0.8%	0.2%	0.13%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	4.7%	1.9%	1.18%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.2%	0.1%	0.07%	Other Batteries	0.0%	0.0%	0.03%
Grocery/Merchandise Bags	0.7%	0.2%	0.13%	Paint	0.0%	0.0%	0.00%
Other Film	2.5%	0.8%	0.47%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.0%	0.0%	0.00%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	0.8%	0.2%	0.13%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.02%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>3.1%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.1%	0.0%	0.03%	<b>Electronics</b>	<b>4.8%</b>		
Tin/Steel Containers	1.0%	0.3%	0.15%	Computer-related Electronics	0.0%	0.0%	0.01%
Other Ferrous	0.7%	0.9%	0.54%	Other Small Consumer Electronics	0.7%	1.0%	0.60%
Other Non-Ferrous	0.3%	0.1%	0.05%	TVs and Computer Monitors	1.0%	1.7%	1.04%
Appliances	0.4%	0.6%	0.36%	Other Large Electronics	3.0%	3.4%	2.06%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.6%	0.4%	0.23%	<b>Other Waste</b>	<b>14.3%</b>		
				Bulky Items	2.6%	3.4%	2.07%
<b>Glass</b>	<b>2.3%</b>			Textiles (other than carpet)	9.2%	3.4%	2.06%
Clear & Amber Glass Containers	1.2%	0.5%	0.28%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.3%	0.3%	0.16%	Bottom Fines & Dirt	1.6%	0.3%	0.21%
Glass CT Dep. Bev. Containers	0.7%	0.5%	0.30%	Other Miscellaneous	0.9%	1.3%	0.78%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.2%	0.1%	0.05%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>14</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 34**  
**ICI Waste Season Two - New Haven Municipal Transfer Station**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>29.4%</b>			<b>Organics</b>	<b>16.4%</b>		
OCC/Kraft Paper	17.1%	7.3%	4.42%	Food Waste	9.5%	5.4%	3.31%
Offshore Cardboard	0.8%	1.4%	0.82%	Branches & Stumps	0.3%	0.5%	0.31%
High Grade Office Paper	2.7%	2.3%	1.41%	Prunings & Trimmings	0.0%	0.0%	0.00%
Magazines/Catalogs	0.5%	0.4%	0.25%	Leaves & Grass	2.9%	4.3%	2.59%
Newsprint	1.1%	0.5%	0.33%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.2%	0.4%	0.24%	R/C Organic	3.7%	3.5%	2.10%
Other Recyclable Paper	2.1%	0.7%	0.40%	<b>Construction and Demolition</b>	<b>29.8%</b>		
Compostable Paper	4.1%	1.2%	0.70%	Asphalt, Brick, & Concrete	1.3%	2.2%	1.32%
R/C Paper	0.6%	0.2%	0.15%	Wood - Treated	19.1%	20.0%	#####
<b>Plastic</b>	<b>10.6%</b>			Wood - Untreated	1.8%	2.8%	1.72%
PET Bottles/Jars (non-haz)	0.1%	0.1%	0.07%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.09%	Drywall/Gypsum Board	2.3%	3.9%	2.35%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.05%	Carpet	0.8%	1.3%	0.79%
HDPE Bottles (non-haz)	0.4%	0.2%	0.11%	Carpet Padding	0.0%	0.0%	0.00%
HDPE Containers other than Bottles	0.1%	0.1%	0.07%	R/C C&D	4.4%	5.4%	3.29%
Plastic Containers #3-#7 (non-haz)	0.4%	0.2%	0.14%	<b>Household Hazardous Waste (HHW)</b>	<b>0.1%</b>		
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.06%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	0.7%	0.4%	0.23%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	3.6%	2.8%	1.72%	Other Batteries	0.0%	0.0%	0.03%
Film	0.5%	0.4%	0.23%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.3%	0.2%	0.11%	Sharps	0.0%	0.0%	0.00%
Other Film	2.3%	0.6%	0.37%	Vehicle & Equipment Fluids	0.0%	0.0%	0.02%
Pallets - Plastic	0.0%	0.0%	0.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.1%	0.04%
R/C Plastic	1.8%	1.4%	0.82%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.4%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>0.1%</b>		
Alc. CT Dep. Bev. Containers	0.0%	0.0%	0.02%	Computer-related Electronics	0.1%	0.2%	0.11%
Tin/Steel Containers	0.6%	0.5%	0.33%	Other Small Consumer Electronics	0.0%	0.0%	0.00%
Other Ferrous	0.5%	0.6%	0.38%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Other Non-Ferrous	0.6%	0.6%	0.38%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.0%	0.0%	0.00%	<b>Other Waste</b>	<b>7.1%</b>		
Compressed Fuel Containers	1.8%	3.0%	1.80%	Bulky Items	3.2%	5.3%	3.20%
R/C Metal	0.8%	1.2%	0.71%	Textiles (other than carpet)	2.0%	1.7%	1.03%
<b>Glass</b>	<b>2.2%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	0.6%	0.7%	0.45%	Bottom Fines & Dirt	0.4%	0.2%	0.12%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.08%	Other Miscellaneous	1.5%	2.4%	1.46%
Glass CT Dep. Bev. Containers	0.0%	0.0%	0.02%	<b>Totals</b>	<b>100.0%</b>		
Flat Glass - Uncoated	1.5%	2.4%	1.48%	<b>Sample Count</b>	<b>10</b>		
R/C Glass	0.1%	0.1%	0.07%				

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## CRRRA Southeast Project (Preston) RRF

Twenty-eight samples were analyzed in season two: 8 residential and 20 ICI. The overall, residential, and ICI results for season two are presented in Tables 35 through 37.

**Table 35**  
**Overall Waste Season Two - CRRRA Southeast Project (Preston) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>19.1%</b>			<b>Organics</b>	<b>27.1%</b>		
OCC/Kraft Paper	3.5%	0.9%	0.55%	Food Waste	14.8%	2.1%	1.28%
Offshore Cardboard	0.2%	0.1%	0.07%	Branches & Stumps	0.4%	0.5%	0.30%
High Grade Office Paper	1.4%	1.1%	0.67%	Prunings & Trimmings	2.0%	2.9%	1.76%
Magazines/Catalogs	0.4%	0.2%	0.12%	Leaves & Grass	7.3%	8.7%	5.31%
Newsprint	0.9%	0.4%	0.22%	Manures	0.6%	0.9%	0.54%
Phone Books & Directories	0.1%	0.1%	0.08%	R/C Organic	2.0%	0.7%	0.40%
Other Recyclable Paper	2.8%	1.2%	0.71%				
Compostable Paper	7.0%	3.9%	2.35%	<b>Construction and Demolition</b>	<b>14.0%</b>		
R/C Paper	2.7%	1.7%	1.03%	Asphalt, Brick, & Concrete	0.2%	0.2%	0.15%
				Wood - Treated	5.5%	3.3%	2.03%
<b>Plastic</b>	<b>21.9%</b>			Wood - Untreated	3.9%	3.4%	2.04%
PET Bottles/Jars (non-haz)	0.3%	0.0%	0.02%	Asphalt Roofing	0.5%	0.8%	0.51%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.04%	Drywall/Gypsum Board	0.2%	0.3%	0.16%
Plastic CT Dep. Bev. Containers	2.1%	3.1%	1.86%	Carpet	2.0%	1.6%	0.97%
HDPE Bottles (non-haz)	1.0%	1.0%	0.58%	Carpet Padding	0.5%	0.5%	0.32%
HDPE Containers other than Bottles	0.4%	0.4%	0.21%	R/C C&D	1.3%	1.1%	0.68%
Plastic Containers #3-#7 (non-haz)	0.4%	0.2%	0.15%				
Expanded Poly. Non-Food Grade	3.9%	4.6%	2.79%	<b>Household Hazardous Waste (HHW)</b>	<b>0.2%</b>		
Expanded Poly. Food-grade	1.3%	1.2%	0.71%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	3.5%	2.9%	1.74%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.8%	0.6%	0.39%	Other Batteries	0.0%	0.0%	0.02%
Grocery/Merchandise Bags	0.6%	0.2%	0.12%	Paint	0.0%	0.0%	0.00%
Other Film	3.2%	1.2%	0.74%	Sharps	0.0%	0.0%	0.01%
Pallets - Plastic	0.7%	0.8%	0.50%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	3.6%	1.7%	1.00%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.09%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>3.9%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.06%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.5%	0.6%	0.34%	<b>Electronics</b>	<b>1.1%</b>		
Tin/Steel Containers	0.5%	0.3%	0.18%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	0.4%	0.3%	0.19%	Other Small Consumer Electronics	0.0%	0.0%	0.01%
Other Non-Ferrous	0.1%	0.1%	0.05%	TVs and Computer Monitors	0.9%	0.6%	0.39%
Appliances	0.7%	0.5%	0.31%	Other Large Electronics	0.2%	0.3%	0.19%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	1.6%	2.1%	1.27%	<b>Other Waste</b>	<b>10.9%</b>		
				Bulky Items	2.2%	1.3%	0.77%
<b>Glass</b>	<b>1.9%</b>			Textiles (other than carpet)	7.0%	1.5%	0.91%
Clear & Amber Glass Containers	0.6%	0.4%	0.27%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.5%	0.5%	0.33%	Bottom Fines & Dirt	1.1%	0.1%	0.09%
Glass CT Dep. Bev. Containers	0.8%	1.1%	0.67%	Other Miscellaneous	0.5%	0.6%	0.39%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.0%	0.0%	0.01%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>28</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 36**  
**Residential Waste Season Two - CRRA Southeast Project (Preston) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>16.2%</b>			<b>Organics</b>	<b>35.6%</b>		
OCC/Kraft Paper	1.5%	0.6%	0.39%	Food Waste	18.9%	3.3%	1.98%
Offshore Cardboard	0.1%	0.2%	0.09%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	1.2%	1.7%	1.06%	Prunings & Trimmings	3.0%	5.0%	3.03%
Magazines/Catalogs	0.2%	0.3%	0.16%	Leaves & Grass	9.7%	15.2%	9.21%
Newsprint	0.5%	0.2%	0.11%	Manures	1.0%	1.6%	0.94%
Phone Books & Directories	0.1%	0.2%	0.12%	R/C Organic	2.9%	1.1%	0.66%
Other Recyclable Paper	3.3%	2.0%	1.20%	<b>Construction and Demolition</b>	<b>14.9%</b>		
Compostable Paper	7.9%	6.5%	3.94%	Asphalt, Brick, & Concrete	0.3%	0.4%	0.25%
R/C Paper	1.4%	1.3%	0.77%	Wood - Treated	7.9%	5.7%	3.44%
<b>Plastic</b>	<b>14.6%</b>			Wood - Untreated	2.3%	1.9%	1.13%
PET Bottles/Jars (non-haz)	0.5%	0.0%	0.02%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.07%	Drywall/Gypsum Board	0.3%	0.5%	0.28%
Plastic CT Dep. Bev. Containers	0.1%	0.1%	0.04%	Carpet	2.5%	2.7%	1.62%
HDPE Bottles (non-haz)	0.6%	0.4%	0.22%	Carpet Padding	0.4%	0.6%	0.38%
HDPE Containers other than Bottles	0.3%	0.3%	0.17%	R/C C&D	1.3%	1.6%	1.00%
Plastic Containers #3-#7 (non-haz)	0.5%	0.4%	0.25%	<b>Household Hazardous Waste (HHW)</b>	<b>0.2%</b>		
Expanded Poly. Non-Food Grade	0.0%	0.0%	0.03%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	1.2%	1.6%	0.99%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	4.3%	4.9%	3.01%	Other Batteries	0.0%	0.0%	0.03%
Film	0.8%	1.1%	0.64%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.8%	0.3%	0.21%	Sharps	0.0%	0.0%	0.02%
Other Film	3.5%	2.0%	1.19%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
Pallets - Plastic	0.3%	0.5%	0.28%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.3%	0.15%
R/C Plastic	1.7%	1.1%	0.65%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>1.4%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.0%	0.0%	0.02%	<b>Electronics</b>	<b>1.5%</b>		
Alc. CT Dep. Bev. Containers	0.3%	0.4%	0.22%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	0.4%	0.2%	0.15%	Other Small Consumer Electronics	0.0%	0.0%	0.00%
Other Ferrous	0.3%	0.4%	0.24%	TVs and Computer Monitors	1.5%	1.1%	0.68%
Other Non-Ferrous	0.1%	0.1%	0.06%	Other Large Electronics	0.0%	0.0%	0.00%
Appliances	0.2%	0.3%	0.18%	<b>Other Waste</b>	<b>14.0%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	2.4%	1.8%	1.08%
R/C Metal	0.1%	0.1%	0.03%	Textiles (other than carpet)	10.2%	2.4%	1.44%
<b>Glass</b>	<b>1.6%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	0.8%	0.8%	0.47%	Bottom Fines & Dirt	1.4%	0.2%	0.11%
Green & Other Colored Glass Cont.	0.8%	0.9%	0.58%	Other Miscellaneous	0.0%	0.0%	0.00%
Glass CT Dep. Bev. Containers	0.0%	0.0%	0.00%	<b>Totals</b>	<b>100.0%</b>		
Flat Glass - Uncoated	0.0%	0.0%	0.00%	<b>Sample Count</b>	<b>8</b>		
R/C Glass	0.0%	0.0%	0.01%				

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 37**  
**ICI Waste Season Two - CRRA Southeast Project (Preston) RRF**

<b>Material</b>	<b>Est.</b>	<b>+ / -</b>	<b>Stand.</b>	<b>Material</b>	<b>Est.</b>	<b>+ / -</b>	<b>Stand.</b>
	<b>Percent</b>		<b>Dev.</b>		<b>Percent</b>		<b>Dev.</b>
<b>Paper</b>	<b>22.9%</b>			<b>Organics</b>	<b>15.9%</b>		
OCC/Kraft Paper	6.3%	1.9%	1.18%	Food Waste	9.3%	2.3%	1.42%
Offshore Cardboard	0.2%	0.1%	0.09%	Branches & Stumps	1.0%	1.2%	0.70%
High Grade Office Paper	1.7%	1.1%	0.66%	Prunings & Trimmings	0.7%	1.1%	0.65%
Magazines/Catalogs	0.7%	0.3%	0.18%	Leaves & Grass	4.0%	2.5%	1.55%
Newsprint	1.5%	0.8%	0.48%	Manures	0.0%	0.0%	0.00%
Phone Books & Directories	0.1%	0.1%	0.07%	R/C Organic	0.8%	0.5%	0.33%
Other Recyclable Paper	2.2%	0.7%	0.42%	<b>Construction and Demolition</b>	<b>12.8%</b>		
Compostable Paper	5.8%	2.6%	1.55%	Asphalt, Brick, & Concrete	0.0%	0.1%	0.04%
R/C Paper	4.4%	3.6%	2.17%	Wood - Treated	2.4%	1.9%	1.17%
<b>Plastic</b>	<b>31.6%</b>			Wood - Untreated	6.0%	7.4%	4.52%
PET Bottles/Jars (non-haz)	0.1%	0.1%	0.04%	Asphalt Roofing	1.2%	1.9%	1.18%
PET Containers-non bottles (non-haz)	0.1%	0.0%	0.02%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	4.7%	7.1%	4.34%	Carpet	1.2%	1.1%	0.67%
HDPE Bottles (non-haz)	1.6%	2.2%	1.32%	Carpet Padding	0.8%	0.9%	0.54%
HDPE Containers other than Bottles	0.6%	0.7%	0.44%	R/C C&D	1.3%	1.4%	0.86%
Plastic Containers #3-#7 (non-haz)	0.2%	0.1%	0.08%	<b>Household Hazardous Waste (HHW)</b>	<b>0.2%</b>		
Expanded Poly. Non-Food Grade	9.1%	10.7%	6.53%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Expanded Poly. Food-grade	1.4%	1.7%	1.01%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Durable Plastic Items	2.5%	1.0%	0.62%	Other Batteries	0.0%	0.0%	0.00%
Film	0.9%	0.5%	0.33%	Paint	0.0%	0.0%	0.00%
Grocery/Merchandise Bags	0.3%	0.1%	0.05%	Sharps	0.0%	0.0%	0.00%
Other Film	2.7%	1.1%	0.66%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
Pallets - Plastic	1.2%	1.8%	1.11%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.0%	0.0%	0.00%
R/C Plastic	6.2%	3.6%	2.18%	Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>7.3%</b>			Other Hazardous Waste & HHW	0.2%	0.2%	0.15%
Alc. Beverage Containers	0.0%	0.0%	0.00%	<b>Electronics</b>	<b>0.5%</b>		
Alc. CT Dep. Bev. Containers	0.8%	1.2%	0.74%	Computer-related Electronics	0.0%	0.0%	0.00%
Tin/Steel Containers	0.6%	0.6%	0.36%	Other Small Consumer Electronics	0.0%	0.0%	0.03%
Other Ferrous	0.6%	0.5%	0.32%	TVs and Computer Monitors	0.0%	0.0%	0.00%
Other Non-Ferrous	0.2%	0.1%	0.08%	Other Large Electronics	0.4%	0.7%	0.44%
Appliances	1.4%	1.1%	0.69%	<b>Other Waste</b>	<b>6.7%</b>		
Compressed Fuel Containers	0.0%	0.0%	0.00%	Bulky Items	1.9%	1.8%	1.09%
R/C Metal	3.6%	4.9%	2.96%	Textiles (other than carpet)	2.8%	1.5%	0.90%
<b>Glass</b>	<b>2.2%</b>			Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Clear & Amber Glass Containers	0.2%	0.1%	0.09%	Bottom Fines & Dirt	0.8%	0.2%	0.14%
Green & Other Colored Glass Cont.	0.1%	0.2%	0.09%	Other Miscellaneous	1.2%	1.5%	0.92%
Glass CT Dep. Bev. Containers	1.8%	2.6%	1.56%				
Flat Glass - Uncoated	0.0%	0.0%	0.00%	<b>Totals</b>	<b>100.0%</b>		
R/C Glass	0.1%	0.0%	0.03%	<b>Sample Count</b>	<b>20</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## CRRR Mid-CT Project (Hartford) RRF

At the Mid-Connecticut Covanta facility, 28 samples were collected and sampled: 10 residential and 18 ICI. The overall, residential, and ICI results for season two are found in this section.

**Table 38**  
**Overall Waste Season Two - CRRR Mid-CT Project (Hartford) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>18.9%</b>			<b>Organics</b>	<b>36.7%</b>		
OCC/Kraft Paper	2.4%	1.0%	0.63%	Food Waste	12.8%	3.5%	2.10%
Offshore Cardboard	0.4%	0.4%	0.25%	Branches & Stumps	0.1%	0.2%	0.10%
High Grade Office Paper	1.5%	0.8%	0.48%	Prunings & Trimmings	5.4%	5.2%	3.13%
Magazines/Catalogs	1.2%	0.5%	0.28%	Leaves & Grass	16.5%	5.4%	3.25%
Newsprint	0.7%	0.3%	0.16%	Manures	0.2%	0.2%	0.11%
Phone Books & Directories	0.1%	0.1%	0.05%	R/C Organic	1.7%	0.4%	0.25%
Other Recyclable Paper	3.4%	0.7%	0.45%				
Compostable Paper	8.5%	2.0%	1.20%	<b>Construction and Demolition</b>	<b>14.6%</b>		
R/C Paper	0.8%	0.5%	0.29%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.02%
				Wood - Treated	4.2%	2.7%	1.63%
<b>Plastic</b>	<b>12.7%</b>			Wood - Untreated	2.9%	1.4%	0.85%
PET Bottles/Jars (non-haz)	0.1%	0.0%	0.03%	Asphalt Roofing	0.1%	0.1%	0.07%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.06%	Drywall/Gypsum Board	1.5%	2.5%	1.49%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.05%	Carpet	3.3%	2.5%	1.53%
HDPE Bottles (non-haz)	0.3%	0.1%	0.08%	Carpet Padding	1.7%	1.6%	0.98%
HDPE Containers other than Bottles	0.2%	0.1%	0.04%	R/C C&D	0.9%	0.8%	0.48%
Plastic Containers #3-#7 (non-haz)	0.5%	0.2%	0.11%				
Expanded Poly. Non-Food Grade	1.0%	1.1%	0.64%	<b>Household Hazardous Waste (HHW)</b>	<b>0.2%</b>		
Expanded Poly. Food-grade	0.7%	0.2%	0.14%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	4.3%	2.1%	1.25%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.4%	0.1%	0.08%	Other Batteries	0.0%	0.0%	0.02%
Grocery/Merchandise Bags	0.4%	0.1%	0.09%	Paint	0.0%	0.0%	0.00%
Other Film	2.6%	0.5%	0.31%	Sharps	0.0%	0.0%	0.01%
Pallets - Plastic	0.5%	0.5%	0.33%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	1.5%	0.5%	0.30%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.07%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>5.5%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.02%
Alc. Beverage Containers	0.0%	0.0%	0.00%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.03%	<b>Electronics</b>	<b>3.3%</b>		
Tin/Steel Containers	0.5%	0.3%	0.16%	Computer-related Electronics	0.9%	0.9%	0.56%
Other Ferrous	3.3%	1.4%	0.88%	Other Small Consumer Electronics	0.4%	0.3%	0.18%
Other Non-Ferrous	1.2%	1.6%	0.99%	TVs and Computer Monitors	1.9%	1.9%	1.18%
Appliances	0.1%	0.2%	0.14%	Other Large Electronics	0.0%	0.0%	0.00%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.3%	0.2%	0.13%	<b>Other Waste</b>	<b>6.2%</b>		
				Bulky Items	2.1%	1.9%	1.16%
<b>Glass</b>	<b>2.1%</b>			Textiles (other than carpet)	1.7%	0.8%	0.51%
Clear & Amber Glass Containers	1.5%	1.7%	1.04%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.0%	0.0%	0.02%	Bottom Fines & Dirt	1.0%	0.2%	0.11%
Glass CT Dep. Bev. Containers	0.4%	0.5%	0.29%	Other Miscellaneous	1.3%	1.2%	0.76%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.1%	0.1%	0.07%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>28</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 39**  
**Residential Waste Season Two - CRRA Mid-CT Project (Hartford) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>17.7%</b>			<b>Organics</b>	<b>45.6%</b>		
OCC/Kraft Paper	0.7%	0.2%	0.14%	Food Waste	11.2%	3.4%	2.08%
Offshore Cardboard	0.4%	0.6%	0.35%	Branches & Stumps	0.2%	0.3%	0.17%
High Grade Office Paper	1.3%	1.0%	0.60%	Prunings & Trimmings	8.9%	8.7%	5.28%
Magazines/Catalogs	1.7%	0.8%	0.46%	Leaves & Grass	23.3%	8.5%	5.16%
Newsprint	0.5%	0.2%	0.15%	Manures	0.3%	0.3%	0.18%
Phone Books & Directories	0.0%	0.0%	0.00%	R/C Organic	1.7%	0.5%	0.30%
Other Recyclable Paper	3.8%	1.0%	0.59%				
Compostable Paper	9.0%	2.8%	1.71%	<b>Construction and Demolition</b>	<b>10.7%</b>		
R/C Paper	0.5%	0.2%	0.12%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.00%
				Wood - Treated	4.8%	4.1%	2.50%
<b>Plastic</b>	<b>11.0%</b>			Wood - Untreated	0.5%	0.3%	0.16%
PET Bottles/Jars (non-haz)	0.0%	0.0%	0.02%	Asphalt Roofing	0.1%	0.2%	0.12%
PET Containers-non bottles (non-haz)	0.2%	0.2%	0.10%	Drywall/Gypsum Board	2.6%	4.1%	2.52%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.08%	Carpet	1.7%	2.8%	1.69%
HDPE Bottles (non-haz)	0.3%	0.2%	0.12%	Carpet Padding	0.1%	0.1%	0.07%
HDPE Containers other than Bottles	0.1%	0.1%	0.04%	R/C C&D	1.0%	0.9%	0.57%
Plastic Containers #3-#7 (non-haz)	0.6%	0.3%	0.17%				
Expanded Poly. Non-Food Grade	0.1%	0.0%	0.02%	<b>Household Hazardous Waste (HHW)</b>	<b>0.3%</b>		
Expanded Poly. Food-grade	0.7%	0.3%	0.18%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	3.6%	2.7%	1.66%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.5%	0.2%	0.13%	Other Batteries	0.0%	0.1%	0.03%
Grocery/Merchandise Bags	0.5%	0.2%	0.11%	Paint	0.0%	0.0%	0.00%
Other Film	2.8%	0.7%	0.44%	Sharps	0.0%	0.0%	0.01%
Pallets - Plastic	0.0%	0.0%	0.00%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	1.4%	0.4%	0.27%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.2%	0.12%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>6.5%</b>			Other Hazardous Waste & HHW	0.1%	0.1%	0.04%
Alc. Beverage Containers	0.0%	0.0%	0.00%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.05%	<b>Electronics</b>	<b>3.1%</b>		
Tin/Steel Containers	0.6%	0.4%	0.25%	Computer-related Electronics	0.3%	0.3%	0.21%
Other Ferrous	3.6%	2.0%	1.19%	Other Small Consumer Electronics	0.3%	0.3%	0.18%
Other Non-Ferrous	1.9%	2.8%	1.68%	TVs and Computer Monitors	2.5%	3.1%	1.86%
Appliances	0.0%	0.0%	0.00%	Other Large Electronics	0.0%	0.0%	0.00%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.3%	0.3%	0.20%	<b>Other Waste</b>	<b>4.0%</b>		
				Bulky Items	0.4%	0.4%	0.21%
<b>Glass</b>	<b>1.1%</b>			Textiles (other than carpet)	1.9%	1.2%	0.73%
Clear & Amber Glass Containers	0.4%	0.2%	0.12%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.0%	0.0%	0.00%	Bottom Fines & Dirt	1.2%	0.3%	0.18%
Glass CT Dep. Bev. Containers	0.5%	0.8%	0.49%	Other Miscellaneous	0.5%	0.5%	0.29%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.1%	0.2%	0.10%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>10</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

**Table 40**  
**ICI Waste Season Two - CRRR Mid-CT Project (Hartford) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>20.5%</b>			<b>Organics</b>	<b>23.6%</b>		
OCC/Kraft Paper	4.9%	2.5%	1.54%	Food Waste	15.0%	6.9%	4.18%
Offshore Cardboard	0.4%	0.6%	0.35%	Branches & Stumps	0.0%	0.0%	0.00%
High Grade Office Paper	1.8%	1.3%	0.78%	Prunings & Trimmings	0.3%	0.4%	0.22%
Magazines/Catalogs	0.5%	0.3%	0.17%	Leaves & Grass	6.5%	4.5%	2.73%
Newsprint	1.0%	0.6%	0.34%	Manures	0.1%	0.1%	0.07%
Phone Books & Directories	0.1%	0.2%	0.13%	R/C Organic	1.7%	0.7%	0.43%
Other Recyclable Paper	2.8%	1.2%	0.71%				
Compostable Paper	7.7%	2.6%	1.58%	<b>Construction and Demolition</b>	<b>20.2%</b>		
R/C Paper	1.2%	1.2%	0.70%	Asphalt, Brick, & Concrete	0.1%	0.1%	0.05%
				Wood - Treated	3.3%	2.8%	1.68%
<b>Plastic</b>	<b>15.1%</b>			Wood - Untreated	6.3%	3.4%	2.09%
PET Bottles/Jars (non-haz)	0.2%	0.1%	0.06%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.05%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.03%	Carpet	5.7%	4.7%	2.85%
HDPE Bottles (non-haz)	0.2%	0.1%	0.08%	Carpet Padding	4.0%	4.0%	2.40%
HDPE Containers other than Bottles	0.2%	0.1%	0.07%	R/C C&D	0.8%	1.4%	0.82%
Plastic Containers #3-#7 (non-haz)	0.3%	0.2%	0.10%				
Expanded Poly. Non-Food Grade	2.4%	2.6%	1.58%	<b>Household Hazardous Waste (HHW)</b>	<b>0.1%</b>		
Expanded Poly. Food-grade	0.6%	0.3%	0.21%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	5.2%	3.1%	1.88%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.3%	0.2%	0.09%	Other Batteries	0.0%	0.0%	0.02%
Grocery/Merchandise Bags	0.3%	0.2%	0.15%	Paint	0.0%	0.0%	0.00%
Other Film	2.2%	0.7%	0.42%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	1.2%	1.3%	0.80%	Vehicle & Equipment Fluids	0.0%	0.0%	0.00%
R/C Plastic	1.7%	1.1%	0.64%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.03%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.1%</b>			Other Hazardous Waste & HHW	0.0%	0.0%	0.01%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.04%	<b>Electronics</b>	<b>3.5%</b>		
Tin/Steel Containers	0.3%	0.2%	0.15%	Computer-related Electronics	1.8%	2.2%	1.33%
Other Ferrous	2.9%	2.1%	1.29%	Other Small Consumer Electronics	0.6%	0.6%	0.36%
Other Non-Ferrous	0.2%	0.1%	0.06%	TVs and Computer Monitors	1.0%	1.7%	1.03%
Appliances	0.3%	0.6%	0.34%	Other Large Electronics	0.0%	0.0%	0.00%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.2%	0.2%	0.13%	<b>Other Waste</b>	<b>9.3%</b>		
				Bulky Items	4.6%	4.6%	2.83%
<b>Glass</b>	<b>3.5%</b>			Textiles (other than carpet)	1.4%	1.1%	0.66%
Clear & Amber Glass Containers	3.1%	4.2%	2.54%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.05%	Bottom Fines & Dirt	0.7%	0.2%	0.12%
Glass CT Dep. Bev. Containers	0.2%	0.1%	0.08%	Other Miscellaneous	2.6%	3.0%	1.82%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.1%	0.1%	0.06%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>18</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

# Waste Composition, by Facility, Overall (Combined Seasons)

This section provides waste composition data (but not disposed quantity calculations) for each of the five host facilities for seasons one and two, combined.

## Bristol Resource Recovery Facility

Forty-nine samples were analyzed over the course of two seasons: 19 residential and 30 ICI. The combined seasons table is presented in table 41, below.

**Table 41**  
**Combined Seasons - Bristol Resource Recovery Facility**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>25.3%</b>			<b>Organics</b>	<b>26.3%</b>		
OCC/Kraft Paper	4.9%	1.5%	0.92%	Food Waste	10.6%	1.7%	1.06%
Offshore Cardboard	0.4%	0.3%	0.19%	Branches & Stumps	0.8%	1.2%	0.72%
High Grade Office Paper	1.9%	0.9%	0.52%	Prunings & Trimmings	1.5%	1.1%	0.68%
Magazines/Catalogs	1.5%	0.4%	0.22%	Leaves & Grass	9.4%	2.1%	1.26%
Newsprint	1.7%	0.7%	0.45%	Manures	0.5%	0.6%	0.36%
Phone Books & Directories	0.6%	0.5%	0.33%	R/C Organic	3.4%	0.8%	0.50%
Other Recyclable Paper	3.8%	1.0%	0.58%				
Compostable Paper	7.9%	1.0%	0.63%	<b>Construction and Demolition</b>	<b>14.6%</b>		
R/C Paper	2.7%	0.8%	0.49%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.03%
				Wood - Treated	5.0%	1.7%	1.04%
<b>Plastic</b>	<b>14.0%</b>			Wood - Untreated	1.6%	1.2%	0.74%
PET Bottles/Jars (non-haz)	0.6%	0.1%	0.08%	Asphalt Roofing	0.0%	0.1%	0.03%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.03%	Drywall/Gypsum Board	0.5%	0.6%	0.36%
Plastic CT Dep. Bev. Containers	0.2%	0.0%	0.02%	Carpet	4.7%	4.0%	2.43%
HDPE Bottles (non-haz)	0.4%	0.1%	0.06%	Carpet Padding	0.7%	0.7%	0.40%
HDPE Containers other than Bottles	0.3%	0.1%	0.07%	R/C C&D	2.0%	0.8%	0.51%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.08%				
Expanded Poly. Non-Food Grade	0.1%	0.1%	0.04%	<b>Household Hazardous Waste (HHW)</b>	<b>0.6%</b>		
Expanded Poly. Food-grade	0.8%	0.2%	0.12%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	4.2%	1.0%	0.62%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.7%	0.6%	0.34%	Other Batteries	0.1%	0.1%	0.03%
Grocery/Merchandise Bags	0.5%	0.1%	0.09%	Paint	0.2%	0.3%	0.15%
Other Film	3.6%	0.8%	0.46%	Sharps	0.0%	0.0%	0.01%
Pallets - Plastic	0.1%	0.1%	0.07%	Vehicle & Equipment Fluids	0.1%	0.1%	0.06%
R/C Plastic	1.9%	0.4%	0.24%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.05%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>5.5%</b>			Other Hazardous Waste & HHW	0.2%	0.2%	0.15%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.03%	<b>Electronics</b>	<b>1.2%</b>		
Tin/Steel Containers	1.1%	0.6%	0.34%	Computer-related Electronics	0.0%	0.0%	0.00%
Other Ferrous	2.7%	1.6%	0.99%	Other Small Consumer Electronics	0.3%	0.3%	0.17%
Other Non-Ferrous	0.3%	0.1%	0.04%	TVs and Computer Monitors	0.7%	0.6%	0.37%
Appliances	0.5%	0.6%	0.38%	Other Large Electronics	0.2%	0.3%	0.17%
Compressed Fuel Containers	0.2%	0.2%	0.14%				
R/C Metal	0.6%	0.6%	0.36%	<b>Other Waste</b>	<b>10.1%</b>		
				Bulky Items	3.7%	2.0%	1.24%
<b>Glass</b>	<b>2.3%</b>			Textiles (other than carpet)	3.9%	1.0%	0.60%
Clear & Amber Glass Containers	0.9%	0.5%	0.27%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.04%	Bottom Fines & Dirt	1.4%	0.2%	0.15%
Glass CT Dep. Bev. Containers	0.1%	0.0%	0.02%	Other Miscellaneous	1.2%	0.8%	0.46%
Flat Glass - Uncoated	0.2%	0.3%	0.19%				
R/C Glass	1.1%	1.5%	0.88%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>49</b>		

## Wheelabrator Bridgeport RRF

Forty-eight samples were collected over the course of two seasons: 17 residential and 31 ICI. The combined seasons table is presented in table 42, below.

**Table 42**  
**Combined Seasons - Wheelabrator Bridgeport RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>29.0%</b>			<b>Organics</b>	<b>25.1%</b>		
OCC/Kraft Paper	10.6%	2.2%	1.34%	Food Waste	13.6%	3.2%	1.94%
Offshore Cardboard	0.3%	0.1%	0.07%	Branches & Stumps	0.9%	1.0%	0.59%
High Grade Office Paper	1.5%	0.8%	0.51%	Prunings & Trimmings	1.1%	0.9%	0.55%
Magazines/Catalogs	1.4%	0.5%	0.28%	Leaves & Grass	5.2%	2.0%	1.24%
Newsprint	2.3%	1.1%	0.66%	Manures	0.1%	0.1%	0.06%
Phone Books & Directories	0.4%	0.4%	0.21%	R/C Organic	4.3%	2.0%	1.19%
Other Recyclable Paper	3.6%	0.8%	0.48%				
Compostable Paper	6.7%	1.0%	0.63%	<b>Construction and Demolition</b>	<b>12.1%</b>		
R/C Paper	2.3%	0.5%	0.29%	Asphalt, Brick, & Concrete	0.3%	0.4%	0.27%
				Wood - Treated	3.4%	2.1%	1.25%
<b>Plastic</b>	<b>14.3%</b>			Wood - Untreated	4.4%	2.3%	1.40%
PET Bottles/Jars (non-haz)	0.7%	0.2%	0.10%	Asphalt Roofing	1.0%	1.7%	1.02%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.05%	Drywall/Gypsum Board	0.0%	0.0%	0.00%
Plastic CT Dep. Bev. Containers	0.8%	1.0%	0.58%	Carpet	1.2%	1.0%	0.59%
HDPE Bottles (non-haz)	0.3%	0.1%	0.06%	Carpet Padding	0.5%	0.5%	0.28%
HDPE Containers other than Bottles	0.1%	0.1%	0.03%	R/C C&D	1.3%	0.8%	0.51%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.06%				
Expanded Poly. Non-Food Grade	1.4%	2.1%	1.25%	<b>Household Hazardous Waste (HHW)</b>	<b>0.4%</b>		
Expanded Poly. Food-grade	0.5%	0.2%	0.10%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%
Durable Plastic Items	3.2%	1.2%	0.74%	Batteries - Lead Acid	0.0%	0.0%	0.01%
Film	0.7%	0.5%	0.28%	Other Batteries	0.1%	0.1%	0.05%
Grocery/Merchandise Bags	0.5%	0.1%	0.08%	Paint	0.0%	0.0%	0.01%
Other Film	3.0%	0.6%	0.33%	Sharps	0.0%	0.0%	0.03%
Pallets - Plastic	0.3%	0.3%	0.17%	Vehicle & Equipment Fluids	0.0%	0.0%	0.02%
R/C Plastic	2.1%	0.5%	0.31%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.2%	0.12%
				Pesticides & Fertilizers	0.0%	0.0%	0.01%
<b>Metal</b>	<b>4.6%</b>			Other Hazardous Waste & HHW	0.1%	0.0%	0.02%
Alc. Beverage Containers	0.2%	0.1%	0.07%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.03%	<b>Electronics</b>	<b>2.2%</b>		
Tin/Steel Containers	0.8%	0.2%	0.11%	Computer-related Electronics	0.4%	0.6%	0.36%
Other Ferrous	1.3%	0.8%	0.48%	Other Small Consumer Electronics	0.7%	0.5%	0.31%
Other Non-Ferrous	0.7%	0.2%	0.14%	TVs and Computer Monitors	0.1%	0.1%	0.07%
Appliances	0.4%	0.5%	0.29%	Other Large Electronics	1.1%	1.4%	0.84%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	1.1%	0.6%	0.35%	<b>Other Waste</b>	<b>9.6%</b>		
				Bulky Items	2.0%	1.6%	0.99%
<b>Glass</b>	<b>2.5%</b>			Textiles (other than carpet)	5.1%	1.5%	0.91%
Clear & Amber Glass Containers	1.8%	1.7%	1.02%	Restaurant Fats, Oils, & Grease	0.0%	0.1%	0.03%
Green & Other Colored Glass Cont.	0.3%	0.1%	0.08%	Bottom Fines & Dirt	1.7%	0.4%	0.24%
Glass CT Dep. Bev. Containers	0.3%	0.1%	0.08%	Other Miscellaneous	0.8%	0.5%	0.27%
Flat Glass - Uncoated	0.1%	0.1%	0.05%				
R/C Glass	0.1%	0.1%	0.04%	<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>48</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## New Haven Municipal Transfer Station

Forty-eight samples were collected over the course of two seasons: 26 residential and 22 ICI. The combined seasons table is presented in table 43, below.

**Table 43**  
**Combined Seasons - New Haven Municipal Transfer Station**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>26.9%</b>			<b>Organics</b>	<b>24.1%</b>		
OCC/Kraft Paper	10.5%	2.7%	1.63%	Food Waste	13.1%	2.4%	1.44%
Offshore Cardboard	0.4%	0.4%	0.27%	Branches & Stumps	0.6%	0.8%	0.47%
High Grade Office Paper	2.2%	1.1%	0.69%	Prunings & Trimmings	0.9%	0.7%	0.45%
Magazines/Catalogs	0.9%	0.4%	0.22%	Leaves & Grass	4.8%	1.8%	1.11%
Newsprint	1.9%	0.5%	0.30%	Manures	0.5%	0.8%	0.49%
Phone Books & Directories	0.5%	0.3%	0.18%	R/C Organic	4.1%	1.3%	0.82%
Other Recyclable Paper	3.4%	0.6%	0.38%				
Compostable Paper	5.5%	0.9%	0.53%	<b>Construction and Demolition</b>	<b>17.0%</b>		
R/C Paper	1.5%	0.3%	0.17%	Asphalt, Brick, & Concrete	0.5%	0.7%	0.43%
				Wood - Treated	8.2%	6.5%	3.98%
<b>Plastic</b>	<b>12.7%</b>			Wood - Untreated	1.9%	1.4%	0.83%
PET Bottles/Jars (non-haz)	0.7%	0.1%	0.09%	Asphalt Roofing	0.0%	0.0%	0.00%
PET Containers-non bottles (non-haz)	0.2%	0.1%	0.04%	Drywall/Gypsum Board	1.4%	1.4%	0.83%
Plastic CT Dep. Bev. Containers	0.3%	0.1%	0.04%	Carpet	2.0%	1.6%	0.95%
HDPE Bottles (non-haz)	0.6%	0.1%	0.06%	Carpet Padding	0.3%	0.6%	0.34%
HDPE Containers other than Bottles	0.2%	0.1%	0.06%	R/C C&D	2.7%	2.0%	1.19%
Plastic Containers #3-#7 (non-haz)	0.3%	0.1%	0.05%				
Expanded Poly. Non-Food Grade	0.1%	0.0%	0.03%	<b>Household Hazardous Waste (HHW)</b>	<b>0.3%</b>		
Expanded Poly. Food-grade	0.7%	0.2%	0.11%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.02%
Durable Plastic Items	2.6%	1.0%	0.63%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.9%	0.6%	0.38%	Other Batteries	0.0%	0.0%	0.02%
Grocery/Merchandise Bags	0.7%	0.1%	0.06%	Paint	0.0%	0.0%	0.00%
Other Film	3.0%	0.4%	0.25%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.2%	0.3%	0.19%	Vehicle & Equipment Fluids	0.0%	0.1%	0.04%
R/C Plastic	2.2%	0.8%	0.49%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.1%	0.1%	0.03%
				Pesticides & Fertilizers	0.0%	0.0%	0.02%
<b>Metal</b>	<b>4.0%</b>			Other Hazardous Waste & HHW	0.1%	0.0%	0.03%
Alc. Beverage Containers	0.1%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.2%	0.1%	0.03%	<b>Electronics</b>	<b>1.9%</b>		
Tin/Steel Containers	1.3%	0.6%	0.36%	Computer-related Electronics	0.3%	0.5%	0.27%
Other Ferrous	0.5%	0.3%	0.18%	Other Small Consumer Electronics	0.5%	0.3%	0.19%
Other Non-Ferrous	0.5%	0.2%	0.15%	TVs and Computer Monitors	0.4%	0.5%	0.28%
Appliances	0.1%	0.1%	0.08%	Other Large Electronics	0.6%	0.7%	0.45%
Compressed Fuel Containers	0.6%	1.0%	0.58%				
R/C Metal	0.9%	0.5%	0.33%	<b>Other Waste</b>	<b>10.8%</b>		
				Bulky Items	1.9%	1.9%	1.17%
<b>Glass</b>	<b>2.4%</b>			Textiles (other than carpet)	5.8%	1.3%	0.81%
Clear & Amber Glass Containers	1.1%	0.3%	0.18%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.06%	Bottom Fines & Dirt	1.5%	0.2%	0.12%
Glass CT Dep. Bev. Containers	0.4%	0.2%	0.11%	Other Miscellaneous	1.7%	1.6%	0.99%
Flat Glass - Uncoated	0.6%	0.8%	0.49%				
R/C Glass	0.2%	0.1%	0.08%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>48</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## CRRA Southeast Project (Preston) RRF

Fifty-one samples were collected over the course of two seasons: 20 residential and 31 ICI. The combined seasons table is presented in table 44, below.

**Table 44**  
**Combined Seasons - CRRA Southeast Project (Preston) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>24.0%</b>			<b>Organics</b>	<b>26.2%</b>		
OCC/Kraft Paper	4.9%	1.0%	0.60%	Food Waste	17.6%	2.5%	1.50%
Offshore Cardboard	0.3%	0.2%	0.12%	Branches & Stumps	0.2%	0.2%	0.13%
High Grade Office Paper	1.9%	0.8%	0.47%	Prunings & Trimmings	1.6%	1.4%	0.87%
Magazines/Catalogs	1.0%	0.3%	0.20%	Leaves & Grass	3.4%	3.7%	2.25%
Newsprint	1.1%	0.4%	0.23%	Manures	0.2%	0.4%	0.23%
Phone Books & Directories	0.2%	0.1%	0.06%	R/C Organic	3.3%	1.0%	0.60%
Other Recyclable Paper	3.6%	0.7%	0.41%				
Compostable Paper	8.2%	2.1%	1.25%	<b>Construction and Demolition</b>	<b>12.2%</b>		
R/C Paper	2.8%	0.9%	0.56%	Asphalt, Brick, & Concrete	0.1%	0.1%	0.06%
				Wood - Treated	5.3%	2.4%	1.47%
<b>Plastic</b>	<b>18.1%</b>			Wood - Untreated	2.4%	1.7%	1.01%
PET Bottles/Jars (non-haz)	0.6%	0.2%	0.11%	Asphalt Roofing	0.2%	0.3%	0.21%
PET Containers-non bottles (non-haz)	0.1%	0.0%	0.03%	Drywall/Gypsum Board	0.1%	0.1%	0.07%
Plastic CT Dep. Bev. Containers	1.0%	1.3%	0.78%	Carpet	2.1%	1.3%	0.77%
HDPE Bottles (non-haz)	0.7%	0.4%	0.25%	Carpet Padding	0.7%	0.6%	0.34%
HDPE Containers other than Bottles	0.2%	0.2%	0.10%	R/C C&D	1.3%	0.9%	0.56%
Plastic Containers #3-#7 (non-haz)	0.8%	0.5%	0.29%				
Expanded Poly. Non-Food Grade	1.9%	2.0%	1.19%	<b>Household Hazardous Waste (HHW)</b>	<b>0.7%</b>		
Expanded Poly. Food-grade	0.9%	0.5%	0.31%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.00%
Durable Plastic Items	2.9%	1.5%	0.89%	Batteries - Lead Acid	0.0%	0.0%	0.00%
Film	0.4%	0.3%	0.17%	Other Batteries	0.0%	0.0%	0.01%
Grocery/Merchandise Bags	0.5%	0.1%	0.07%	Paint	0.0%	0.0%	0.00%
Other Film	4.0%	0.8%	0.48%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.3%	0.3%	0.21%	Vehicle & Equipment Fluids	0.1%	0.1%	0.06%
R/C Plastic	3.6%	1.7%	1.04%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.4%	0.3%	0.17%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.4%</b>			Other Hazardous Waste & HHW	0.2%	0.2%	0.09%
Alc. Beverage Containers	0.0%	0.0%	0.01%				
Alc. CT Dep. Bev. Containers	0.3%	0.2%	0.15%	<b>Electronics</b>	<b>1.6%</b>		
Tin/Steel Containers	0.5%	0.2%	0.10%	Computer-related Electronics	0.1%	0.2%	0.14%
Other Ferrous	0.5%	0.2%	0.14%	Other Small Consumer Electronics	0.3%	0.2%	0.13%
Other Non-Ferrous	0.3%	0.1%	0.05%	TVs and Computer Monitors	0.8%	0.8%	0.51%
Appliances	1.7%	1.6%	0.96%	Other Large Electronics	0.3%	0.4%	0.23%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	1.1%	0.9%	0.55%	<b>Other Waste</b>	<b>10.9%</b>		
				Bulky Items	3.2%	2.5%	1.52%
<b>Glass</b>	<b>1.9%</b>			Textiles (other than carpet)	4.7%	0.9%	0.57%
Clear & Amber Glass Containers	0.8%	0.3%	0.19%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.4%	0.3%	0.17%	Bottom Fines & Dirt	1.3%	0.3%	0.18%
Glass CT Dep. Bev. Containers	0.5%	0.5%	0.30%	Other Miscellaneous	1.6%	0.7%	0.44%
Flat Glass - Uncoated	0.0%	0.0%	0.00%				
R/C Glass	0.1%	0.1%	0.07%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>51</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## CRRA Mid-CT Project (Hartford) RRF

Sixty-two samples were collected over the course of two seasons: 16 residential and 46 ICI. The combined seasons table is presented in table 45, below.

**Table 45**  
**Combined Seasons - CRRA Mid-CT Project (Hartford) RRF**

Material	Est. Percent	+ / -	Stand. Dev.	Material	Est. Percent	+ / -	Stand. Dev.
<b>Paper</b>	<b>25.3%</b>			<b>Organics</b>	<b>28.5%</b>		
OCC/Kraft Paper	3.4%	0.8%	0.49%	Food Waste	13.0%	2.4%	1.43%
Offshore Cardboard	0.6%	0.3%	0.17%	Branches & Stumps	0.1%	0.1%	0.08%
High Grade Office Paper	1.6%	0.6%	0.38%	Prunings & Trimmings	3.5%	2.7%	1.67%
Magazines/Catalogs	1.3%	0.3%	0.20%	Leaves & Grass	9.6%	3.0%	1.82%
Newsprint	2.4%	1.4%	0.86%	Manures	0.1%	0.1%	0.06%
Phone Books & Directories	0.2%	0.2%	0.09%	R/C Organic	2.3%	0.4%	0.23%
Other Recyclable Paper	3.5%	0.5%	0.30%				
Compostable Paper	9.6%	1.4%	0.86%	<b>Construction and Demolition</b>	<b>15.0%</b>		
R/C Paper	2.6%	1.3%	0.76%	Asphalt, Brick, & Concrete	0.0%	0.0%	0.01%
				Wood - Treated	4.1%	1.6%	0.97%
<b>Plastic</b>	<b>14.0%</b>			Wood - Untreated	2.6%	0.8%	0.51%
PET Bottles/Jars (non-haz)	0.4%	0.0%	0.03%	Asphalt Roofing	0.1%	0.1%	0.05%
PET Containers-non bottles (non-haz)	0.1%	0.1%	0.04%	Drywall/Gypsum Board	1.1%	1.4%	0.83%
Plastic CT Dep. Bev. Containers	0.2%	0.1%	0.05%	Carpet	5.0%	4.4%	2.68%
HDPE Bottles (non-haz)	0.4%	0.1%	0.07%	Carpet Padding	1.0%	0.9%	0.54%
HDPE Containers other than Bottles	0.1%	0.1%	0.04%	R/C C&D	1.1%	0.6%	0.39%
Plastic Containers #3-#7 (non-haz)	0.4%	0.1%	0.06%				
Expanded Poly. Non-Food Grade	0.6%	0.6%	0.34%	<b>Household Hazardous Waste (HHW)</b>	<b>0.6%</b>		
Expanded Poly. Food-grade	0.5%	0.1%	0.09%	Ballasts, CFLs, & Other FLs	0.0%	0.0%	0.01%
Durable Plastic Items	4.1%	1.8%	1.10%	Batteries - Lead Acid	0.0%	0.0%	0.02%
Film	0.4%	0.1%	0.07%	Other Batteries	0.0%	0.0%	0.01%
Grocery/Merchandise Bags	0.5%	0.1%	0.06%	Paint	0.0%	0.0%	0.00%
Other Film	3.6%	0.7%	0.40%	Sharps	0.0%	0.0%	0.00%
Pallets - Plastic	0.4%	0.4%	0.22%	Vehicle & Equipment Fluids	0.0%	0.0%	0.01%
R/C Plastic	2.4%	0.6%	0.35%	Empty Metal, Glass, & Plastic Cont. (Haz.)	0.2%	0.1%	0.05%
				Pesticides & Fertilizers	0.0%	0.0%	0.00%
<b>Metal</b>	<b>4.1%</b>			Other Hazardous Waste & HHW	0.3%	0.4%	0.25%
Alc. Beverage Containers	0.0%	0.0%	0.00%				
Alc. CT Dep. Bev. Containers	0.1%	0.1%	0.05%	<b>Electronics</b>	<b>2.8%</b>		
Tin/Steel Containers	0.7%	0.2%	0.11%	Computer-related Electronics	0.7%	0.5%	0.33%
Other Ferrous	2.1%	0.8%	0.48%	Other Small Consumer Electronics	0.4%	0.2%	0.14%
Other Non-Ferrous	0.9%	0.9%	0.53%	TVs and Computer Monitors	1.7%	1.3%	0.82%
Appliances	0.1%	0.1%	0.07%	Other Large Electronics	0.0%	0.1%	0.05%
Compressed Fuel Containers	0.0%	0.0%	0.00%				
R/C Metal	0.3%	0.2%	0.09%	<b>Other Waste</b>	<b>7.7%</b>		
				Bulky Items	2.1%	1.2%	0.75%
<b>Glass</b>	<b>1.9%</b>			Textiles (other than carpet)	3.0%	1.1%	0.65%
Clear & Amber Glass Containers	1.2%	1.0%	0.59%	Restaurant Fats, Oils, & Grease	0.0%	0.0%	0.00%
Green & Other Colored Glass Cont.	0.1%	0.1%	0.06%	Bottom Fines & Dirt	1.3%	0.3%	0.19%
Glass CT Dep. Bev. Containers	0.3%	0.3%	0.16%	Other Miscellaneous	1.3%	0.7%	0.43%
Flat Glass - Uncoated	0.1%	0.1%	0.09%				
R/C Glass	0.2%	0.1%	0.06%				
				<b>Totals</b>	<b>100.0%</b>		
				<b>Sample Count</b>	<b>62</b>		

Confidence intervals calculated at the 90% confidence level. Percentages for material types may not total 100% due to rounding.

## Recommendations for Future Waste Composition Studies

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The Project Team offers the following recommendations going forward:

- CTDEP should work toward an improved system of reporting of residential and commercial waste so that better estimates of the total residential versus ICI waste are available.
- Waste composition studies conducted on a seven to ten year cycle should be sufficient to monitor significant changes in composition.
- The materials categories should remain as close to the ones used in the current Study as possible to assure comparable data.
- More detailed capture rate studies should be considered to supplement the waste composition studies to better determine the potential for increased diversion, especially of household wastes.
- Subsequent waste composition studies should consider more targeted generator samples from different types of commercial establishments. Based on lessons for other states, the higher the level of recycling that exists, the more it is necessary to focus on specific generators to gain additional insight into incremental diversion opportunities.
- Subsequent waste composition studies should also consider analyzing contamination levels in the disposed waste. For example, film plastic is usually highly recyclable. However, other studies have found that disposed film plastics often weigh only half or less of the weight reported from field data collection after adjustment for the contamination. CTDEP may want to consider some enhancements to its protocol in subsequent studies to improve the interpretation of results.
- As more material is diverted for recycling in Connecticut, future statewide waste composition studies should encompass recyclable materials as well. This will enable rough estimates of material specific recovery rates, which are informative in determining the effectiveness of recycling activities, and in targeting further efforts to increase material recovery rates.
- Data on waste composition by brand owner, as opposed to material type should be considered to facilitate discussions about the potential for producer responsibility requirements for increasing recycling.

## APPENDIX A - Waste Categories

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### Paper

1. **Uncoated Corrugated Cardboard/Kraft Paper** means corrugated boxes or paper bags made from Kraft paper. Uncoated Corrugated Cardboard has a wavy center layer and is sandwiched between the two outer layers and does not have any wax coating on the inside or outside. Examples include entire cardboard containers, such as shipping and moving boxes, computer packaging cartons, and sheets and pieces of boxes and cartons. This type does not include chipboard. Examples of Kraft paper include paper grocery bags, un-soiled fast food bags, department store bags, and heavyweight sheets of Kraft packing paper.
2. **Offshore Cardboard** means cardboard shipping containers manufactured overseas and containing bogus liners or center medium. Color is somewhat lighter/more yellow than North American produced materials.
3. **High Grade Office Paper** means the type of paper that is free of ground wood fibers; usually sulfite or sulphate paper; includes office printing and writing papers such as white ledger, color ledger, envelopes, and computer printout paper, bond, rag, or stationary grade paper. This subtype does not include fluorescent dyed paper or deep-tone dyed paper such a goldenrod colored paper.
4. **Magazines/Catalogs** means items made of glossy coated paper. This paper is usually slick, smooth to the touch, and reflects light. Examples include glossy magazines, catalogs, brochures, and pamphlets.
5. **Newsprint** means the class or kind of paper chiefly used for printing newspapers – i.e. uncoated ground wood paper.
6. **Phone Books and Directories** means thin paper between coated covers. These items are bound along the spine with glue. Examples include telephone books, “yellow pages,” real estate listings, and some non-glossy mail order catalogs.
7. **Other Recyclable Paper** means paper, other than the paper mentioned above, which can be recycled. Examples include manila folders, manila envelopes, index cards, white envelopes, white window envelopes, notebook paper, carbonless forms, junk mail, chipboard and uncoated paperboard, groundwood paper, and deep-toned or fluorescent dyed paper.
8. **Compostable Paper** means low grade paper that is not capable of being recycled, as well as food contaminated paper. Examples include paper towels, paper plates, waxed papers and waxed cardboard, and tissues.
9. **Remainder/Composite Paper** means items made mostly of paper but combined with large amounts of other materials such as plastic, metal, glues, foil, and moisture. Examples include plastic coated corrugated cardboard, cellulose insulation, aseptic packages, polycoated (gable top) cartons, blueprints, sepia, onion skin, foiled lined fast

food wrappers, frozen juice containers, carbon paper, self-adhesive notes, softcover and hardcover books, and photographs.

## Plastics

10. **PET Bottles/Jars** (which originally contained non-hazardous materials) means clear or colored PET bottles other than CT deposit containers. When marked for identification, it bears the number "1" in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET". The color is usually transparent green or clear. A PET container usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent.
11. **PET Containers other than Bottles** (which originally contained non-hazardous material) means types of containers such as PET jars, rectangular PET containers used for produce; etc.
12. **Plastic CT Deposit Beverage Containers** means plastic beverage containers subject to CT's bottle bill and marked as deposit containers in Connecticut.
13. **HDPE Bottles, colored and natural**, (which originally contained non-hazardous material) means natural and colored HDPE containers. This plastic is usually either cloudy white, allowing light to pass through it (natural) or a solid color, preventing light from passing through it (colored). When marked for identification, it bears the number "2" in the triangular recycling symbol and may also bear the letters "HDPE."
14. **HDPE Containers other than Bottles** ( such as pails, paint cans, other) means colored and natural buckets and pails made of HDPE and designed to hold 5 gallons or less of material. This category includes buckets regardless of whether they are attached to metal handles. Examples include large paint buckets and commercial buckets used to contain food for commercial use (restaurants, etc.). These objects are packages containing material for sale, and are not sold as buckets themselves (such as mop buckets).
15. **Plastic Containers #3-#7** (which originally contained non-hazardous material) means plastic containers made of types of plastic other than HDPE or PET. Items may be made of PVC, PP, or PS. When marked for identification, these items may bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. This subtype also includes unmarked plastic containers.
16. **Expanded Polystyrene Non-food Grade** includes non-food packaging and finished products made of expanded polystyrene. Excludes Styrofoam products such as cups, plates, and bowls.
17. **Expanded Food-grade Polystyrene** means "Styrofoam" products used to contain food such as "clamshells," cups, plates, and bowls.
18. **Durable Plastic Items** means plastic objects other than disposable package items. These items are usually made to last for a few months up to many years. These include

the plastics used in children toys, furniture, plastic landscape ties; plastic railroad ties, mop buckets, sporting goods, etc.

19. **Film** (non-bag clean commercial and industrial packaging film) means film plastic used for large-scale packaging or transport packaging. Examples include shrink-wrap, mattress bags, furniture wrap, and film bubble wrap.
20. **Grocery and other Merchandise Bags** means plastic shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase. Includes dry-cleaning plastic bags intended for one-time use.
21. **Other Film** means plastic film that is contaminated or otherwise non-recyclable. Examples include garbage bags and other types of plastic bags (sandwich bags, zipper-recloseable bags, produce bags, frozen vegetable bags), painting tarps, food wrappers such as candy-bar wrappers, mailing pouches, bank bags, X-ray film, metallized film (wine containers and balloons), and plastic food wrap.
22. **Pallets – Plastic** means plastic pallets and crating materials commonly used for industrial and commercial packaging and shipping.
23. **Remainder/Composite Plastic** means plastic that cannot be put in any other type or subtype. This type includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, produce trays, foam packing blocks (not including expanded polystyrene blocks), plastic strapping, new plastic laminate (e.g., Formica), vinyl, linoleum, plastic lumber, imitation ceramics, handles and knobs, plastic lids, some kitchen ware, toys, plastic string (as used for hay bales), and plastic rigid bubble/foil packaging (as for medications); durable plastic such as plastic outdoor furniture, plastic toys and sporting goods, CD's, and rigid plastic housewares, such as mop buckets, dishes, cups, and cutlery.

## Metals

24. **Aluminum Beverage Containers** means beverage containers made from aluminum other than CT deposit containers.
25. **Aluminum CT Deposit Beverage Containers** means metal beverage containers subject to CT's bottle bill and marked as deposit containers in Connecticut.
26. **Tin/Steel Containers** means rigid containers made mainly of steel, such as food and beverage containers. These items will stick to a magnet and may be tin-coated.
27. **Other Ferrous** means any iron or steel that is magnetic. This subtype does not include "tin/steel containers". Examples include empty or dry paint cans, structural steel beams, boilers, metal clothes hangers, metal pipes, some cookware, security bars, and scrap ferrous items and galvanized items such as nails and flashing.

28. **Other Non-Ferrous** means any metal item that is not magnetic, as well as stainless steel. These items may be made of copper, brass, bronze, lead, zinc, or other metals. Examples include copper wire, shell casings, and brass pipe.
29. **Appliances** means major appliances that are primarily encased in metal, such as refrigerators, stoves, water heaters, dryers and microwaves; white goods.
30. **Compressed Fuel Containers/Propane Tanks** includes large compressed fuel containers/propane tanks and small one-pound propane tanks used for lanterns, camp stoves etc. as well as larger tanks such as those used in home gas grills, RVs.
31. **Remainder/Composite Metal** means metal that cannot be put in any other type. This type includes items made mostly of metal but combined with other materials and items made of both ferrous metal and non-ferrous metal combined. Examples include small non-electronic appliances such as toasters and hair dryers, motors, insulated wire, and finished products that contain a mixture of metals, or metals and other materials, whose weight is derived significantly from the metal portion of its construction.

## Glass

32. **Clear and Amber Glass Packaging Containers** (non-deposit) includes clear or amber colored wine bottles, nonalcoholic beverage containers, malt beverage containers, mayonnaise jars, and jam jars.
33. **Green and Other Colored Glass Packaging Containers** (non-deposit) includes green or other colored beer bottles and other nonalcoholic beverage containers.
34. **Glass CT Deposit Beverage Containers** means glass beverage containers subject to CT's bottle bill and marked as deposit containers in Connecticut.
35. **Flat Glass – Plate Glass Uncoated** includes window and door glass, table-tops, and some auto glass (side windows).
36. **Remainder/Composite Glass** means glass that cannot be put in any other type. It includes items made mostly of glass but combined with other materials. Examples include Pyrex, Corningware, crystal and other glass tableware, mirrors, non-fluorescent light bulbs, auto windshields, laminated glass, or any curved glass.

## Organic Materials

37. **Food Waste** means food material resulting from the processing, storage, preparation, cooking, handling, or consumption of food. This type includes material from industrial, commercial, or residential sources. Examples include discarded meat scraps, dairy products, eggshells, fruit or vegetable peels, and other food items from homes, stores

and restaurants. This type includes apple pomace and other processed residues or material from canneries, wineries or other industrial sources.

38. **Branches and Stumps** means trees, stumps, branches, or other wood generated from clearing land for commercial or residential development, road construction, agricultural land clearing, storms, or natural disaster.
39. **Prunings and Trimmings** means woody plant material up to 4 inches in diameter from any public or private landscape. Examples include prunings, shrubs, and small branches with branch diameters that do not exceed 4 inches. This subtype does not include stumps, tree trunks, or branches exceeding 4 inches in diameter. This subtype does not include material from agricultural sources.
40. **Leaves and Grass** means plant material, except woody material, from any public or private landscapes. Examples include leaves, grass clippings, and plants. This subtype does not include woody material or material from agricultural sources. (CA)
41. **Manures** means manure and soiled bedding materials from domestic, farm, wild, or ranch animals. Examples include manure and soiled bedding from animal production operations, racetracks, riding stables, animal hospitals, laboratories, zoos, nature centers, and other sources.
42. **Remainder/Composite Organic** means organic material that cannot be put in any other type or subtype. This type includes items made mostly of organic materials but combined with other materials. Examples include cork, hemp rope, hair, cigarette butts, full vacuum bags, sawdust, and animal feces.

### **Construction and Demolition (in the MSW stream)**

43. **Asphalt, Brick, and Concrete** includes asphalt paving, a black or brown, tar-like material mixed with aggregate used as a paving material. Concrete means a hard material made from sand, gravel, aggregate, cement mix, and water. Examples include pieces of building foundations, concrete paving, and cinder blocks.
44. **Wood – Treated** means wood that contains an adhesive, paint, stain, fire retardant, pesticide or preservative.
45. **Wood – Untreated** refers to any wood which does not contain an adhesive, paint, stain, fire retardant, pesticide or preservative; includes such items as pallets, skids, spools, packaging materials, bulky wood waste or scraps from newly built wood products. (CT) Under this definition, does not including land clearing debris or yard waste prunings and trimmings
46. **Asphalt Roofing** means composite shingles and other roofing material made with asphalt. Examples include asphalt shingles and attached roofing tar and tar paper.
47. **Drywall/Gypsum Board** means interior wall covering made of a sheet of gypsum sandwiched between paper layers. Examples include used or unused, broken or whole

sheets of sheetrock, drywall, gypsum board, plasterboard, gypsum board, gyproc, and wallboard.

48. **Carpet** means flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material.
49. **Carpet Padding** means plastic, foam, felt, or other material used under carpet to provide insulation and padding.
50. **Remainder/Composite Construction and Demolition** means construction and demolition material that cannot be put in any other type or subtype. This type may include items from different types combined, which would be very hard to separate.

## Household Hazardous Waste

51. **Ballasts, CFLs, and Other Fluorescents** include ballasts, which are devices that electrically control fluorescent light fixtures and that include a capacitor, CFLs, which are compact fluorescent bulbs, and other fluorescent lighting, which includes tubular fluorescent lamps.
52. **Batteries – Lead Acid** means lead acid storage batteries most commonly used in vehicles such as cars, trucks, boats, etc.
53. **Other Batteries** means any type of battery other than lead acid (automotive) batteries. Examples include household batteries such as AA, AAA, D, button cell, 9 volt, and rechargeable batteries used for flashlights, small appliances, tools, watches, and hearing aids.
54. **Paint** means containers with paint in them. Examples include latex paint, oil based paint, and tubes of pigment or fine art paint. This type does not include dried paint, empty paint cans, or empty aerosol containers.
55. **Sharps** means discarded needles that have been used in animal or human patient care or treatment or in medical, research or industrial laboratories.
56. **Vehicle and Equipment Fluids** in containers and oil filters means containers with fluids used in vehicles or engines. Examples include antifreeze, oil, and brake fluid. This type does not include empty vehicle and equipment fluid containers. Oil filters include vehicle engine oil filters.
57. **Empty Metal, Glass, and Plastic Containers** (that originally contained toxic materials) means all containers that are empty but that at one time contained toxic or hazardous fluids or other materials. Examples include empty antifreeze, oil, or lye containers.
58. **Pesticides and Fertilizers** means households and commercial products used to destroy or control organisms, pests or enhance plant growth.

59. **Other Hazardous or Household Hazardous Waste** means all household or commercial products characterized as “toxic”, “corrosive”, “flammable”, “ignitable”, “radioactive”, “poisonous”, and “reactive”.

## Electronics

60. **Computer-related Electronics** includes personal computers, laptop computers, notebook computers, processors, keyboards, etc. This category does not include automated typewriters or typesetters, portable handheld calculators, portable digital assistants or other similar devices.

61. **Other Small Consumer Electronics** includes cell phones, iPods, PDAs.

62. **Televisions and Computer Monitors** means a stand-alone display system containing a CRT or any other type of display primarily intended to receive video programming via broadcast. Examples also include non-CRT units such as plasma and LCD monitors.

63. **Other Larger Electronics** includes stereos, VCRs, DVD players, etc.

## Other Waste

64. **Bulky Items** means large hard to handle items that are not defined separately. Examples include all sizes and types of furniture, mattresses, box springs, and base components.

65. **Textiles** (other than carpet) includes clothing, fabrics, curtains, blankets, stuffed animals, and other cloth material.

66. **Restaurant Fats, Oils and Grease** means any fats, oils and grease generated from the food preparation process.

67. **Bottom Fines and Dirt** means small fragments that pass through the ½” sort screen, and includes miscellaneous fines (paper, plastic, glass, etc.) and dirt.

68. **Other Miscellaneous** means any other type of waste material not listed in any other sort category.

# APPENDIX B – Field Forms

## Vehicle Selection Form-Example

<b>Connecticut Statewide Waste Composition Study 2009</b> <b>Vehicle Selection Form</b>		
<b>Site:</b>	<u>Bristol</u>	
<b>Date:</b>	<u>Monday, Feb 23</u>	<b>Goal:</b> <u>12</u> Samples Total
<p>Each number represents an expected vehicle based on the available data.</p> <p>Cross off one number for each category of vehicle entering the landfill.</p> <p>When you reach the number circled, ask this vehicle to go to the sorting area.</p>		
<b>Residential Packer Trucks (RPT 1-4)</b>		<b>NEED 4 TOTAL</b>
<p><i>*Must be at least 80% single-family residential waste.</i></p> <p style="text-align: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span> 2 3 4 5 6 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">7</span> 8 9 10 11 12 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">13</span>            14 15 16 17 18 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">19</span> 20 21 22 23 24 25 26            (expect 26)         </p>		
<b>Residential Transfer Loads (RTL 1)</b>		<b>NEED 1 TOTAL</b>
<p><i>*Must be at least 80% commercial waste.</i></p> <p style="text-align: center;">1 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span> 3 4 (expect 4)</p>		
<b>ICI Packer Truck (ICIP 1-5)</b>		<b>NEED 5 TOTAL</b>
<p><i>*Must be at least 80% commercial waste.</i></p> <p style="text-align: center;"> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span> 2 3 4 5 6 7 8 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">9</span> 10 11 12 13 14            15 16 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">17</span> 18 19 20 21 22 23 24 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">25</span> 26 27 28            29 30 31 32 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">33</span> 34 35 36 37 38 39 40 41 42            (expect 42)         </p>		
<b>ICI Compacted Dropbox (ICID 1-2)</b>		<b>NEED 2 TOTAL</b>
<p><i>*Must be at least 80% commercial waste.</i></p> <p style="text-align: center;">1 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span> 3 4 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> 6 7 (expect 7)</p>		

# Hand-sort Tally Sheet-Example

<b>Paper</b>		<b>Organics (wood, yard)</b>	
OCC/Kraft Paper		Food Waste	
Offshore Cardboard		Branches & Stumps	
High Grade Office Paper		Prunings & Trimmings	
Magazines/Catalogs		Leaves & Grass	
Newsprint		Manures	
Phone Books & Directories		R/C Organic	
Other Recyclable Paper		<b>Construction and Demolition</b>	
Compostable Paper		Asphalt, Brick, & Concrete	
R/C Paper		Wood - Treated	
<b>Plastic</b>		Wood - Untreated	
PET Bottles/Jars (non-haz)		Asphalt Roofing	
PET Containers-non bottles (non-haz)		Drywall/Gypsum Board	
Plastic CT Dep. Bev. Containers		Carpet	
HDPE Bottles (non-haz)		Carpet Padding	
HDPE Containers other than Bottles		R/C C&D	
Plastic Containers #3-#7 (non-haz)		<b>Household Hazardous Waste</b>	
Expanded Poly. Non-Food Grade		Ballasts, CFLs, & Other FLs	
Expanded Poly. Food-grade		Batteries - Lead Acid	
Durable Plastic Items		Other Batteries	
Film		Paint	
Grocery/Merchandise Bags		Sharps	
Other Film		Vehicle & Equipment Fluids	
Pallets - Plastic		Empty Metal, Glass, & Plastic Cont. (Haz.)	
R/C Plastic		Pesticides & Fertilizers	
<b>Metals</b>		Other Hazardous Waste & HHW	
Alc. Beverage Containers		<b>Electronics</b>	
Alc. CT Dep. Bev. Containers		Computer-related Electronics	
Tin/Steel Containers		Other Small Consumer Electronics	
Other Ferrous		TVs and Computer Monitors	
Other Non-Ferrous		Other Large Electronics	
Appliances		<b>Other Waste</b>	
Compressed Fuel Containers		Bulky Items	
R/C Metal		Textiles (other than carpet)	
<b>Glass</b>		Restaurant Fats, Oils, & Grease	
Clear & Amber Glass Containers		Bottom Fines & Dirt	
Green & Other Colored Glass Cont.		Other Miscellaneous	
Glass CT Dep. Bev. Containers			
Flat Glass - Uncoated			
R/C Glass			
<b>Waste Sector (circle):</b> RES      ICI		<b>Sample ID:</b> _____	<b>Date:</b> _____
<b>Vehicle Type (circle):</b>		<b>Time:</b> _____	
Packer Truck		<b>Notes:</b>	
Transfer Vehicle			
Compacted Dropbox			
<b>Hauler Name:</b> _____			

**Sample Placard-Example**

**RPT-1**  
**Date: \_\_\_/\_\_\_/\_\_\_**

**Vehicle Type:** Packer    Transfer  
(circle)    Compacted Dropbox

**Hauler/Truck:** \_\_\_\_\_

## APPENDIX C – Health and Safety Plan

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The following Health and Safety Plan is the property of MidAtlantic Solid Waste Consultants (MSW) and has been created to provide a Health and Safety Plan that applies broadly to waste composition projects.

MSW is responsible for the physical sampling and sorting at facilities, therefore the Health and Safety Plan concentrates on the essential safety aspects for physical sorting. While physical sampling and sorting will be performed by MSW Consultants, it is expected that anyone entering the field will follow MSW's Health and Safety Plan.

All field personnel from MSW Consultants, DSM Environmental Services, Inc. and Cascadia Consulting Group, Inc. will read, and understand the MSW Health and Safety plan before entering the field. All field personnel will also sign off saying they agree to abide by the sections that are relevant to them in this Health and Safety Plan.

### INTRODUCTION

This Safety and Health Plan (SAHP) has been written for use by MidAtlantic Solid Waste Consultants, LLC, (MSW Consultants) personnel, their subcontractors, and any other individuals authorized access to areas where site control is established to conduct field work associated with the performance of a physical or visual composition study of municipal solid wastes.

MSW Consultants does not guarantee the health and safety of any person entering the designated work areas. Because of the nature of this work and the activity occurring therein, it is not possible to discover, evaluate, and provide protection for all possible hazards that may be encountered. Strict adherence to these health and safety guidelines will reduce, but not eliminate, the potential for injury or exposure to hazards on the site. The health and safety guidelines in this plan were prepared generally for this type of field activity. It may be necessary to refine this plan for each individual project, depending on local site characteristics and job requirements.

The following practices are included in this document:

1. Safety and health framework at host municipal solid waste facilities;
2. Sampling hazard evaluation and controls;
3. Sorting hazard evaluation and controls;
4. Fundamental safe work practices including site controls;
5. Personnel protective equipment (PPE) applicable the field work; and
6. Emergency response procedures.

A copy of this SAHP will be maintained by the MSW Consultants Field Supervisor at all times while field operations are in progress. A copy of the SAHP will be provided to the client, facility management, subcontractors, and other project stakeholders at their request. Each employee (MSW Consultants or subcontractor) is required to receive basic training on the safety and health principals and procedures contained herein at the outset of the project and sign a release documenting receipt of such training.

## Statement of Safety and Health Policy

It is the policy of MSW Consultants to conduct all work in a manner that minimizes the physical and chemical/biological hazards to which workers might be exposed in the course of their work. MSW consultants also will conduct emergency planning in such a way as to minimize the consequences of any accident or exposure for their employees and subcontractors. MSW Consultants will provide adequate training and supervision to all employees performing work on a given project and will be responsible for ensuring all employees and subcontractors follow the provisions of the Safety and Health Plan developed for that project.

Safety is basic or inherent to the work performed by MSW Consultants. Each employee (MSW Consultants or subcontractor) is held accountable and responsible for working safely, including following the procedures and guidance of this SAHP. All employees are required to comply with applicable safety regulations. Individuals who do not follow the procedure and guidance of this SAHP are subject to removal from the site and project.

## Background Information

Contractor: MSW Consultants, LLC

Contract Number: \_\_\_\_\_

Corporate Address: 6225 Sawyer Road, New Market, MD 21774

Phone: (301) 607-6428

Designated Field Supervisor: \_\_\_\_\_

Brief Project Name: \_\_\_\_\_

Brief Project Description: This project entails the physical sampling and sorting of 200 to 300 pound samples of municipal solid waste into its component categories.

## Safety and Health Framework

The figure below summarizes the three layers of organizations/personnel that are typically involved safety and health plan compliance for waste composition projects. One unique aspect to the performance of a waste composition study is that the project is typically hosted by a permitted solid waste management facility. Such facilities are required to have detailed safety and health plans, accident prevention plans, accident reporting plans, emergency response plans, and other procedures and policies in place to minimize risks associated with handling municipal solid waste in an operating environment with noise, dust, heavy machinery, and other risks. For this reason, it is MSW Consultants' policy first and foremost to obtain, review, and comply with the safety and health framework that exists at the facility hosting the project.

## Safety and Health Plan Framework



Occasionally, procedural conflicts may arise between the host facility safety and health procedures and processes and MSW Consultants' site controls. In these instances, the requirement most protective of worker health and safety, the public, and property shall take precedence.

The remainder of this section identifies task organization and personnel responsibilities for the management and implementation of this SAHP. It also specifies the training and physical qualifications of employees performing the work. Accident reporting, recordkeeping, and emergency planning also are discussed in this section of the SAHP:

### Training Requirements

If required by the host facility, all MSW Consultant employees (and subcontractors) will participate in a training program provided by the host facility.

The following training will be provided by MSW Consultants Field Supervisor staff at the outset of the project and prior to conducting any field operations. This training is intended to be provided verbally in the form of tailgate meetings or roundtable discussions with the field employees.

1. Understanding the SAHP;
2. Personal protective equipment and use;
3. Physical, chemical, and biological hazards and prevention;
4. Site access and control;
5. Roles and responsibilities;
6. Accident prevention and reporting; and
7. Emergency procedures.

### Client Personnel and Visitors

Client personnel other than those already working at the host facility and other visitors must obtain clearance from both the host facility management and from the MSW Consultants Field Supervisor before obtaining access to controlled work areas. Visitors will receive a job-specific safety briefing. Visitors in areas requiring PPE must have the equivalent training and PPE as the on-site worker to gain entry. MSW Consultants is not responsible for distributing or obtaining

PPE for visitors, or training visitors or client personnel on proper use of PPE, unless otherwise agreed to prior to the project.

## **Physical Qualification of Employees**

All personnel associated with the sampling and handling of the materials collected from the field for this project will be trained in their safe handling. All personnel involved in the performance of physical work will be physically fit and demonstrate their ability to perform their duties. The MSW Consultants Field Supervisor can prohibit any person from performing work at the site should there be a question as to their fitness for duty.

## **Roles and Responsibilities**

**Corporate Safety and Health Managers:** MSW Consultants principals Walt Davenport and John Culbertson are responsible for the health and safety of all MSW Consultants employees. As officers of the company, their role entails:

- Oversee maintenance and implementation of the MSW Consultants Safety and Health Program;
- Provide project personnel with technical guidance for conducting field work in a safe and healthful manner;
- Assist with preparation, or review and approval of project health and safety documents;
- Assign adequate levels of support;
- Interact with contracts personnel to verify that subcontractors are informed and can meet MSW Consultants health and safety requirements for this work; and
- Conduct field audits, as necessary, in accordance with MSW Consultants policies and procedures, and to verify that action plans are developed to correct any deficiencies.

**Field Supervisor:** The Field Supervisor will be assigned on a project by project basis and will be trained and knowledgeable in the MSW Consultants SAHP as well as the host facility health and safety requirements. This position will be required to:

- Administer the SAHP for the specific project and coordinate any amendments to the SAHP with the MSW Consultants Health and Safety Managers;
- Verify current certifications of individuals' fitness and training prior to authorizing access to areas where site control is established;
- Conduct emergency planning actions such as interfacing with emergency providers, assessing emergency supplies, assessing possible emergency needs;
- Verify availability of health and safety equipment on site in accordance with the SAHP;
- Verify that copies of plans and regulations are available at the site;
- Conduct employee health and safety orientations prior to the start of field activities;
- Monitor field activities;
- Establish and enforce site controls;
- Assist in independent health and safety site audits conducted by MSW Consultants Corporate Personnel, regulatory agencies, or the host solid waste management facility;
- Conduct accident investigations of injuries, illnesses, and near misses and to ensure the completion of associated documentation;
- Exercise "stop work authority" when an imminent hazard or potentially dangerous work practice exists; and
- Complete and submit recordkeeping forms mandated by the SAHP.

**Subcontractors:** MSW Consultants has historically relied on temporary light-industrial staffing agencies to supply the sorting laborers needed to perform the physical sorting of solid wastes. These laborers are required to perform the following:

- Attend site-specific orientation and safety meetings when participating in field work;
- Read, understand, and sign the training verification form that states “I have read, understood, and agree to abide by these safety and health policies and procedures,” before working on site;
- Evaluate tasks to be performed and site-specific hazards; develop appropriate controls and supplement this SAHP, as required;
- Follow safe work procedures for this work that will address the specific hazards associated with the task to be performed for this work;
- Ensure that all employees are trained in the safe and proper use of all tools they may use;
- Ensure that all employees receive a safety orientation before beginning to work;
- Assure that all employees use all necessary personal protective equipment (PPE); and
- Promptly correct any unsafe conditions.

### **Accident Reporting**

As soon as possible following an incident or emergency, the Field Supervisor, or his designee is to directly notify the MSW Consultants Corporate Safety and Health Manager, the host facility manager, the subcontractor contact (if applicable) and the client.

### **Emergency Planning**

This section discusses the health and safety and emergency planning required for this project. If health and safety concerns arise during field activities, the following steps will be taken:

- Bring health and safety concerns to the attention of the host facility manager;
- If the host facility manager are unable to satisfactorily address concerns, bring the concerns to the attention of the MSW Consultants Corporate Safety and Health Manager;
- In the event of an incident or emergency, notify responsible personnel listed in this plan; and
- Discuss “stop work authority” for imminent danger situations.

### **SANITATION**

Waste composition field sorting events typically last for one or more weeks. Because they may be carried out in multiple locations—on the face of a landfill or within the confines of a transfer station or other waste management facility—, it may be necessary to consider providing specialty sanitary requirements at the job site.

### **Drinking Water**

Drinking water for the field work will be brought to the site and stored outside of the work area. It will not be brought within the work area, nor will it be accessed by any worker in a non-

emergency situation without the worker first undergoing the proper decontamination procedure, as described elsewhere in this plan.

### **Toilets and Washing Facilities**

If the host facility provides access to toilets, including washing facilities, within reasonable distance from the job site, such toilets will be used. If no such access is possible, portable toilet facilities, including washing capability, will be provided by MSW Consultants for field work. Portable toilet facilities will be located outside, but in close proximity to, the work area. Workers must first undergo decontamination before using portable toilet facilities. MSW Consultants will also maintain anti-bacterial hand sanitizer for use outside the work area.

### **Waste Disposal**

To the extent wastes are generated by field operations, this waste will be disposed in the same manner as the removal of sorted samples.

### **Vermin Control**

MSW Consultants will comply with the vermin control measures in place at the host facility. This typically consists of maintaining daily site clean-up efforts, and requires that un-sorted samples be completely contained for overnight storage.

### **First Aid Kits**

First aid kits will be stored at locations where field work will be performed or in vehicles used to transport workers to the field. The kits will contain standard first aid supplies, including, but not limited to bandages and treatment for minor abrasions and strains and will comply with the criteria contained in American National Standards Institute (ANSI) Z308.1 in the ratio of one for every 25 persons or less. Distilled water or portable saline solution bottles will be taken to the field for emergency eye wash purposes.

First-aid kits shall be easily accessible to all workers, and each item maintained sterile. The contents of first-aid kits shall be checked by the employer prior to their use and at least weekly when work is in progress to ensure that expended items are replaced.

### **First Aid Stations and Infirmaries**

There are no first aid stations or infirmaries provided for this work, other than an eyewash station or a full supply of portable eye-wash bottles provided at by the Field Supervisor. Other than minor first aid procedures, all injuries or exposures will be treated by emergency personnel at off-site facilities. If a medical emergency occurs, the Field Supervisor assumes charge until an ambulance arrives or until the injured person is admitted to the emergency room. Site personnel will prevent further injury by taking the following actions:

- If properly trained (including blood borne pathogen training) and properly equipped with appropriate PPE, initiate first aid and CPR, if needed.
- Call ambulance and hospital, as appropriate.

- Determine whether decontamination will make injury worse. If yes, seek medical treatment immediately.
- Make certain the injured person is accompanied to the emergency room by at least one field team member with the same employer.

## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

The purpose of personal protective clothing and equipment is to shield or isolate individuals from the hazards that may be encountered when engineering and other controls are not feasible or cannot provide adequate protection. Adherence to all prescribed controls is vital to minimize exposures.

PPE ensembles for site activities are defined by the EPA and OSHA. Either MSW Consultants or the subcontractor will supply appropriate PPE for their staff, as agreed prior to the field operations. PPE must conform to the requirements of this SAHP. Those not supplied with the proper PPE will not be allowed to work at the site. PPE will be inspected, tested, and used as required.

Employees shall be physically able and medically determined qualified to use the personal protective and safety equipment that may be required in their job duties. Employers shall ensure users of personal protective and safety equipment are trained to know the following: when PPE, and what types of PPE are necessary; how to properly don, doff, adjust, and wear PPE; limitations of the PPE; and proper care, inspection, testing, maintenance, useful life, storage, and disposal of the PPE.

Each affected employee shall demonstrate an understanding of this training and the ability to use PPE properly before being allowed to perform work requiring the use of PPE. When the employer has reason to believe that any affected employee who has been trained does not have the understanding and skill required for the task, the employer shall assure the employee receives the necessary retraining to acquire the appropriate skills.

Personal protective and safety equipment shall be inspected and maintained in serviceable and sanitary condition as recommended by the manufacturer. Defective or damaged equipment shall not be used and shall be removed from the work site to prevent accidental use. Most PPE required for waste composition projects is single-use only, with the intent of being discarded at the end of the day. For re-usable PPE, before being stored or reissued to another person, equipment shall be cleaned, disinfected, inspected, and repaired.

In general, MSW Consultants will comply with the PPE requirements of the host solid waste management facility. Such requirements supersede those described in this SAHP. However, MSW Consultants will require the following minimum PPE regardless of the host facility requirements

### **Gloves**

Gloves are required to be worn by every employee involved in the physical handling of waste, regardless of the requirements of the host facility. Municipal solid waste may contain materials that are sharp or chemically dangerous if contacted by skin. Appropriate gloves are critical to worker safety.

MSW Consultants has evaluated safety gloves available from the safety products industry. Based on extensive field and office testing, we have standardized on heavy duty neoprene gloves that are compliant with CFR 21 Parts 170-199.



While no glove will effectively prevent every puncture, this glove provides extremely high puncture resistance, as well as chemical protection for chemical processing, alkaline units at petroleum refineries, metal plating operations, haz-mat handling, hazmat suits and for hazardous waste disposal. Although arguably overkill for handling municipal solid waste, we believe such precautions are appropriate.

### Eye Protection

Eye protection will be worn by employees engaged in physical sorting of municipal solid waste. Eye protection equipment shall be distinctly marked to facilitate identification of the manufacturer. Every worker should know the location of the nearest eye wash station or the location of eye wash bottles prior to beginning work.



MSW Consultants has evaluated eye protection products available from the safety products industry. This product is compliant with ANSI Z87.1-1989, and features an optimal combination of protection, functionality, and comfort. The wraparound style has a hingeless frame system, a single lens design providing a continuous field of vision, and a dynamic shape that allows you to wear eyewear around your neck, on top of your head or over a hardhat. The gel temple sleeves and soft, secure gel nosepiece provide additional wearing comfort. A clip-on, breakaway retainer cord is included with every pair. The lens is constructed of impact-resistant polycarbonate lens filters out 99.9% of UV radiation, and includes a scratch-resistant coating.

### Respiratory Protection

Due to the non-hazardous levels of contaminants anticipated in handling municipal solid waste, respiratory protection is not required but will be offered to all employees. MSW Consultants has evaluated respiratory protection products available from the safety products industry. Based on extensive field and office testing, we have standardized our respiratory protection on the product shown in the figure below. This product is National Institute for Occupational Safety and Health (NIOSH) approved. It conforms to facial contours, and comes in individual packages for ease of distribution and sanitary storage.



### Footwear

Heavy-duty work boots with leather uppers are the minimum foot protection required to perform waste composition analysis. Although steel toes are not required, they are preferred.

Employees (or subcontractors) not wearing the minimum foot protection shall not be allowed to enter the work site.

### **Protective Suits**

Although not required, MSW Consultants will provide and encourage that all workers wear aprons or coveralls for the duration of physical sorting of wastes. For warm weather sorts, aprons are generally preferable because they allow greater airflow and help keep workers from overheating. For cold weather sorts, coveralls are preferred because they add a layer of warmth as well as barrier protection. The figure below shows a standard Tyvek coverall that may be worn in colder weather sorting events. These coveralls are available in a wide range of sizes, and meet sizing.



### **Other PPE**

Although not required by MSW Consultants when performing waste composition analysis, many host solid waste management facilities may require the following PPE:

- Reflective vests;
- Hard hats; and

Hearing protection.

If required, these PPE items will be provided by MSW Consultants.

## **HAZARDOUS SUBSTANCES AND ENVIRONMENTS**

The activities covered by this SAHP present potential chemical, biological, and physical hazards that may be encountered during the conduct of work. This SAHP is written to provide guidance on ways to eliminate or minimize exposure to these hazards and the steps to take if an exposure occurs.

### **Hazardous Substances**

Municipal solid waste by definition may not contain hazardous waste, with the exception of Household Hazardous Wastes (HHW) from residential generators, or commercial generators that

dispose of HHW-like products at de minimus levels. Nonetheless, employees performing waste composition analysis must have an awareness of the possibility of these materials, which may include:

- Medical wastes from residential generators (e.g., sharps)
- Household poisons;
- Flammable chemicals; and
- Reactive agents.

Radioactive, biologically active, explosive and other highly hazardous materials are prohibited from being disposed as municipal solid waste, and to the extent these items are found during a waste composition study all sorting activities will be immediately postponed and the host facility management notified for removal of these wastes and site remediation.

This SAHP covers a wide variety of hazards known or suspected to exist or that are inherent to the process of waste management activities; however, unforeseen hazards may be present in the performance of these tasks. Hazards not covered by this SAHP specifically will be assessed by the Field Supervisor for the appropriate control measures to maximize worker, environment, and public safety.

### **Harmful Plants, Animals, and Insects**

Depending on the location of the waste composition analysis, it is possible that the potential exist to exposure to harmful plants, animals or insects. Poison ivy may be encountered on the periphery of some work areas, and could conceivably occur in the sample itself. It is identified as having dark green, somewhat shiny foliage with sets of three, pointed leaves. Protective clothing will be worn during the performance of field work. Outer garments can either be disposed or washed at the end of each day. Protective gloves will be worn. If encountered, do not touch or burn this plant. If exposure occurs, thoroughly wash the exposed area with soap and water within 10 minutes to remove the irritating oil.

Although a remote risk, outdoor work areas may be in areas where deer ticks live. Deer ticks can carry Lyme Disease. Evidence of exposure is the presence of a tic on the body or clothes. A small, red circular area will appear shortly after a bite. If exposed, contact a physician and save the offending tics, if possible, for analysis. Avoid dense woods and wear a hat and light-colored, protective clothing. Check body at the end of each field day for the presence of tics.

### **Inclement Weather and Environmental Hazards**

Hazards presented by the natural work environment may include heat or cold stress, and inclement weather. When there are warnings or indications of impending severe weather (heavy rains, damaging winds, tornados, hurricanes, floods, lightning, etc.), weather conditions shall be monitored and appropriate precautions taken to protect personnel and property from the effects of the severe weather. Table 5-3 outlines exposure control methods for working in extreme temperatures and summarizes symptoms and treatment procedures for heat and cold stress.

**Table 1 Symptoms and Treatment of Heat and Cold Stress**

<b>Conditions</b>	<b>Symptoms</b>	<b>Treatment</b>
Heat stroke	Red, hot, dry skin; no perspiration; dizziness; confusion; rapid breathing and pulse; and high body temperature.	This is a MEDICAL EMERGENCY! Cool victim rapidly by soaking in cool (not cold) water. Loosen restrictive clothing. Get medical attention immediately!
Heat exhaustion	Pale, clammy, moist skin; shallow breathing; profuse sweating; weakness; normal temperature; headache; dizziness; and vomiting.	Move victim to a cool, air-conditioned area. Loosen clothing, place head in low position. Have victim drink cool (not cold) water.
Frostbite	Blanched, white, waxy skin, but resilient tissue; tissue cold and pale.	Move victim to a warm area. Warm area quickly in warm (not hot) water. Do not break any blisters. Elevate the injured area and get medical attention.

Hypothermia	Shivering, apathy, sleepiness; rapid drop in body temperature; glassy stare; slow pulse; and slow respiration.	Move victim to a warm area. Have victim drink warm fluids - not coffee or alcohol. Get medical attention.
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In the event of adverse weather conditions, the Field Supervisor will evaluate whether work can continue without compromising the health and safety of site personnel. The Field Supervisor will direct the implementation of precautions necessary to ensure the health and safety of site personnel. A lightning watch will go into effect 30 minutes prior to thunderstorms being within a five nautical mile radius of an activity. During the watch, operations or activities may continue, however all personnel must be prepared to implement warning procedures without delay. Workers must be alert for any lightning activity, to include audible thunder, and advise supervisory personnel of any observations.

## Decontamination

Decontamination protects workers, the public, and the environment by limiting exposure to harmful substances and by preventing the spread of contamination. The Field Supervisor will oversee personnel and equipment decontamination to determine its effectiveness, and take corrective actions to rectify any deficiencies. Table 15-3 presents the decontamination procedures that will be followed for personnel and equipment. Subcontractors are responsible for decontaminating their own equipment and personnel according to these procedures.

**Table 2 Decontamination Procedures**

Item	Decontamination Procedure
Sampling Table, Bins, and Tools	Pressure wash at the conclusion of the waste composition study in an area with leachate collection
Personal – Mid day breaks	PPE shall be removed while the worker is in the work area. Employees shall wash hands and forearms in the washing facility supplied for the project.
Personal – End of Day	Hard hats, vests and eye protection shall be returned to the Field Supervisor for inspection and cleaning. Neoprene gloves shall be removed, inspected for tears and chemical damage, and if still in safe working condition, stored in the work area. Damaged gloves shall be replaced for subsequent work days. Tyvek suits, respirators, and ear plugs shall be discarded as solid waste. Employees shall wash hands and forearms in the washing facility supplied for the project.

## Personnel Decontamination

All personnel exiting the sampling area will follow decontamination procedures. Under no circumstances (except emergency evacuation) will personnel be allowed to leave the work area before decontamination. The Field Supervisor may approve simplification of the procedures in the field when a determination has been made that decontamination procedures are unnecessary.

## **MATERIAL HANDLING**

Although waste composition project do not require extensive handling of heavy material, there is significant lifting and carrying that must be performed to complete the data collection. This section describes considerations in handling materials during the waste composition study.

### **Lifting and Carrying**

Employees shall be trained in and shall use safe lifting techniques. When lifting:

- Reaching out to lift an object fights against gravity, and increases strain on the lower back. Stand close to the load to be lifted and spread your feet for balance.
- Be certain the weight being lifted is within your capabilities. Ask for assistance if needed.
- Bend your knees and keep your spine straight. Grasp the object to be lifted and keep it close to your body.
- Using your leg muscles, straighten your knees and stand.

When carrying:

- Always keep the object you are carrying close to your body.
- When changing directions, shift your feet. Don't twist the upper body.
- Try to avoid changing your grip while carrying the load.
- After reaching your destination, keep the object close to your body, keep the spine straight, and slowly bend the knees as you lower the object to the floor.

### **Material and Equipment Storage**

To the extent it is necessary to store sampled wastes, the entire sample shall be contained by either temporary or permanent means. Permanent storage is preferred in containers with lids. In some instances, tarping of sampled material is acceptable, provided the tarp can fully contain the sampled waste and be weighted down to prevent removal by vermin or from winds.

Work site equipment shall be stacked, consolidated, and placed at ground level so that it is stable and secured against sliding or collapse.

### **Housekeeping**

Scrap, trash, and other wastes shall be placed in designated containers. Work areas shall be cleaned up as the job progresses. Cords and hoses shall be routed in a manner that will present no tripping hazard - preferably overhead. At a minimum, all tools, and equipment shall be stored in a stable position (tied, stacked, or chocked) to prevent rolling or falling. Tools and equipment will preferably be removed from the work site for secure storage in a vehicle overnight. A safe access way shall be maintained to all work areas and emergency exits.

### **Material Disposal**

Waste generated onsite from field activities includes the sorted waste samples, PPE discards, and field trash. These wastes will be managed as non-hazardous, solid waste, and will be placed in the same receptacle being used to remove sorted waste samples.

Any HHW that is found in the samples wastes shall be stored and disposed according to host facility HHW collection policies. If no such policies exist, the HHW will be disposed with the remaining solid wastes.

At the request of the host facility, recyclable materials may be set aside for recovery by the host facility.

## **SITE CONTROL**

Effective site control procedures will reduce the potential safety and health risks to the workers on site. Site control includes the following safe work practices:

- Limiting work area access to essential personnel, both during work hours and off hours;
- Establishing work zones within the sampling and sorting areas, and restricting personnel entering work zones;
- Establishing decontamination procedures for personnel and equipment; and
- Assuring that personnel may be accurately and quickly located and evacuated during an emergency.

As a general site control, alcoholic beverages, food, cigarettes, and other consumable products are prohibited in work areas at all times.

### **Sampling Area Controls**

An area at the host facility will be set aside for the oversight of vehicle load tipping and sampling of the tipped load. The sampling work area shall be controlled by:

- Delineating boundaries for the tipping of targeted loads of waste;
- Prohibiting entry into these boundaries by non-targeted truckloads;
- Providing for the safe queuing of material transport hoppers out of the way of collection vehicles and waste handling mobile equipment such as loaders or compactors; and
- Providing a storage location for a loader or bobcat that may be needed to transport samples.

Only the Field Supervisor or a trained sampling manager may enter into the sampling work area during the course of the project.

### **Sorting Area Controls**

An area at the host facility will be set aside for the performance of sorting and weighing sampled wastes. The sorting work area shall be controlled by:

- Setting aside a 20 foot by 20 foot space where the sort table and bins can be positioned;
- Providing additional space for queuing samples;
- Maintaining a consistent site configuration so that employees know the proper position of all equipment and materials; and
- Being established out of the way of any heavy machinery or equipment that may be in operation within the facility boundaries.

No personnel will enter or work in delineated work zones without proper training or an escort.