

## 5.0 RESULTS AND DISCUSSION: VISUAL LANDFILL AUDIT

Over the three week (15 working day) audit period, 220 inbound landfill loads were visually audited for composition analysis by individual material category (based on visual volumetric estimations).

The estimated volumetric compositions were converted to weight equivalents using the net weights of each load, the size and fullness of each truck, and bulk density conversion factors for each material type. The annual quantity of each material type received at the facility was also calculated based on the annual landfill records provided by Oxford County for 2016. A full detailed list of the conversion factors utilized during data analysis can be viewed within Appendix D. It is also worth noting that since loads were visually audited (as opposed to physical sorting & separating), contents of any bagged material could not be assessed, and were classified within the “All Other” material category. Detailed audit results can be found in Appendix A 3.

### **Mixed Solid Waste**

During the audit period, approximately 168,801 kg (169 MT) of Mixed Solid Waste was visually audited from 88 loads. Residential curbside waste was not included in the visual audit.

Based on the visual audit, of the total 11,442,940 kg (11,443 MT) Mixed Solid Waste estimated to be received at the landfill annually, approximately 9,886,715 kg (9,887 MT) or 86.40% is represented by the top 4 disposed material categories. These categories are All Other (mostly bagged), Bulky Items, Treated Wood, and Clean Wood at 6,836,294 kg (6,836 MT), 1,590,816 kg (1,591 MT), 1,013,695 kg (1,014 MT), and 445,910 kg (446 MT).

**Table 5.1 Breakdown of MSW Waste (Visual Audit)**

Material Type	R - Recyclables O - Leaf & Yard Waste W - Garbage	Inbound Disposed Annually (kg/yr)	Inbound Disposed Annually (MT/yr)	Percentage (%)
All Other	W	6,836,294	6,836	59.74%
Bulky Items	W	1,590,816	1,591	13.90%
Treated Wood	W	1,013,695	1,014	8.86%
<b>Clean Wood</b>	<b>W</b>	<b>445,910</b>	<b>446</b>	<b>3.90%</b>
<b>Corrugated Cardboard</b>	<b>R</b>	<b>275,822</b>	<b>276</b>	<b>2.41%</b>
CARPET	W	273,722	274	2.39%
Other Non-Recyclable Glass	W	194,367	194	1.70%
Rubber	W	142,016	142	1.24%
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	103,324	103	0.90%
<b>Ferrous Metal</b>	<b>W</b>	<b>102,715</b>	<b>103</b>	<b>0.90%</b>
<b>Leaf &amp; Yard Waste</b>	<b>O</b>	<b>61,627</b>	<b>62</b>	<b>0.54%</b>
<b>Ceramics &amp; Porcelain</b>	<b>W</b>	<b>59,236</b>	<b>59</b>	<b>0.52%</b>
Textiles	W	53,307	53	0.47%
Mixed Recyclable Paper	R	52,090	52	0.46%
Non-Backyard Compostable Food Waste	W	45,396	45	0.40%
<b>Concrete</b>	<b>W</b>	<b>40,014</b>	<b>40</b>	<b>0.35%</b>
Backyard Compostable Food Waste	W	35,310	35	0.31%
Rubble/Soil	W	34,039	34	0.30%
Plastic Film or Sheet Film	R	30,306	30	0.26%
Newsprint	R	16,788	17	0.15%
Non-Recyclable Plastic Packaging	W	16,288	16	0.14%
<b>Ferrous Containers</b>	<b>R</b>	<b>5,038</b>	<b>5</b>	<b>0.04%</b>
<b>Non-Ferrous Metal</b>	<b>W</b>	<b>4,645</b>	<b>5</b>	<b>0.04%</b>
Other Recyclable Plastics	R	4,261	4	0.04%
Recyclable Glass Containers	R	2,213	2	0.02%
#1 PET Bottles & Jars	R	1,541	2	0.01%
Aluminum Containers	R	1,225	1	0.01%
Polycoat/Composite Containers	R	935	1	0.01%
<b>Mixed Metals</b>	<b>W</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
Blue Fluff from Rieter factory	W	0	0	0.00%
<b>Total</b>		<b>11,442,940</b>	<b>11,443</b>	<b>100.00%</b>

**Non-Hazardous Solid Industrial**

During the sampling period, approximately 169,480 kg (169 MT) of inbound Non-Hazardous Solid Industrial material was visually audited from 51 loads.

Of the estimated total 6,062,490 kg (6,062 MT) of Non-Hazardous Solid Industrial waste received at the landfill annually, approximately 5,342,572 kg (5,343 MT) or 88.13% is represented the top 4 material categories. These categories are Blue Fluff from the Rieter Factory, All Other (bagged, fibre glass, automotive parts), Rubble/Soil, and Mixed Recyclable Paper at 2,645,709 kg (2,646 MT), 2,045,881 kg (2,046 MT), 458,214 kg (458 MT), and 192,767 kg (193 MT).

**Table 5.2 Breakdown of Non-Hazardous Solid Industrial Waste (Visual Audit)**

Material Type	R - Recyclables O - Leaf & Yard Waste W - Garbage	Inbound Disposed Annually (kg/yr)	Inbound Disposed Annually (MT/yr)	Percentage (%)
Blue Fluff from Rieter factory	W	2,645,709	2,646	43.64%
All Other	W	2,045,881	2,046	33.75%
Rubble/Soil	W	458,214	458	7.56%
Mixed Recyclable Paper	R	192,767	193	3.18%
<b>Clean Wood</b>	<b>W</b>	<b>146,713</b>	<b>147</b>	<b>2.42%</b>
Plastic Film or Sheet Film	R	144,893	145	2.39%
Bulky Items	W	90,819	91	1.50%
Treated Wood	W	72,444	72	1.19%
Rubber	W	64,311	64	1.06%
<b>Corrugated Cardboard</b>	<b>R</b>	<b>57,853</b>	<b>58</b>	<b>0.95%</b>
CARPET	W	36,002	36	0.59%
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	24,016	24	0.40%
Non-Backyard Compostable Food Waste	W	21,832	22	0.36%
Non-Recyclable Plastic Packaging	W	15,920	16	0.26%
<b>Ferrous Metal</b>	<b>W</b>	<b>11,817</b>	<b>12</b>	<b>0.19%</b>
Other Non-Recyclable Glass	W	10,168	10	0.17%
Polycoat/Composite Containers	R	9,983	10	0.16%
Textiles	W	6,488	6	0.11%
Other Recyclable Plastics	R	5,157	5	0.09%
<b>Non-Ferrous Metal</b>	<b>W</b>	<b>1,463</b>	<b>1</b>	<b>0.02%</b>
#1 PET Bottles & Jars	R	39	0	0.00%
Newsprint	R	0	0	0.00%
<b>Ferrous Containers</b>	<b>R</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
Aluminum Containers	R	0	0	0.00%
Recyclable Glass Containers	R	0	0	0.00%
Leaf & Yard Waste	O	0	0	0.00%
<b>Mixed Metals</b>	<b>W</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
Backyard Compostable Food Waste	W	0	0	0.00%
<b>Concrete</b>	<b>W</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
<b>Ceramics &amp; Porcelain</b>	<b>W</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
<b>Total</b>		<b>6,062,490</b>	<b>6,062</b>	<b>100.00%</b>

### Demolition

During the sampling period, approximately 144,160 kg (144 MT) of inbound Demolition material was visually audited from 76 loads.

Of the estimated total 5,742,580 kg (5,743 MT) of Demolition waste landfilled annually, approximately 4,828,736 kg (4,829 MT) or 84.09% is represented the top 4 disposed material categories. These categories are All Other (shingles, drywall, insulation, bagged material) Treated Wood, Clean Wood, and Rubble/Soil at 3,049,570 kg (3,050 MT), 983,669 kg (984 MT), 564,463 kg (564 MT), and 231,033 kg (231 MT).

**Table 5.3 Breakdown of Demolition Waste (Visual Audit)**

Material Type	R - Recyclables O - Leaf & Yard Waste W - Garbage	Inbound Disposed Annually (kg/yr)	Inbound Disposed Annually (MT/yr)	Percentage (%)
All Other	W	3,049,570	3,050	53.10%
Treated Wood	W	983,669	984	17.13%
<b>Clean Wood</b>	<b>W</b>	<b>564,463</b>	<b>564</b>	<b>9.83%</b>
Rubble/Soil	W	231,033	231	4.02%
<b>Corrugated Cardboard</b>	<b>R</b>	<b>206,850</b>	<b>207</b>	<b>3.60%</b>
Leaf & Yard Waste	O	152,349	152	2.65%
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	96,426	96	1.68%
Bulky Items	W	83,645	84	1.46%
<b>Ferrous Metal</b>	<b>W</b>	<b>81,692</b>	<b>82</b>	<b>1.42%</b>
CARPET	W	69,942	70	1.22%
<b>Ceramics &amp; Porcelain</b>	<b>W</b>	<b>50,529</b>	<b>51</b>	<b>0.88%</b>
Mixed Recyclable Paper	R	33,554	34	0.58%
Rubber	W	32,276	32	0.56%
Other Non-Recyclable Glass	W	30,273	30	0.53%
<b>Mixed Metals</b>	<b>W</b>	<b>23,160</b>	<b>23</b>	<b>0.40%</b>
Plastic Film or Sheet Film	R	16,905	17	0.29%
<b>Non-Ferrous Metal</b>	<b>W</b>	<b>11,224</b>	<b>11</b>	<b>0.20%</b>
Non-Recyclable Plastic Packaging	W	8,527	9	0.15%
Newsprint	R	6,035	6	0.11%
Textiles	W	5,736	6	0.10%
<b>Ferrous Containers</b>	<b>R</b>	<b>1,828</b>	<b>2</b>	<b>0.03%</b>
Polycoat/Composite Containers	R	1,094	1	0.02%
Backyard Compostable Food Waste	W	838	1	0.01%
Other Recyclable Plastics	R	697	1	0.01%
#1 PET Bottles & Jars	R	143	0	0.00%
Aluminum Containers	R	121	0	0.00%
Recyclable Glass Containers	R	0	0	0.00%
Non-Backyard Compostable Food Waste	W	0	0	0.00%
<b>Concrete</b>	<b>W</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
Blue Fluff from Rieter factory	W	0	0	0.00%
<b>Total</b>		<b>5,742,580</b>	<b>5,743</b>	<b>100.00%</b>

### Brake Linings

During the audit period, approximately 50,320 kg (50 MT) of Brake Linings waste was visually audited from 2 loads. Each of these loads was observed to be 100% brake linings. Brake linings are recycled as aggregate road building material at the landfill.

### Non-Hazardous Soil

During the audit period, approximately 18,820 kg (19 MT) of Non-Hazardous Soil material was visually audited from 2 loads.

It was visually noted that for both of the loads audited, they consisted of Rubble/Soil and All Sand/Dust at approximately 56.06% and 43.94% respectively.

### **Mixed C&D**

During the audit period, approximately 1,060 kg (1 MT) of material classified as Mixed C&D was visually audited from 1 load. This represented 0.19% of the total inbound sampled material by weight and 0.45% of the total number of samples taken during the sampling period.

It was visually noted that for the single sample audited, All Other (Unknown Bagged Garbage) and Corrugated Cardboard at approximately 91.93% and 8.07% comprised the sample.

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**Disclaimer**

AET Group Inc. makes no warranty and assumes no liability for the information contained in this report outlining the waste audit study results. These results reflect measurements made over the three-week study period as described in the methodology. As such, waste generation measurements should be considered snapshots and may not reflect accurately conditions across Oxford County over time. These reported generation, capture, diversion, and contamination rates more accurately reflect the quantity of each material generated over the study period and have been extrapolated to calculate annual rates based on 365 days a year as outlined in the calculations.