

# 2017 City of Edmonton Litter Audit Report

The City of Edmonton, AB

Prepared for  
The City of Edmonton

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## EXECUTIVE SUMMARY

The City of Edmonton contracted AET Group Inc. (AET) to conduct litter audits at 123 pre-selected locations within the public realm across the city. The audits were conducted from May 29<sup>th</sup> to June 2<sup>nd</sup>, 2017 with the purpose of assessing the composition and amount of litter present on Edmonton streets.

During the study period AET staff examined large and small litter within the 123 sites across the City of Edmonton. The City has previously completed litter audits in 2009, 2010, 2011, 2012, 2013, 2014, 2015, and 2016. The methodology used in this year's audit was similar with those of previous years. AET visually assessed the litter within these 123 locations and recorded the type, and size of litter.

### Key findings from the large litter audits:

- The average amount of large litter has decreased from an average of 11.1 items per site in 2016 to 7.2 items per site in 2017;
- The total number of large litter items decreased by 34.67% from 1,360 items in 2016 to 888.5 items in 2017;
- The number of sites with no large litter recorded increased from 22 sites in 2016 to 27 sites in 2017;
- The most commonly found item in the large litter audit was Miscellaneous Plastic, representing 10.75% of all large items audited in 2017 and 18.53% in 2016;

### Key findings from the small litter audits:

- The average amount of small litter has decreased from an average of 9.4 items per site in 2016 to 7 items per site in 2017;
- The total number of small litter items decreased by 25.84% from 1,161 items in 2016 to 861 items in 2017;
- The most commonly found small litter item was cigarette butts/debris, accounting for 33.80% of all small litter audited, followed by paper at 18.35%.
- AET staff noted the presence of cigarette butt disposal bins located across the downtown core. These bins were present within high foot/pedestrian traffic areas across the City. It was also noted that the cigarette butts found in these areas were often found along the curb. This is an indication that those particular cigarette butts are originating from cars on the street. This is a common catch point for litter to accumulate.

## 1.0 INTRODUCTION

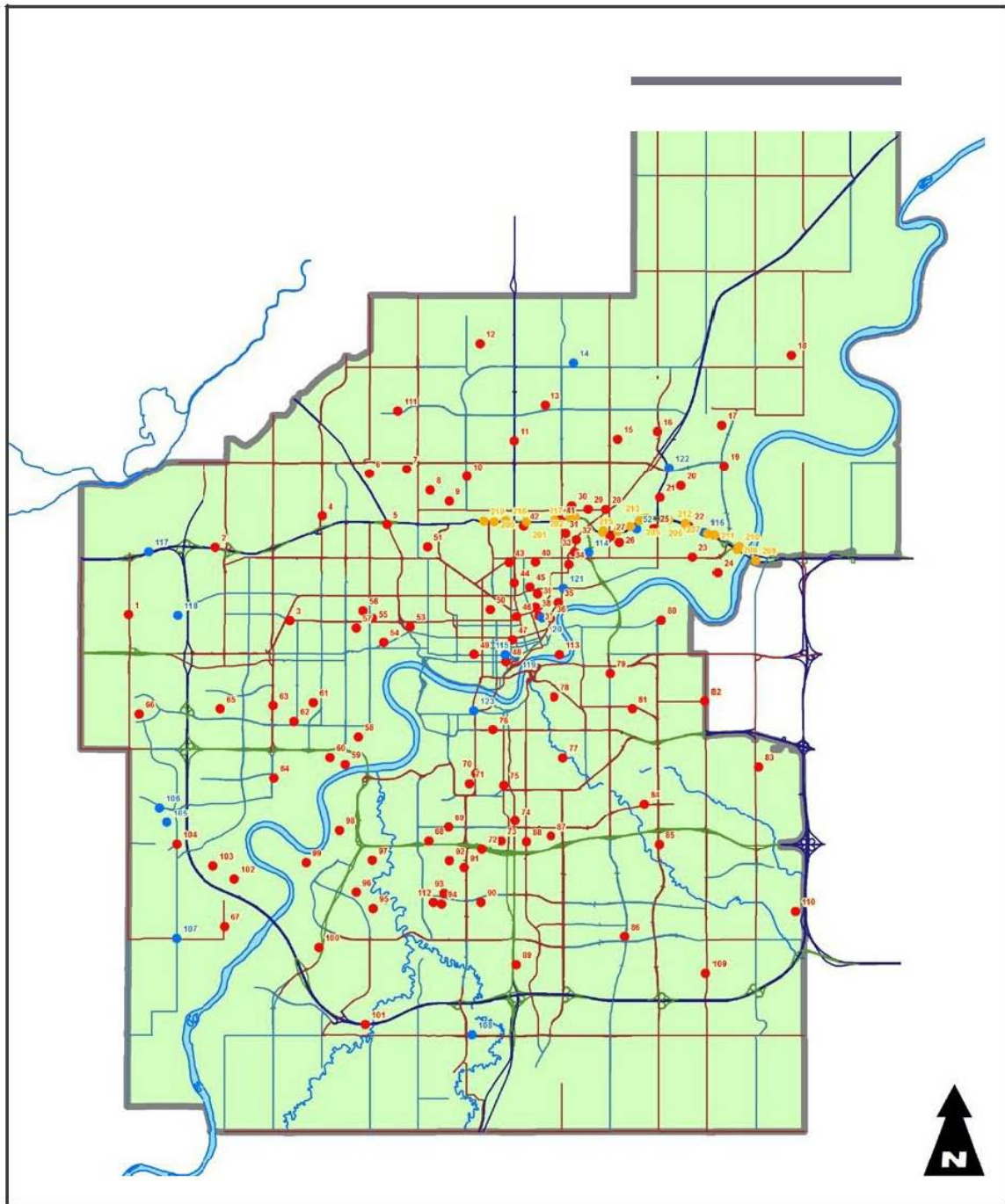
### 1.1 Background

The City of Edmonton contracted AET Group Inc. (AET) to conduct litter audits at 123 pre-selected locations within the public realm across the city. These sites can be seen below in Figure 1.1. The audits took place from May 29<sup>th</sup> through June 2<sup>nd</sup>, 2017 with the purpose of assessing the composition and amount of litter that was present on Edmonton streets. The type of litter was classified into two size categories: large litter, which is equal to or larger than four square inches, and small litter, which is smaller than four square inches.

The 2017 Litter Audit was scheduled approximately four weeks early due to the planned Canada 150 Clean Up campaign that was due to run in the two weeks leading up to Canada Day on July 1. Concerns had been expressed about ensuring that the two week campaign did not artificially impact on the 2017 Litter Audit results. It was decided to move the audit up accordingly but still have it occur after the completion of the City of Edmonton's annual spring clean up initiative.

The City of Edmonton Public Places Bylaw #14614 Section 4 states that a person shall not leave any garbage litter or other refuse in a public place except in a receptacle designed and intended for such use. The City of Edmonton has litter bins throughout the city with receptacles for garbage and recycling. Within the downtown core there were also receptacles for cigarette butts, these were heavily used by residents.

Edmonton Litter Sites 2009 - 2017



Map Key

- 2009 - 2017 Audit Locations
- 2010, 2012, 2014, 2017 Yellowhead Highway Audit Locations
- Audit Locations

Figure 1.1 Edmonton Litter Audit Site Locations

## 1.2 Objectives

The litter audits were intended to accomplish the following:

- A detailed analysis of large litter items, that fall within the survey areas;
- A detailed analysis of small litter items that fall within the smaller subsections of the survey areas; and,
- Analysis and reporting of the results with a focus on a comparison between previously completed audits.

## 2.0 METHODOLOGY

### 2.1 Litter Audit Summary

The litter audit was conducted by surveying 123 pre-selected locations which were determined by the City of Edmonton. There are at least a few sites in each area of the city, with a higher number in the densely populated downtown core. There were also a couple sites located on the major highways running through the City of Edmonton. The audits were conducted from May 29<sup>th</sup> through June 2<sup>nd</sup>, 2017. Two teams of two AET staff were assigned to complete the audits within the one week time period. AET staff members were responsible for observing accumulated litter and recording data for the classification of large litter, the classification of small litter, and background information for each of the 123 sites. The methodology used in the 2017 litter audit was the same methodology used in previous audits. There are 87 large litter categories and 17 small litter categories. More information about the methodology can be found in Appendix C.

### 2.2 Survey Data Collection

AET staff completed the Site Surveyor Form provided by the City of Edmonton for each of the assigned 123 sites. The following information was recorded on these forms:

- Date and time
- Audit team
- Size of audit area
- Type and characteristics of adjacent road
- General attributes of the area
- Visual rating of site
- GPS Coordinates

The forms can be found in Appendix D.



GPS coordinates taken with a handheld Garmin GPS unit were also recorded for each site. Data from the Site Surveyor Forms were transferred to an Excel worksheet. Site location details can be found in Appendix A.

### **2.3 Large Litter Data Collection**

After the site was measured and information about the site was recorded, an AET staff member completed the Large Items Count form. After two passes of the site were completed, information about the type of litter present within the study area was recorded. This data was then transferred to an Excel worksheet. In the worksheet, the total amount of large litter at each site was calculated as the average of the two passes. Large litter collection data can be found in Appendix E.

### **2.4 Small Litter Data Collection**

Results from the small litter audits were recorded on the Small Litter Count Sheet by AET staff after the site was measured, and information about the site was recorded. Data from each of the 123 sites was transferred into an Excel worksheet, results of which can be found in Appendix F.

### **2.5 Additional Cigarette Butt/Litter Trends for 2017**

In addition to the site survey information, AET made notes on cigarette butt/other litter trends at the different litter sites across the city. Additional notes were made on the following:

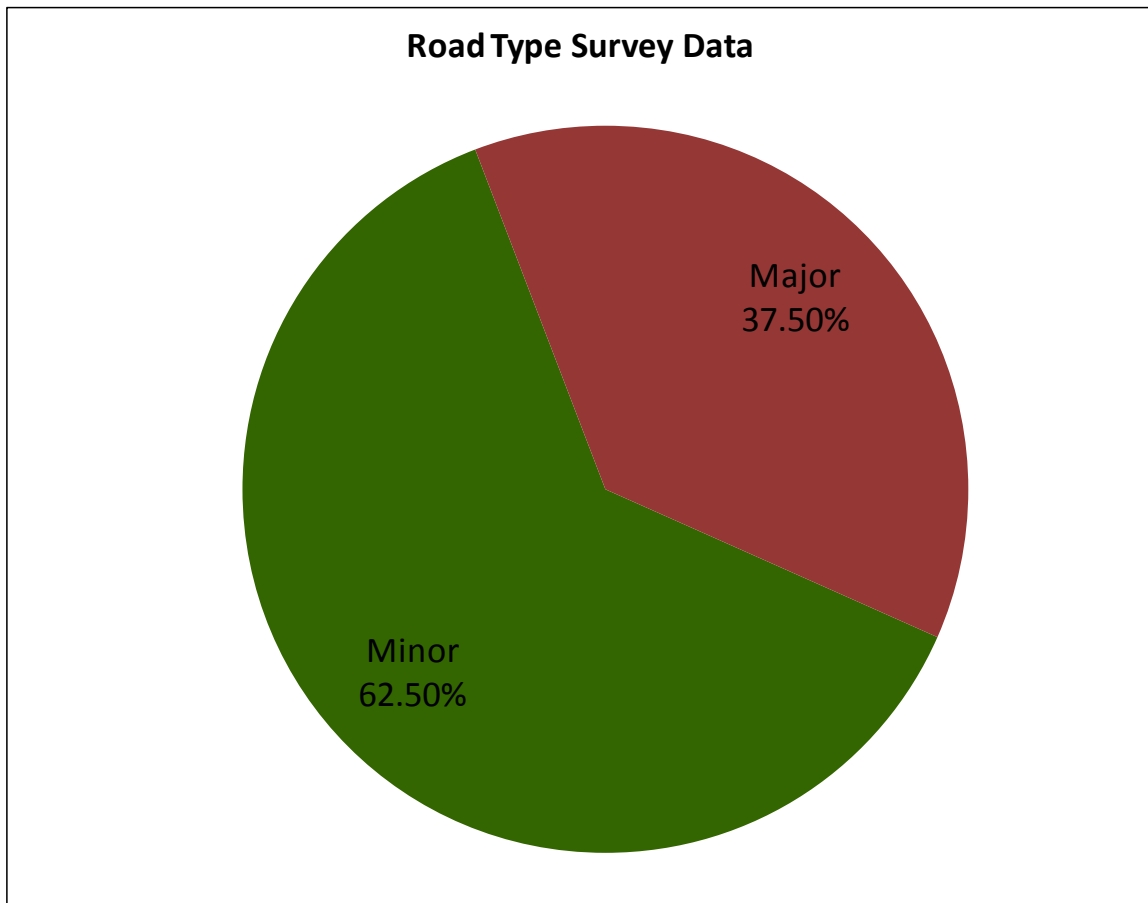
- Cigarette butt litter at the nearest intersection;
- Whether litter was scattered versus piled;
- Whether there was evidence of litter dumping; and,
- Details on where litter could be coming from (i.e. congregation spots of smokers near office buildings, heavy foot traffic, etc.).

These trends are discussed further in Section 4.0 – Additional Observations. All notes can be found in Appendix A: Site Location Details.

## 3.0 SUMMARY OF AUDIT RESULTS

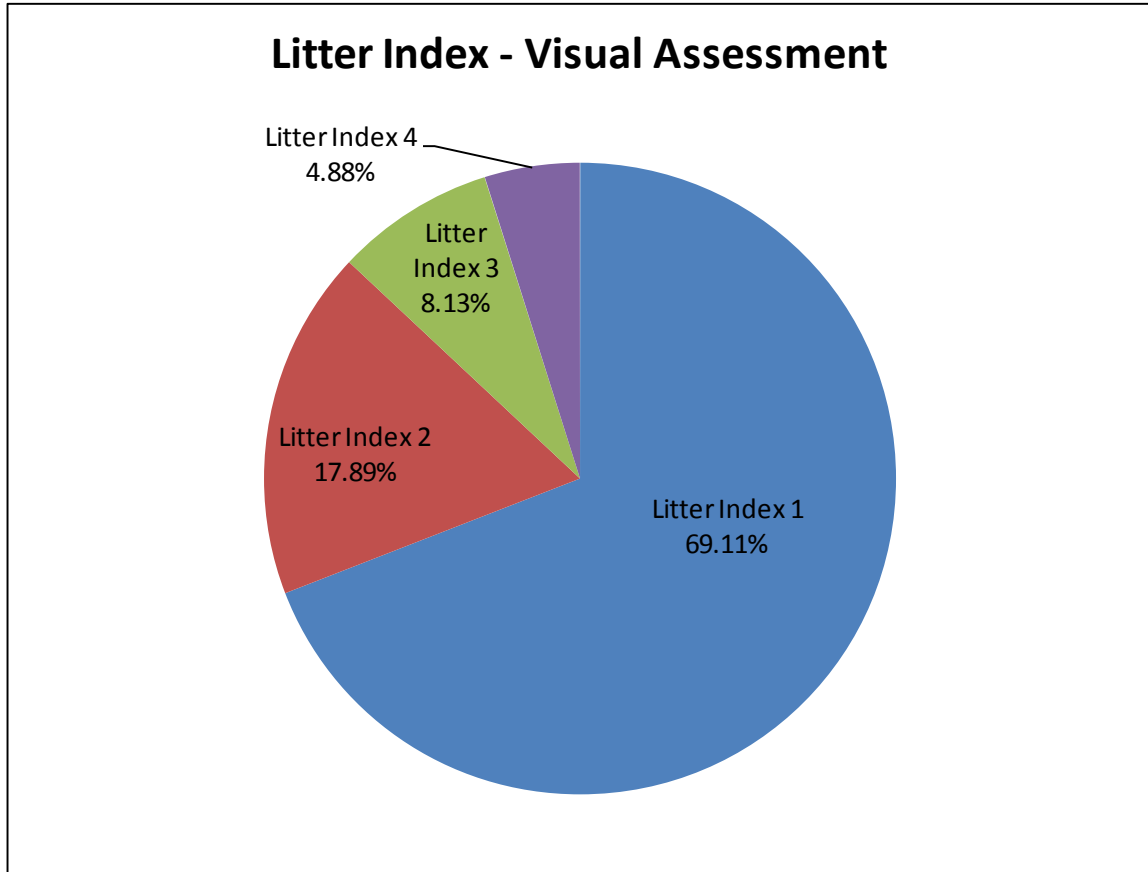
### 3.1 Survey Results

During the audits, AET staff collected information about the roads adjacent to the audit sites. As seen in Figure 3.1, 62.50% of the audit locations were on minor city streets, 37.50% of the audit locations were on major city streets.



**Figure 3.1 Road Type Results – Survey Data**

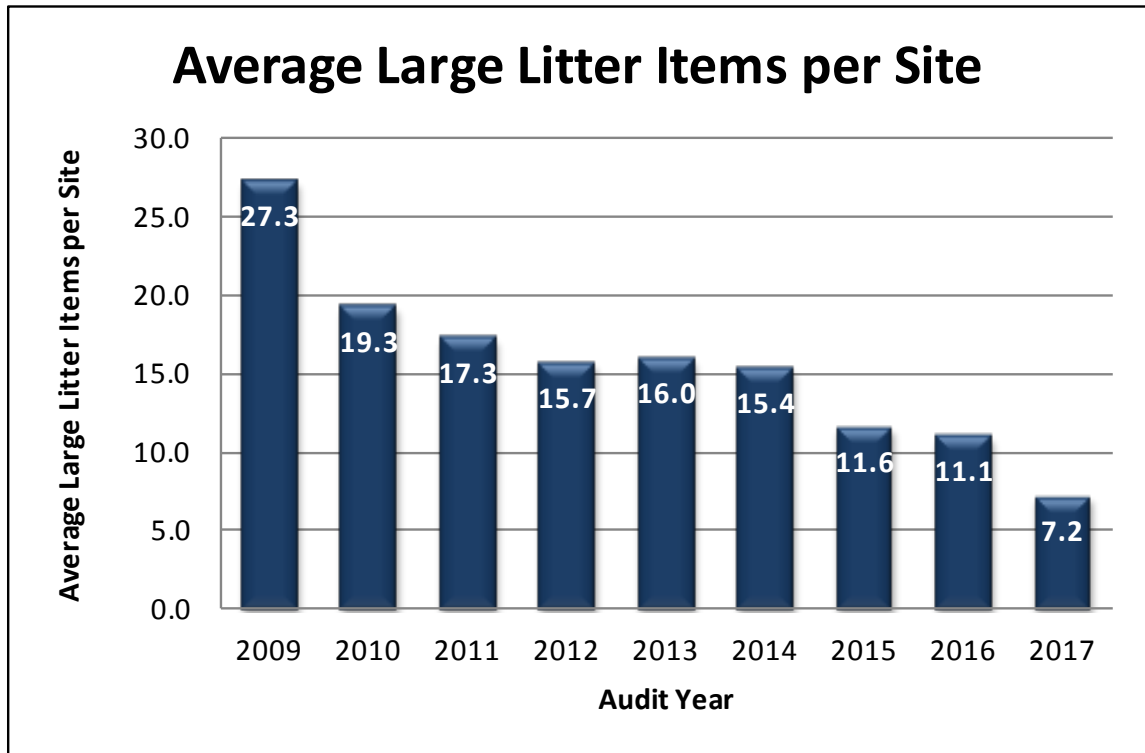
AET staff completed a visual rating for each site based on the amount of litter visible. The sites were rated on a scale from 1-4, 1 representing the cleanest sites with less than 5 pieces of litter visible, and 4 representing the dirtiest sites with greater than 20 pieces of litter visible. Figure 3.2 illustrates the visual ratings across all litter sites. The most common visual rating was Litter Index 1, 69.11% of the sites were classified as the cleanest rating with less than 5 pieces of litter visible.



**Figure 3.2 Visual Rating Distribution Across All Litter Sites**

### 3.2 Large Litter Results

Large litter is any piece of litter within the site that is equal to or greater than 4 square inches. As shown in Figure 3.3, the average amount of large litter found at each site has been steadily decreasing since the first audit for which data was available, which was conducted in 2009. This trend continued with the 2017 audit, with an average of 7.2 large litter items per site, down from an average of 11.1 items per site in 2016.



**Figure 3.3 Average Amount of Large Litter per Site**

The occurrence of the most common type of large litter, Miscellaneous Plastic, decreased from 18.53% in 2016 to 10.75% in 2017. This has been the most common type of large litter. Cup Lids, Pieces, Lids was the second most common type of Large Litter that has increased in occurrence from 6.43% in 2016 to 9.90% in 2017. The miscellaneous plastic typically consists of unidentifiable items that have been torn apart. Often in many cases there may be several pieces of large litter on a site that have come from the same source (i.e. torn up paper, broken plastic pieces).

Home articles have increased for the 2017 litter audit. Materials classified into this category included items such as Swiffer pad, dryer sheet, kneepad, flashlight, snowbrush, sanitary wipes, coffee filter, duct tape, sponge-type filter, condom, comb, nitrile gloves, pens, cell phone, dishwashing glove and diaper. These items cannot be dialled back to a particular source but it is believed that many of them are from garbage bag remnants. Home article litter items are not linked directly to any homeless activity.

Table 3.1 illustrates the 20 most common items of large litter found during the audit. These items account for 82.05% of the large litter identified. The complete list of all the items identified during the large litter audit can be found in Appendix E.

**Table 3.1 Top 20 Large Litter Items**

#	Large Litter Items	2017 Count	2017 Percent	2016 Count	2016 Percent	Acc. %
1	Misc. Plastic	95.5	10.75%	252.0	18.53%	10.75%
2	Cup Lids, Pieces, Lids	88.0	9.90%	87.5	6.43%	20.65%
3	No Brand Name Napkins /Serviettes	65.5	7.37%	82.0	6.03%	28.02%
4	Misc. Paper	62.0	6.98%	159.5	11.73%	35.00%
5	Plastic Packaging Other	55.5	6.25%	39.0	2.87%	41.25%
6	Construction debris	55.0	6.19%	91.0	6.69%	47.44%
7	Tobacco other	44.0	4.95%	39.0	2.87%	52.39%
8	Paper Cups (hot)	38.0	4.28%	48.0	3.53%	56.67%
9	Home Articles	32.0	3.60%	21.0	1.54%	60.27%
10	Receipts (business forms, bus tickets)	31.0	3.49%	29.0	2.13%	63.76%
11	Printed Material	24.0	2.70%	62.0	4.56%	66.46%
12	Paperboard (boxboard)	24.0	2.70%	13.0	0.96%	69.16%
13	Snack Food Packaging	21.5	2.42%	27.0	1.99%	71.58%
14	Vehicle & Metal Road Debris	19.0	2.14%	28.0	2.06%	73.72%
15	Clothing or Clothing Pieces	18.0	2.03%	20.0	1.47%	75.75%
16	Paper Food Wrap	13.5	1.52%	17.0	1.25%	77.27%
17	Plastic Drink Cups	12.0	1.35%	16.0	1.18%	78.62%
18	Paper Cups (cold)	12.0	1.35%	19.0	1.40%	79.97%
19	Paper Packaging Other	9.5	1.07%	13.0	0.96%	81.04%
20	Cardboard Boxes/ Box Material	9.0	1.01%	17.0	1.25%	82.05%
<b>Total Top 20</b>		<b>729.0</b>	<b>82.05%</b>	<b>1080.0</b>	<b>79.41%</b>	
<b>Total - All Litter</b>		<b>888.5</b>	<b>100.00%</b>	<b>1360.0</b>	<b>100.00%</b>	

### 3.2.1 Large Litter by Material Type

Items within the large litter categories are composed of different material types. These items were categorized based on their known composition, including: paper, plastic, composite (made of multiple materials), metal, glass and other. Figure 3.4 illustrates the most common material types of the 888.5 large litter items observed. Both paper and plastic materials were the most common items observed, at 37.20% and 34.27%, respectively. Other is the third largest material type, representing 24.20% of the items observed. This includes cloth, tobacco, and items such as food and road debris.

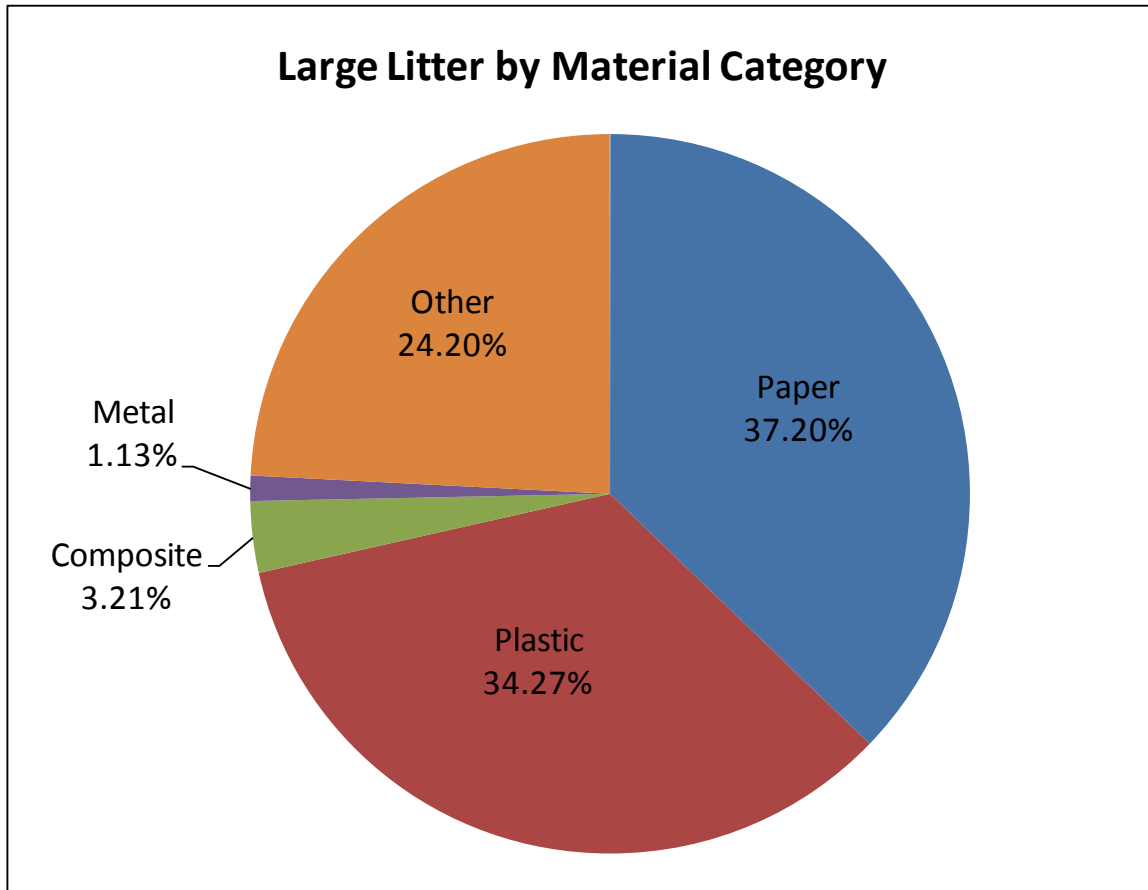


Figure 3.4 Large Litter by Material Type

### 3.2.2 Large Litter by Category

Table 3.2 below provides a summary of the total amount of large litter observed by each of the 13 categories used for the analysis of the large litter items. The three most common categories of litter audited in 2017 include Miscellaneous Litter, Cups, and Household Articles. Miscellaneous Litter includes items such as miscellaneous paper and plastic. These three categories have consistently been the largest contributors over the last couple of years.

**Table 3.2 Large Litter by Category 2017 and 2016**

Survey Year	2017		2016	
	Items	Percent	Items	Percent
Beverage Containers	12	1.35%	26	1.91%
Cups	159	17.90%	176.5	12.98%
Bags	28	3.15%	28.5	2.10%
Boxes	37	4.16%	35	2.57%
Other Containers	73	8.22%	68	5.00%
Wraps & Trays	31.5	3.55%	51.5	3.79%
Candy & Gum & Snacks	50	5.63%	60.5	4.45%
Fast Food Items	75.5	8.50%	102	7.50%
Household Articles	137	15.42%	214.5	15.77%
Printed Materials	59	6.64%	105	7.72%
Tobacco Products	44	4.95%	39	2.87%
Miscellaneous Litter	171.5	19.30%	444.5	32.68%
Additional Categories	11	1.24%	9	0.66%
<b>Total</b>	<b>888.5</b>	<b>100%</b>	<b>1360</b>	<b>100%</b>

Figures 3.5 and 3.6 below provide a comparison of each of the categories in the Large Litter audit in 2017 and 2016, respectively. The values for miscellaneous litter have been broken down into the individual categories (misc. plastic, paper, paperboard, cardboard and glass) to better demonstrate the types of miscellaneous litter found since they represent such a high percentage.

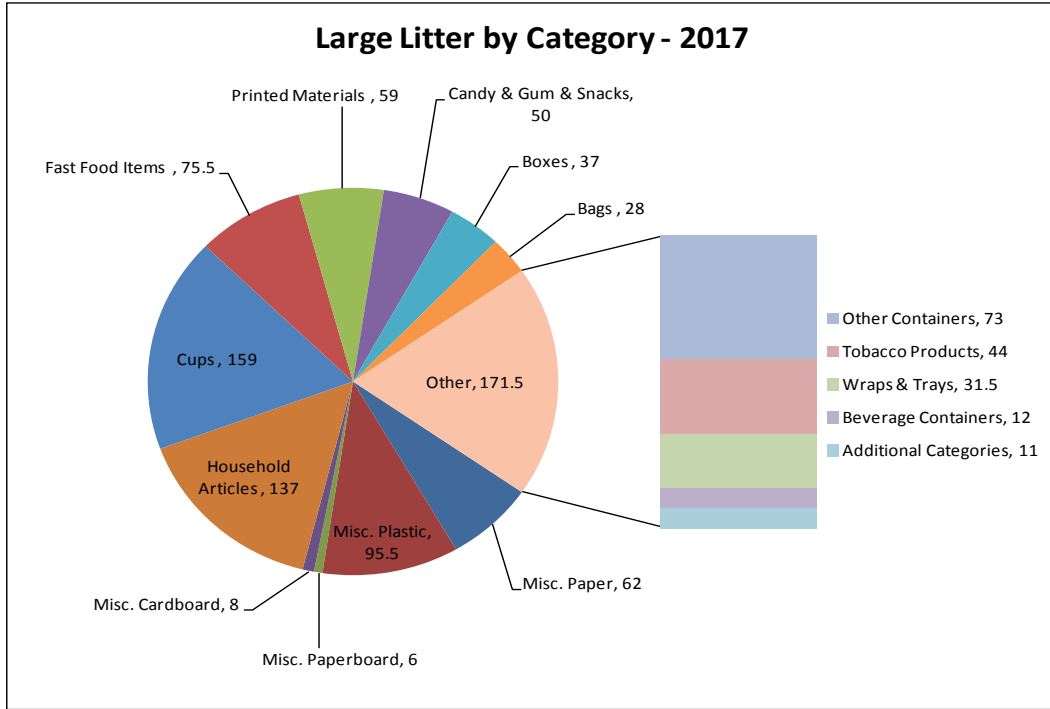


Figure 3.5 Large Litter by Category 2017

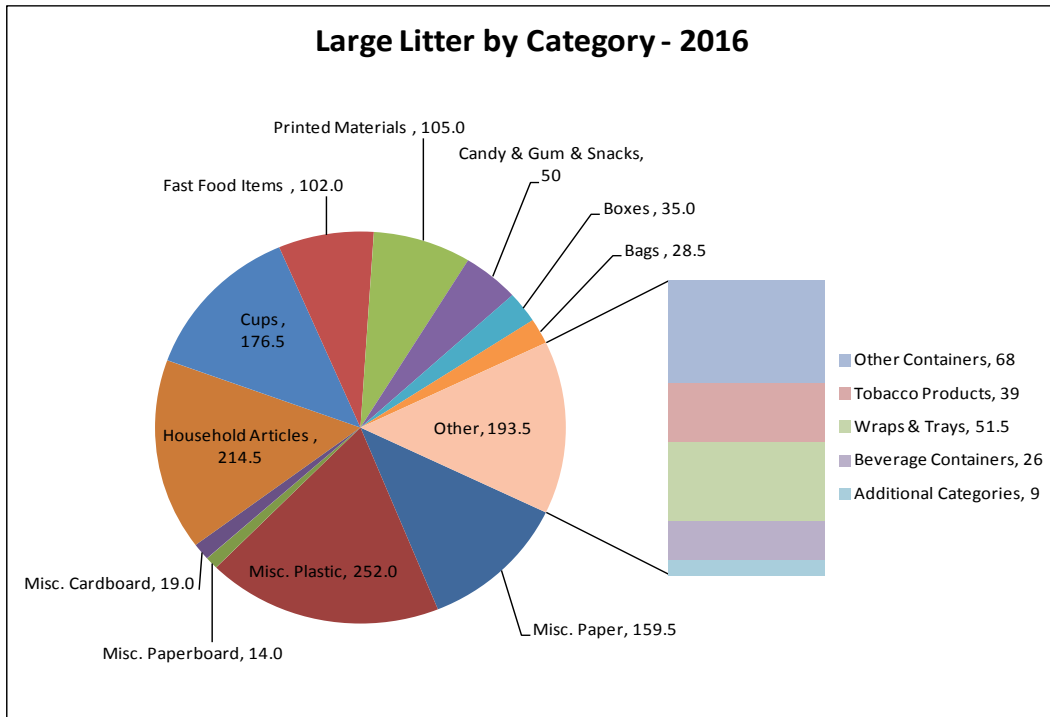


Figure 3.6 Large Litter by Category 2016



### 3.2.3 Large Litter by Sites

Tables 3.3 and 3.4 below illustrate the 10 sites with the highest item counts for Large Litter in 2017 and 2016. In 2016, site #2 had the highest amount of Large Litter with 206 pieces audited. In 2017, the site with the highest amount of litter was site #21 with 56 pieces of Large Litter. It was noted that this site had a lot of different types of large litter, including a high amount of miscellaneous plastic, cup lids, and no brand name napkins/serviettes. A total of 4 of the sites that fall within the top 10 highest litter count have remained the same from 2017 to 2016. These sites include sites #34, #101, #89, and #22.

**Table 3.3 Highest Ranking Sites for Large Litter 2017**

Site #	Lg Litter	Street Name	Site Description
21	56	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
34	52	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
46	37	107A AVENUE NW	Site is west of 97 St. Site is on the north side of 107A Ave. NW beginning at 98 Street.
101	35	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday
36	34.5	JASPER AVENUE NW	Jasper Ave. at 90 St. NW. Site is on west boulevard commencing at 90St. NW in front of Boardwalk Centre and proceeding south.
43	29	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.
50	24	107 St. NW	Site is north of 109 Ave. on east side of the street commencing at the NE corner of 107 St and 109 Avenue
89	24	19 AVENUE NW	Site just east of Gateway Boulevard NW on the north side of 19 Ave. NW across from Tim Horton's.
22	23	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.
120	22	92 STREET NW	Site is on 92 St. NW commencing at 106A Ave. where the LRT crossing is.

**Table 3.4 Highest Ranking Sites for Large Litter 2016**

Site #	Lg Litter	Street Name	Site Description
2	206	YELLOWHEAD TRAIL	Site is west of 190 St. between 184 St. and Anthony Henday Dr.
34	64	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
101	62	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
117	58	YELLOWHEAD TR	Travelling west on Yellowhead Tr. The site is on Yellowhead Tr. 200m east of the Winterburn exit.
100	55.5	TERWILLEGAR DRIVE NW	NE of Anthony Henday Dr. Site is on west side of Terwillegar Dr. NW 50 meters south of Haddow Dr.
28	43	127 AVENUE NW	Turn left (west) onto 127 Ave. Site on 127 Ave NW beginning at the north west corner of 67 St.
41	39	YELLOWHEAD TRAIL NW	Proceed east on Yellowhead Trail. Site on ramp to 82 St. NW. Site beginning at pumping station and proceeding
22	35	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.
45	34	93 STREET NW	Site is north of 112 Ave., on the east side of 93 St. NW commencing at house #11207.
89	32.5	19 AVENUE NW	Site just east of Gateway Boulevard NW on the north side of 19 Ave. NW across from Tim Horton's.

### 3.2.4 Large Litter Statistical Tests

Statistical tests were conducted on the results of the large litter audits. The number of sites with no large litter increased from 22 sites in 2016 to 27 sites in 2017. The numbers of sites that rank above, on and below the average number of items audited per site are very similar in 2017 and 2016, but have improved. Table 3.5 displays the results. The average number of large litter items in 2017 is 7, compared to 11.1 in 2016. There was a decrease in the overall average. The number of sites that fell below average decreased from 69.11% to 67.48%.

**Table 3.5 Site Ranking Distribution 2017, 2016**

Site Ranking	2017		2016	
	# of Sites	Percent	# of Sites	Percent
Above Average	37	30.08%	34	27.64%
Average	3	2.44%	4	3.25%
Below Average	83	67.48%	85	69.11%

### 3.3 Small Litter Results

There was a total of 861 pieces of Small Litter (< 4 square inches) observed by AET staff in the 2017 Small Litter audits for the City of Edmonton. This represents a significant decrease in Small Litter of 25.84% compared to 2016.

Table 3.6 illustrates the differences in the audited small litter from 2017 to 2016. As seen in the table, there are variances from the amount of small litter from 2017 to 2016. Though low in the number of pieces found, certain items such as other tobacco, metal (not aluminum), and aluminum/foil debris have decreased significantly in 2017 from 2016. However items such as bottle caps and polystyrene packing materials have increased. Cigarette butts/debris experienced a slight decrease of 10.19% (from 324 items in 2016 to 291 items in 2017). There was also a significant reduction in paper items counted (from 271 items in 2016 to 158 items in 2017).

**Table 3.6 Small Litter Results 2017 & 2016**

Small Litter Items	2017		2016		2016 to 2017
	Items	Percent	Items	Percent	% Change
Cigarette butts/debris	291	33.80%	324	27.91%	(10.19%)
Other tobacco	0	0.00%	2	0.17%	(100.00%)
Bottle caps	8	0.93%	1	0.09%	700.00%
Straws	3	0.35%	4	0.34%	(25.00%)
Candy packaging and wrappers	52	6.04%	31	2.67%	67.74%
Polystyrene packing materials, ie. foam peanuts	17	1.97%	10	0.86%	70.00%
Other polystyrene debris, ie. poly foam pieces	53	6.16%	85	7.32%	(37.65%)
Glass	53	6.16%	143	12.32%	(62.94%)
Paper	158	18.35%	271	23.34%	(41.70%)
Plastic film	27	3.14%	55	4.74%	(50.91%)
Hard plastic	81	9.41%	78	6.72%	3.85%
Aluminum/foil debris	3	0.35%	40	3.45%	(92.50%)
Rubber	3	0.35%	6	0.52%	(50.00%)
Metal (not aluminum)	0	0.00%	2	0.17%	(100.00%)
Other material	8	0.93%	28	2.41%	(71.43%)
Chewing gum (stuck on pavement)	96	11.15%	70	6.03%	37.14%
Food & Other Organics	8	0.93%	11	0.95%	(27.27%)
<b>Total Site Litter</b>	<b>861</b>	<b>100.00%</b>	<b>1,161</b>	<b>100.00%</b>	<b>-25.84%</b>

#### 3.3.1 Small Litter by Sites

Tables 3.7 and 3.8 illustrate the 10 sites with the highest item counts for Small Litter in 2017 and 2016. In 2016, the largest amount of small litter found was 127 pieces at site #86. In 2017, the largest amount of small litter found was 45 pieces at site #33 and #49. A total of two sites fell in the top 10 for small litter count in 2017 and 2016. These sites include site #49, and #101.

**Table 3.7 Highest Ranking Sites for Small Litter 2017**

Site ID #:	Sm Litter	Street Name	Site Description
33	45	119 AVENUE NW	Site north of Coliseum Transit Centre (76 St. NW) . Site on south side of 119 Ave. NW between 77 St. and 78 St. in front of James Kidney Park.
49	45	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave. commencing at bus stop #1466 and proceeding east. Site is in front of Covenant Health Edmonton General
82	44	92 AVENUE NW	Site is west of 34 St. NW. Site on the north side of 92 Avenue in front of the street from Esso Distribution #9210.
101	33	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
34	30	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
21	29	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
76	29	82 AVENUE ( Whyte Ave.)	Site is on 82 Ave. NW just west of 105 St.
115	27	JASPER AVENUE NW	Site is on the south side of Jasper Avenue NW between 102 St. NW and 103 St. NW.
108	23	ELLERSLIE RD	Site is east of 111 St. Site is on the south side of Ellerslie Rd. in front of the Ellerslie Rugby Club.
43	21	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.

**Table 3.8 Highest Ranking Sites for Small Litter 2016**

Site ID #:	Sm Litter	Street Name	Site Description
86	127	23 AVENUE NW	Site is west of 66 St. NW. Site is on the north side of 23 Ave. NW adjacent to Mill Wood Pk.
41	50	YELLOWHEAD TRAIL NW	Proceed east on Yellowhead Trail. Site on ramp to 82 St. NW. Site beginning at pumping station and proceeding west.
22	49	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.
48	47	100 AVENUE NW	Site is west of 102 St. Site is on the north side of 100 Ave. NW across from Riverview Inn (was Econo Lodge) commencing at house #10207.
121	41	112 AVENUE NW	Site is on the south side of 112 Ave. NW commencing 100 feet west of 82 St. NW and proceeding east. Site starts in front of the Highland's Plaza and continues in front of the Highland's Apt. Building.
101	36	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
72	34	WHITEMUD AVENUE	Site is west of 106 St. NW on the ramp from Whitemud Avenue to 106 St. NW.
2	33	YELLOWHEAD TRAIL	Site is west of 190 St. between 184 St. and Anthony Henday Dr.
49	32	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave. commencing at bus stop #1466 and proceeding east. Site is in front of Covenant Health Edmonton General
117	29	YELLOWHEAD TR	Travelling west on Yellowhead Tr. The site is on Yellowhead Tr. 200m east of the Winterburn exit.

### 3.3.2 Small Litter Statistical Tests

Statistical tests were conducted on the results of the small litter audit (Table 3.9). The number of sites with no small litter increased from 26 sites in 2016 to 29 sites in 2017. The numbers of sites that rank above, on and below the average number of items audited per site are very similar in 2017 and 2016. The average number of small litter items per site was 9.4 in 2016 and 7 in 2017.

**Table 3.9 Site Ranking Distribution 2017, 2016**

Site Ranking	2017		2016	
	# of Sites	Percent	# of Sites	Percent
Above Average	40	32.52%	40	32.52%
Average	6	4.88%	3	2.44%
Below Average	77	62.60%	80	65.04%

## 4.0 ADDITIONAL OBSERVATIONS

AET staff noted the presence of any City of Edmonton litter bins within a 200 meter radius from the site boundary. Figures 4.1 and 4.2 are examples of litter bins that were present within or near some of the 123 audited sites. Figure 4.1 illustrates the City’s litter bins that are commonly present at bus stops. Figure 4.2 illustrates litter bins that were commonly found in City of Edmonton downtown core for cigarette disposal. Of the 123 sites that were audited, 29 sites (23.58%) had litter bins present within a 200 meter radius, while 94 sites did not (76.42%).



**Figure 4.1 City of Edmonton Street Litter Bin**



**Figure 4.2 City of Edmonton Cigarette Butt Disposal**

The areas with City of Edmonton litter bins nearby had on average 9.84 pieces of Large Litter within the site, and the areas without a nearby City of Edmonton litter bin had an average of 6.41 pieces of large litter. Litter bins were generally observed in areas with more public foot traffic. This could be the reason for the difference in the average amount of litter within areas with and without city litter bins.

As was noticed in 2016, the major anomaly occurs with the sites located along the major highways. This is an area where litter is blown around and often torn into several pieces. It is also an area that does not get serviced by cleanup crews on a regular basis. Some of the litter found on the major highways is a result of loose material falling off of travelling vehicles. There was a substantial reduction in litter found on the highways in 2017.

Within 4 of the 123 sites observed for litter, there was evidence seen of “litter dumping.” This refers to the act of people dumping accumulated garbage out of their vehicle when waiting in traffic or exiting an off-ramp on the highway. Figures 4.3 to 4.7 provide examples of litter dumping and piled litter seen during the audit. It was noted by auditors that cigarette butt bins were more visible in the downtown core. A prime example of this is Site #115 – Jasper Ave had several cigarette disposal bins within the audit site. Another location on Jasper Ave (Site #49) had a lot of accumulated cigarette butts near the bus stop and bench. This site did not have a

cigarette butt disposal bin present and would be a suitable location for one. In general, auditors did not come across evidence of cigarette butt ashtrays being dumped based on the 123 locations observed. The areas that encompassed more litter are displayed below. More details and field notes are provided in Appendix A. It should be noted that notes made by the auditors refer to the general area of the litter audit location. The attributes described in comments may not be reflected in the actual litter audit count (i.e. see lots of cigarette butts just outside of the audit site but still in the same general area).



**Figure 4.3 Site 38 – Evidence of Litter Dumping**



**Figure 4.4 Site 40 – Evidence of Litter Dumping**



**Figure 4.5 Site 123 – Piled Litter**



**Figure 4.6 Site 23 – Piled Litter**



**Figure 4.7 Site 47 – Piled Litter**



**Figure 4.8 Site 49 – Scattered Cigarette Butt Litter**



## 5.0 SITE RANKING AND ATTRIBUTES

AET staff ranked each of the 123 audited sites three different ways: 1) By the total number of large litter items that were audited within each site; 2) By the total number of small litter items that were audited within each site; and, 3) The total combined amount of large and small litter. Table 5.1 illustrates the sites that have the greatest amount of large and small litter combined. A full list of all 123 sites can be found in Appendix G.

**Table 5.1 Site Ranking for Combined Large and Small Litter**

Site ID #:	All Litter	Street Name	Site Description
21	85	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
34	82	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
101	68	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
82	65	92 AVENUE NW	Site is west of 34 St. NW. Site on the north side of 92 Avenue in front of the street from Esso Distribution #9210.
49	61	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave. commencing at bus stop #1466 and proceeding east. Site is in front of Covenant Health Edmonton General
46	52	107A AVENUE NW	Site is west of 97 St. Site is on the north side of 107A Ave. NW beginning at 98 Street.
33	50	119 AVENUE NW	Site north of Coliseum Transit Centre (76 St. NW) . Site on south side of 119 Ave. NW between 77 St. and 78 St. in front of James Kidney Park.
43	50	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.
36	43	JASPER AVENUE NW	Jasper Ave. at 90 St. NW. Site is on west boulevard commencing at 90St. NW in front of Boardwalk Centre and proceeding south.
22	42	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.

Attributes of the sites with the highest amount of combined small and large litter are provided in Table 5.2. Within these sites, 1 has fast food, 3 have convenience stores, and 1 site has both present. A stop sign or light is present at 70% of the sites and 70% do not have litter bins present. Major roads account for 70% of these areas, with 20% of the areas having commercial attributes and 20% having commercial-residential attributes.

**Table 5.2 Top Ten Sites with the Highest Quantity of Large and Small Litter Items and Site Attributes**

Site #	All Litter	Fast Food	Conv Store	Stop	Litter Bin	Road Type	Area	Street Name	Site Description
21	85	Y	Y	Y	Y	Major	COM	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
34	82	N	N	Y	Y	Major	COM-IND	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
101	68	N	N	N	N	Major	PARK	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
82	65	N	N	Y	N	Minor	IND	92 AVENUE NW	Site is west of 34 St. NW. Site on the north side of 92 Avenue in front of the street from Esso Distribution #9210.
49	61	N	Y	Y	Y	Major	COM	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave. commencing at bus stop #1466 and proceeding east. Site is in front of Covenant Health Edmonton General
46	52	N	Y	Y	N	Major	COM-RES	107A AVENUE NW	Site is west of 97 St. Site is on the north side of 107A Ave. NW beginning at 98 Street.
33	50	N	N	N	N	Minor	PARK	119 AVENUE NW	Site north of Coliseum Transit Centre (76 St. NW) . Site on south side of 119 Ave. NW between 77 St. and 78 St. in front of James Kidney Park.
43	50	N	N	Y	N	Minor	COM-RES	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.
36	43	N	N	Y	N	Major	RES	JASPER AVENUE NW	Jasper Ave. at 90 St. NW. Site is on west boulevard commencing at 90St. NW in front of Boardwalk Centre and proceeding south.
22	42	N	N	N	N	Major	PARK	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.

## 6.0 LITTER ABATEMENT

The average amount of large litter has decreased from an average of 11.1 items per site in 2016 to 7.2 items per site in 2017. The following litter abatement practices are utilized for the City of Edmonton.

### 6.1 Capital City Clean Up Program

#### Capital City Clean Up Kit Program

Edmonton residents, businesses and community groups are encouraged to adopt the block surrounding their home, business area, or any block of space in their community, such as a schoolyard or a neighbourhood park to help keep it litter-free during the spring and summer months. Each registered volunteer receives a clean-up kit with supplies like garbage bags, gloves, etc.

#### Business Supporting Community

Capital City Clean Up's Business Supporting Community (BSC) initiative offers Edmonton-area companies a unique opportunity to fight litter while supporting local non-profit groups. Participating businesses pay organizations for litter cleanup as a unique fundraising opportunity. Schools and non-profit groups can provide an enthusiastic volunteer force.

From May to August, these groups are paid a weekly rate to clean up litter around a one-block area of the company's site. Businesses may also choose to have the group clean up another area, such as a playground, seniors' residence or Neighbourhood Park.

### **Community Bin Grants**

Each spring, dozens of Edmonton community groups apply for help to get rid of any large, bulky items cluttering up the back alleys, streets or other areas in their neighbourhoods. Under the Community Bin Grant Program, the City offers funds on a first-come, first-served basis that can be used for bin rentals (including the truck, driver and disposal costs) and truck rentals to drive through the area and collect large items.

### **Fifteen to Clean Challenge**

Capital City Clean Up has the 15-to-Clean challenge which challenges citizens to all throughout the year to spend 15 minutes cleaning up an area around their home, school, business or workplace. Capital City Clean Up offers free cleanup packages (one glove and garbage bag).

### **River Valley Clean Up**

Throughout the summer and into the fall, Capital City Clean Up encourages people to pick up litter along the river valley and throughout the connecting ravines. People can register a group clean up at one of the City's river valley parks and Capital City Clean Up provides them with clean up supplies.

### **Ashtray Program**

The city ashtray program works within Edmonton Business Revitalization Zones. We have installed and maintain 447 ashtrays throughout 9 commercial districts throughout the city.

### **Big Bin Event**

The City of Edmonton's Big Bin Events accept household items that can't be set out for regular waste collection at no charge. Twelve of the weekend events are held in various locations throughout the City. This program accepts materials such as large furniture, white goods and e-waste.

### **Clean Canada Together Initiative**

In recognition of Canada's 150th Anniversary, The City of Edmonton and Capital City Clean Up joined together with ten other major Canadian municipalities to promote a cross Canada clean up initiative from April 20 - May 20. Communities included Vancouver, Toronto, Winnipeg, Mississauga, Oakville, Nova Scotia, Hamilton, Vaughn and Brockville. Combined the ten communities collected 61,857 bags of litter. Plans are in the works to expand and continue this national initiative in 2018.

## 7.0 CONCLUSION

AET Group Inc. conducted litter audits at 123 pre-selected locations within the public realm across the City of Edmonton. The audits were conducted from May 29 – June 2<sup>nd</sup> 2017 with the purpose of assessing the composition and amount of litter present on Edmonton streets.

The type of litter was classified into two sizes: large litter, which is equal or larger than four square inches, and small litter, which is smaller than four square inches.

### 7.1 Large Litter Conclusions

Over the one-week study period, 123 sites within the City of Edmonton were audited for large litter. The key findings include:

- The average amount of large litter has decreased from an average of 11.1 items per site in 2016 to 7.2 items per site in 2017;
- The total number of large litter items decreased by 34.67% from 1,360 items in 2016 to 888.5 items in 2017;
- The total number of large litter items decreased by 73.56% from 3,361 items in 2009 to 888.5 items in 2017;
- The number of sites with no large litter recorded increased from 22 sites in 2016 to 27 sites in 2017; and,
- The most commonly found item in the large litter audit was Miscellaneous Plastic representing 10.75% of all large items audited. This item, along with Cup Lids, Pieces, Lids, has been observed as a common type of large litter present over the past couple of years.

### 7.2 Small Litter Conclusions

Over the one-week study period, 123 sites within the City of Edmonton were audited for small litter. The key findings include:

- The average amount of small litter has decreased from an average of 9.4 items per site in 2016 to 7 items per site in 2017;
- The total number of small litter items decreased by 25.84% from 1,161 items in 2016 to 861 items in 2017;
- The total number of small litter items decreased by 59.27% from 2,114 items in 2009 to 861 items in 2017;
- The total amount of cigarette butts decreased by 10.19% from 324 items in 2016 to 291 items in 2017; and,
- The most commonly found small litter item was cigarette butts, accounting for 33.80% of all small litter audited, followed by paper at 18.35%.

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## **Disclaimer**

AET Group Inc. makes no warranty and assumes no liability for the information contained in this report outlining the litter audit results. These results reflect measurements made over a onetime “snapshot” time period, meaning they only represent the conditions for the period of time in which they were collected. Seasonal variability, holidays and weather, among other factors, can affect the amount of litter within an area.

APPENDIX A

SITE LOCATION DETAILS





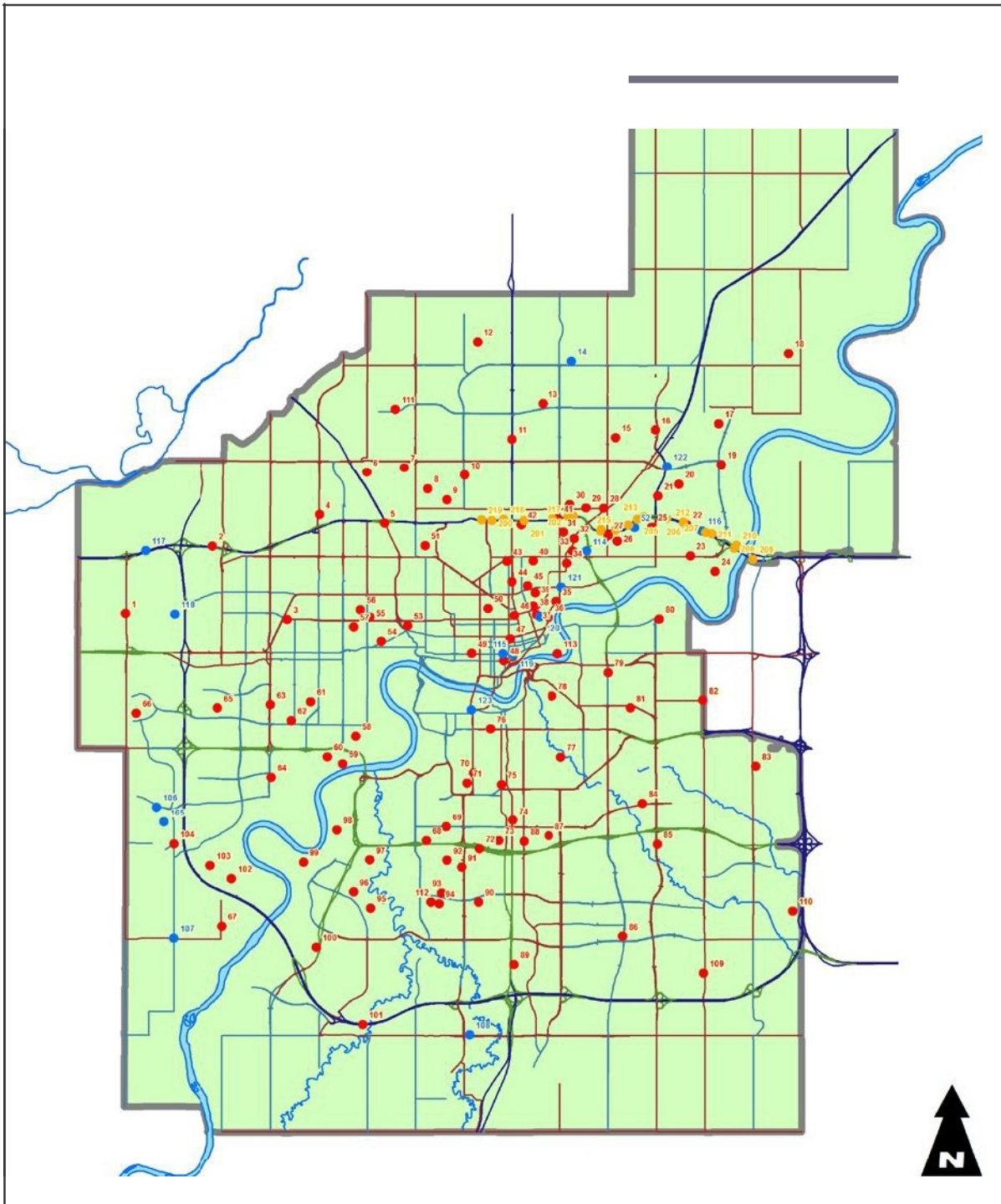


Site #	Street	Site Description	Date (mm/dd/yyyy)	Start	Finish	Team	Fixed	Width 1 (ft)	Width 2 (ft)	Width 3 (ft)	Street Type	Lanes	Divided	Area	Grass HL (Inches)	Fast Food	Conv Store	Traffic Light or Stop Sign	Litter Bin	Mobile Food Vendor	Bench or Resting Structure	Bus Stop	Evidence of Litter Cleanup	Lg Litter	Sm Litter	Details on Litter Bin	Catch Pt	Litter Index	Coordinates	Latitude	Longitude	Comments	Evidence of Litter Dumping?	Scattered vs. Piled	Details on where litter could be coming from:	Approx. distance from audited site, re: infrastructure	Closest intersection notes:	Notes on cigarette butts:
107	199 STREET NW	Site is on the west side of 199 St. NW commencing north of 23 Ave.	5/30/2017	11:24 AM	11:31 AM	B	N	2	2	2	Laneway	2	Y	IND	N/A	N	N	Y	N	N	N	N	N	1.0	0.0	NO BIN	Curb	1	N 53°27.211 W113°39.868	N 53°27.211	W113°39.868	Construction present. Residential development coming soon (potential farm land).	N	5	N/A	N/A	N/A	Nothing to note
108	ELLERSLIE RD	Site is east of 111 St. Site is on the south side of Ellerslie Rd. in front of the Ellerslie Rugby Club.	5/30/2017	12:54 PM	1:02 PM	B	Y	18	18	18	Major	4	Y	COM	<3	Y	Y	Y	N	N	Y	Y	N	4.5	23.0	Beside bus stop	Fence-Curb	2	N 53°25.498 W113°30.778	N 53°25.498	W113°30.778	Visually speaking, some litter collected on a branch outside of study area (ie: retail plastic bags)	N	5	N/A	N/A	N/A	Not found near intersection - found further away from traffic light
109	16A AVENUE	Site on south side of 16A Avenue east of 34 St. NW commencing at house #3415	5/29/2017	9:53 AM	10:04 AM	A	N	16	16	16	Minor	2	N	RES	<3	N	N	Y	N	N	N	N	2.0	3.0	NO BIN	Curb-Grass Line	1	N 53°26.624 W113°23.709	N 53°26.624	W113°23.709	Took survey form picture after site finish	N	5	Road usage, sidewalks	N/A	Spotted 3 cigarette butts at the nearest intersection	Several cigarette butts outside of measured area (scattered)	
110	MERIDIAN ST	Site is north of West Railway St. Site on west side of Meridian St. commencing at RR warning sign and proceeding south.	5/29/2017	9:27 AM	9:42 AM	A	Y	18	18	18	Minor	2	N	PARK	3-6	N	N	N	N	N	N	N	N	15.0	4.0	NO BIN	Fence-Grass Line	3	N 53°27.655 W113°20.894	N 53°27.655	W113°20.894	Very remote location, not much around. No intersection present.	N	5	Gravel road, car travel	N/A	No intersection present	N/A
111	154 AVENUE NW	Site is on 154 Ave. NW, west of 133 St. NW. Site begins at house # 13322 and proceeds to house # 13342	5/29/2017	9:34 AM	9:39 AM	B	N	7	7	7	Major	2	N	RES	N/A	N	N	N	N	N	N	N	1.0	2.0	NO BIN	Curb	1	N 53°36.912 W113°33.144	N 53°36.912	W113°33.144	N/A	N	5	No evidence	N/A	N/A	No evidence	
112	116 STREET NW	Site is north of 32A Ave. NW. Site is on 116 St. NW commencing at house #11604	5/29/2017	12:30 PM	12:38 PM	A	N	7	6	6	Minor	2	N	RES	<3	N	N	N	N	N	N	N	0.0	1.0	NO BIN	Curb-Grass Line	1	N 53°27.935 W113°31.986	N 53°27.935	W113°31.986	No large litter found. Site is very clean	N	5	No evidence	N/A	N/A	No evidence	
113	99 AVENUE NW	Site is west of 89 St. NW. Site is on the south side of 99 Avenue NW across from the River Grande Condo Development. Site commences at 92 St. NW and proceeds east.	6/1/2017	2:04 PM	2:10 PM	B	N	11	16	12.5	Minor	2	N	RES	<3	N	N	N	N	N	N	N	0.0	0.0	NO BIN	Fence-Curb	1	N 53°34.875 W113°34.256	N 53°34.875	W113°34.256	Construction and development present	N	5	Community park 92 meters away	N/A	N/A	None found	
114	WAYNE GRETZKY DR.	Site is south of 119 Avenue in the Blvd. of parking lot B of Rexall Place on Wayne Gretzky Dr.	6/1/2017	11:17 AM	11:29 AM	A	Y	18	18	18	Major	4	N	COM	<3	N	N	Y	Y	N	N	N	6.0	7.0	Intersection of 119 Street and Wayne Gretzky	Curb-Grass Line	1	N 53°34.251 W113°27.230	N 53°34.251	W113°27.230	Site immediately in front of Coliseum - Rexall Place - 2 Restaurants across the street (approx 30 m). Nearest intersection has some scattered cigarette butts on inside corner of NW corner of Wayne Gretzky and 118 Ave.	N	5	Site is directly in front of Rexall Coliseum parking lot	Site 50 m from Coliseum	Some cigarette butts at NW corner of Wayne Gretzky and 118 Ave. Most butts are along grass line, not curb. From foot traffic. Photos taken at intersection	Some cigarette butts at NW corner of Wayne Gretzky and 118 Ave. Most butts are along grass line, not curb. From foot traffic.	
115	JASPER AVENUE NW	Site is on the south side of Jasper Avenue NW between 102 St. NW and 103 St. NW.	5/31/2016	9:44 AM	9:53 AM	A	N	18	18	15	Major	6	Y	COM	N/A	Y	N	Y	Y	N	N	N	6.0	27.0	Next to 103 St/Jasper crosswalk next to bus stops. Cigarette bin attached to bus stop, 2 litter bins along site	Curb	1	N 53°32.421 W113°29.775	N 53°32.421	W113°29.775	Lots of cigarette butts in section 2, however cigarette ashtray in Section 3. Before we got to the site we saw a city worker cleaning up litter. All large litter was found along curb.	N	5	Heavy foot traffic and road use, office buildings and shops in immediate area.	N/A	Intersection looks clean, minus chewing gum.	2 cigarette butt bins on site. Cigarette butts seem to be along curb, likely a result from cars.	
116	YELLOWHEAD TR	Traveling eastbound on Yellowhead Trail the site is just before the Victoria Trail exit.	5/30/2017	3:03 PM	3:11 PM	A	Y	18	18	18	Major	4	Y	IND	>6	N	N	N	N	N	N	N	16.0	7.0	NO BIN	Curb-Grass Line	2	N 53°34.791 W113°24.154	N 53°34.791	W113°24.154	N/A	N	5	Yellowhead Highway usage	N/A	No intersections nearby	N/A	
117	YELLOWHEAD TR	Travelling west on Yellowhead Tr. The site is on Yellowhead Tr. 200m east of the Winterburn exit.	5/31/2017	11:38 AM	11:45 AM	B	Y	18	18	18	Major	6	Y	COM	3-6	N	N	N	N	N	N	N	11.0	12.0	NO BIN	Curb	3	N 53°34.324 W113°40.745	N 53°34.324	W113°40.745	Fairly clean, grass freshly cut	N	5	N/A	N/A	N/A	N/A	
118	199 STREET NW	Site is on 199 St. NW north of 107 Ave. NW beginning at the entrance to M.A.P. on the east side of the road.	5/29/2017	12:10 PM	12:12 PM	B	N	10	11	11	Minor	2	N	IND	N/A	N	N	N	N	N	N	N	13.0	1.0	NO BIN	Curb	3	N 53°33.185 W113°39.858	N 53°33.185	W113°39.858	Lots of construction last year, none this year.	N	5	N/A	N/A	N/A	More cigarette butts near intersection, than near building entrance.	
119	JASPER AVENUE NW	Site is in Rice Howard Way. Site is on the south side of Jasper Ave. beginning at 100A St. and proceeding east.	5/31/2017	9:11 AM	9:31 AM	A	Y	18	18	18	Major	4	N	COM	N/A	Y	N	Y	Y	N	Y	Y	8.0	4.0	By green space and along Jasper Ave (also beside bus stops)	Curb	1	N 53°32.462 W113°29.453	N 53°32.462	W113°29.453	Section #2 has cement bus bench (block) in middle. Site has 5 garbage bins and 1 cigarette butt bin - large litter usually found in grass where trees are. Also found 2 cigarette packs right next to garbage bin. Lots of foot traffic. Office building in surrounding area.	N	5	Scattered and piled around tree base under metal grill (photo taken)	Sidewalk and road usage - office buildings in area, lots of foot traffic.	N/A	3 cigarette butts at closest intersection.	
120	92 STREET NW	Site is on 92 St. NW commencing at 106A Ave. where the LRT crossing is.	6/1/2017	1:50 PM	2:05 PM	A	N	18	17.5	17.5	Minor	2	N	RES	<3	N	N	Y	Y	N	Y	N	22.0	6.0	At park across street	Curb-Grass Line	2	N 53°33.161 W113°28.630	N 53°33.161	W113°28.630	started at corner of 92nd & 106-travelled west on the west side of the street and headed south	N	5	LRT Crossing, apartment buildings	LRT Crossing 20 m from site. Apartment buildings within 10 m of site.	N/A	1 cigarette butt at closest intersection.	
121	112 AVENUE NW	Site is on the south side of 112 Ave. NW commencing 100 feet west of 82 St. NW and proceeding east. Site starts in front of the Highland's Plaza and continues in front of the Highland's Apt. Building.	6/1/2017	1:27 PM	1:39 PM	A	N	18	11	11	Major	4	Y	COM	<3	Y	N	Y	Y	N	Y	Y	10.0	9.0	4 Garbage bins at each intersection. 2 bus stops (two of the hour garbage bins are at the bus stops)	Fence-Curb-Grass Line	1	N 53°33.665 W113°28.083	N 53°33.665	W113°28.083	Close proximity to McDonald's. Right along side a plaza. Heavy car traffic and moderate foot traffic.	N	5	Several fast food restaurants on both sides of the street. Several cigarette butts around bus stop litter bin (photo taken)	Save on foods approximately 50 m away.	N/A	5 cigarette butts scattered around closest intersection. High amount of cigarette butts surrounding near bus stop 109A.	
122	50 STREET NW	Site is on 50 St. NW south of Manning Dr. and north of 137 Ave. NW. Site is in front of the Red Robin Restaurant. Site is in the Clareview Town Centre Site.	5/30/2017	10:13 AM	10:24 AM	A	Y	18	18	18	Major	6	Y	COM	<3	Y	Y	Y	Y	N	Y	Y	8.0	9.0	Beside bus stop (across the street from Red Robin)	Curb-Grass Line	2	N 53°35.833 W113°24.727	N 53°35.855	W113°24.727	Lawn mowing in progress. Not a lot of small litter as a result, some large litter has been shredded. Survey sheet photo was taken last.	N	5	Restaurants, convenience store, sidewalk and road usage.	N/A	N/A	Several cigarette butts have been scattered around the sidewalk at nearest intersection.	
123	109 STREET NW	Site is in front of the HighLevel Diner on 109 St. at 89 Ave. NW.	5/31/2017	8:33 AM	8:46 AM	A	N	12	7.5	12	Major	2	N	COM	N/A	N	N	Y	Y	N	Y	N	5.0	11.0	At the street corners	Fence-Curb	1	N 53°31.425 W113°30.822	N 53°31.425	W113°30.822	Lots of traffic car traffic and cyclists.	Y	P/5	Condos located 20 m away. High level diner 50 m away. Sidewalk and road usage.	N/A	One cigarette butt at closest intersection.	Cigarette butts look to be piled at mid point of site.	

APPENDIX B

SITE DISTRIBUTION MAP

# Edmonton Litter Sites 2009 - 2017



## Map Key

- 2009 • 2017 Audit Locations
- 2010, 2012, 2014, 2017 Yellowhead Highway Audit Locations
- Audit Locations

APPENDIX C  
METHODOLOGY

## Conducting the Litter Audit

Audit area at the sites should be the same size. Audit Areas are to be 200 feet x 18 feet. These full sized audit areas are termed FIXED sites. The site width may be less than 18 feet in some cases, such as when in commercial areas the storefront is set back less than the prescribed distance. In these cases, each site should be 200 feet in length by the width available (<18 feet), which will be recorded. These sites are termed VARIABLE sites

Beginning at the front of the parked car or the start of the site, the team shall use a measuring device to measure 50 feet ahead of the start of the site. Using street marking paint (water based to dissolve) or some other temporary marking method (e.g. chalk, pylons), a mark should be made on the pavement ahead to denote the starting point of the audit site. From this point the team will measure 100 feet, marking the roadway with another identifier to show the mid-point of the site. A final measurement of an additional 100 feet denotes the end of the audit site. As mentioned above, each site is to be 200 feet in length.

The width measurement shall be taken at the start, midpoint and end of the site. The width of the site should be measured 1.5 feet from inside the curb or the start of the pavement, towards the outer edge of the site, up to a maximum width of 18 feet and marked to indicate the boundary. This rule is set to include 1.5 feet into the street since curbs are normal catchment structures, for which the City is responsible for litter clean up. Refer to Figure 2 below depicting the audit site setup.

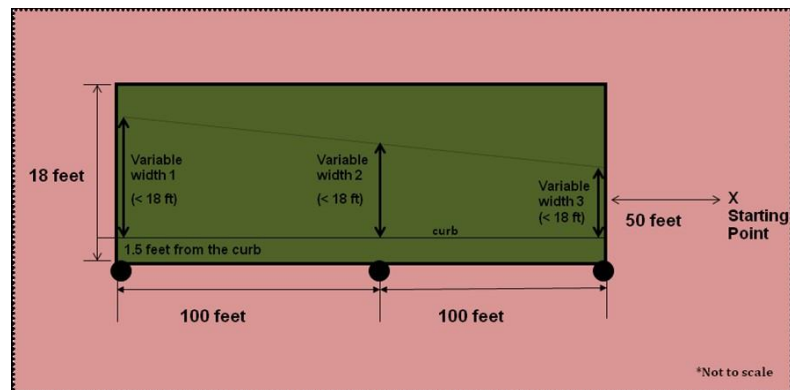


Figure 1: Schematic of Survey Site

## Classification of Large Litter

For purposes of classifying litter, and in accordance with the methods used in previous litter surveys, large litter is defined as being greater than 4 square inches in size. To assist the field teams with determining the litter sizes, each audit team will be provided with three templates of 4 square inches in rectangle, square and round shape form. Refer to Figure 3 depicting diagrams of the litter templates.

At each site location this litter audit will observe and document large litter in 14 categories and 84 sub-categories. See Table 1 below for details of the classification of litter items.

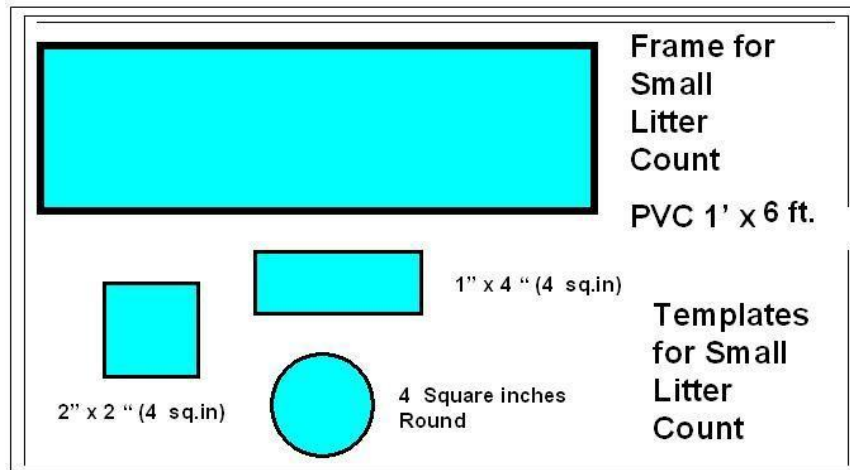


Figure 2: Litter Template

### Classification of Small Litter

Small litter is defined as those pieces of debris that are less than 4 square inches in size. It is classified under 16 categories, as listed in Table 2 below. The small litter audit involves examining three segments, or slices taken through the audit site. The successful bidder shall construct a frame for each audit team, using ½ inch P.V.C. plastic tubing (or a similar material) to act as the template. This frame shall measure 1 foot wide and 6 feet long. Three successive “flips” of the frame will complete crossing the site to the 18 foot boundary of the site. The litter auditor will observe and count all the small litter contained within the frames at three locations within each site: at the start, mid-point and end of the site. At each segment three flips of the frame will be analyzed, thus surveying a total of 18 square feet segment for a total of 54 feet of the entire site. See Figure 4 for a depiction of the site setup for the small litter survey. The Site Surveyor Form – Small Litter Count Sheet will be used to record the findings for each site

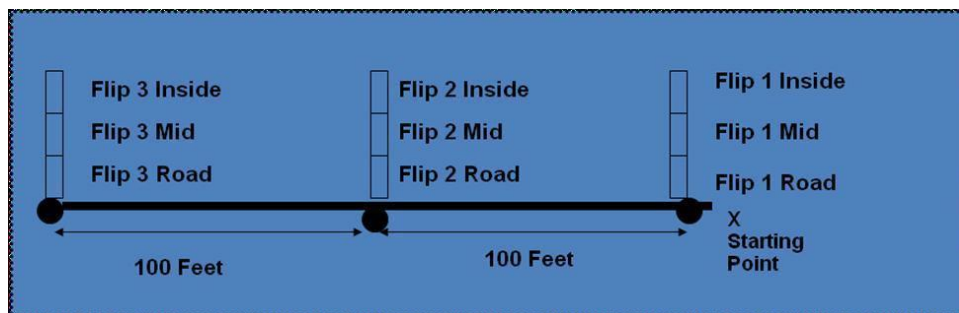


Figure 3: Site Set up Small Litter

APPENDIX D

FIELD FORMS



## Site Surveyor Form

Date: \_\_\_\_\_ (DD/MM/YYYY) Start Time: \_\_\_\_\_ (AM/PM) End Time: \_\_\_\_\_ (AM/PM)

Team ID \_\_\_\_\_ Surveyors Names: \_\_\_\_\_

Site ID Number: \_\_\_\_\_ Site Name: \_\_\_\_\_

Site type: Fixed  Variable  Site length: **Always 200 feet long**

**If variable:**

Width 1 - Start: \_\_\_\_\_ ft. (up to 18ft.)

Width 2 - Middle: \_\_\_\_\_ ft. (up to 18ft.)

Width 3 - End: \_\_\_\_\_ ft. (up to 18ft.)

GPS Coordinates: N \_\_\_\_\_ W \_\_\_\_\_

Road type (check one): Major City Street  Minor City Street  Laneway

Is roadway divided: Y / N

Number of Lanes: 2  4  6  Other  (explain): \_\_\_\_\_

**Area Attributes:**

Commercial  Residential  Industrial  Parkland

Grass Height (Check one): N/A  < 3 inches  3" – 6"  over 6"

Fast food within sight: Y / N

Convenience store within sight: Y / N

Mobile Food Vendor within sight: Y / N

Bench or other resting structure within sight: Y / N

Bus stop within sight: Y / N

Traffic light or stop sign within sight? Y / N

City street/park litter bin within 200 meter radius from site boundary: Y / N

City street/park litter bin details: \_\_\_\_\_

Evidence of litter cleanup? Y / N

Cleanup details: \_\_\_\_\_

Catch point: fence  hedge  curb  grass line  tree line  other  \_\_\_\_\_

Details: \_\_\_\_\_

# Photos Taken: \_\_\_\_\_

Visual rating of site (1 = cleanest, ie. <5 large pieces of litter; 4 = dirtiest, ie. >20 large pieces of litter) \_\_\_\_\_

Evidence of litter dumping? Y / N Details: \_\_\_\_\_

Scattered vs. Piled Litter? \_\_\_\_\_

Details on where litter could be coming from (infrastructure, congregation spots, land usage):

Assessment of closest intersection for cigarette butts:

**Site Surveyor Form - Small Litter (<4") Count Sheet**

Date (DD/MM/YY): \_\_\_\_\_

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Team ID: \_\_\_\_\_ Surveyors Names: \_\_\_\_\_

Site ID Number: \_\_\_\_\_

Site Name: \_\_\_\_\_

		Section #1*				Section #2				Section #3				
SMALL LITTER CATEGORY	Item	Flip 1	Flip 2	Flip 3	Total	Flip 1	Flip 2	Flip 3	Total	Flip 1	Flip 2	Flip 3	Total	Grand Total
Cigarette butts/debris	1													
Other tobacco	2													
Bottle caps	3													
Straws	4													
Candy packaging and wrappers	5													
Polystyrene packing materials, ie. foam peanuts	6													
Other polystyrene debris, ie. poly foam pieces	7													
Glass	8													
Paper	9													
Plastic film	10													
Hard plastic	11													
Aluminum/foil debris	12													
Rubber	13													
Metal (not aluminum)	14													
Other material	15													
Chewing gum (stuck on pavement)	16													
Food & Other Organics	17													

\*closest to vehicle/starting point

**Large Litter Survey Form**

Site ID:

Site Name:

Time:

Survey Team:

CATEGORY	PASS 1	TOTAL	PASS 2	TOTAL	BRAND NAMES OBSERVED
<b>MISCELLANEOUS LITTER</b>					
Misc. Paper					
Misc. Plastic					
Misc. Paperboard					
Misc. Cardboard					
Misc. Glass					
<b>BEVERAGE CONTAINERS</b>					
Beer Cans					
Beer Bottles (glass)					
Soft Drink (glass)					
Soft Drink (cans)					
Soft Drink (plastic)					
Sport Drink (glass)					
Sport Drink (plastic)					
Water (glass)					
Water (plastic)					
Wine/ Liquor (glass)					
Wine/ Liquor (plastic/other)					
Milk/Juice (plastic)					
Milk/Juice (glass)					
Milk/Juice (gable top)					
Foil Pouches					
Aseptic (box)					
Broken Glass Container					
Six Pack Plastic Rings					
<b>CUPS</b>					
Plastic Drink Cups					
Paper Cups (cold)					
Paper Cups (hot)					
Polystyrene Cups (foam)					
Other Paper Cups					
Cup Lids, Pieces, Lids					
<b>BAGS</b>					
Plastic Retail Bags					
Paper Retail Bags					
Paper Bags - Fast Food					
Plastic Bags - Not Retail					
Paper Bags - Not Retail					
Zipper Bags/Sandwich Bags					
<b>BOXES</b>					
Cardboard Boxes/ Box Material					
Paperboard (boxboard)					
Paper Beverage Cases/Sleeves					
Polystyrene Clamshells					
Paper Clamshells					
Other Plastic Shells/Boxes					

CATEGORY	PASS 1	TOTAL	PASS 2	TOTAL	BRAND NAMES OBSERVED
<b>OTHER CONTAINERS</b>					
Plastic Jars / Bottles/ Lids					
Glass Jars/Bottles					
Cans - Steel					
Cans - Aluminum					
Container Lids					
Aerosol cans (paint, oils, etc.)					
Plastic Packaging Other					
Paper Packaging Other					
Plastic/Composite Other					
Foil Materials/Foil Pieces					
Foil Containers					
<b>WRAPS &amp; TRAYS</b>					
Paper Food Wrap					
Paper /Foil Composite Wrap					
Plastic Wrap					
Polystyrene Trays					
Paper Trays					
Other Trays					
<b>CANDY &amp; GUM &amp; SNACKS</b>					
Gum Wrappers					
Candy Bar Wraps					
Candy Pouches					
Sweet Packaging					
Other Confectionery					
Snack Food Packaging					
<b>FAST FOOD ITEMS</b>					
Condiment Packaging					
Utensils					
Name Brand Napkins / Serviettes					
Paper Fast Food Plates					
Poly Fast Food Plates					
Other Plastic FF Plates					
Plates - Other Mat's					
No Brand Name Napkins					
<b>HOUSEHOLD ARTICLES</b>					
Clothing or Clothing Pieces					
Other Cloth					
Vehicle & Metal Road Debris					
Construction debris					
Tire & Rubber debris					
Home Articles					
<b>PRINTED MATERIALS</b>					
Lottery \Ticket Debris					
Printed Material					
Stationary (school, business etc.)					
Receipts (business forms, bus					
<b>TOBACCO PRODUCTS</b>					
Cigarette / Cigar Debris					
Tobacco other					
<b>OTHER ADDITIONAL ITEMS</b>					
Pet Waste in a Bag					
Food Waste					
Popsicle Sticks					

APPENDIX E

LARGE LITTER DATA

Category	2017 Total	2017 Percent	2016 Total	2016 Percent
Misc. Plastic	95.5	10.75%	252	18.53%
Cup Lids, Pieces, Lids	88	9.90%	87.5	6.43%
Misc. Paper	62	6.98%	159.5	11.73%
No Brand Name Napkins /Serviettes	65.5	7.37%	82	6.03%
Construction debris	55	6.19%	91	6.69%
Plastic Packaging Other	55.5	6.25%	39	2.87%
Tobacco other	44	4.95%	39	2.87%
Paper Cups (hot)	38	4.28%	48	3.53%
Home Articles	32	3.60%	21	1.54%
Receipts (business forms, bus tickets)	31	3.49%	29	2.13%
Printed Material	24	2.70%	62	4.56%
Paperboard (boxboard)	24	2.70%	13	0.96%
Snack Food Packaging	21.5	2.42%	27	1.99%
Vehicle & Metal Road Debris	19	2.14%	28	2.06%
Clothing or Clothing Pieces	18	2.03%	20	1.47%
Paper Food Wrap	13.5	1.52%	17	1.25%
Plastic Drink Cups	12	1.35%	16	1.18%
Paper Cups (cold)	12	1.35%	19	1.40%
Paper Packaging Other	9.5	1.07%	13	0.96%
Cardboard Boxes/ Box Material	9	1.01%	17	1.25%
Other Confectionery	8	0.90%	1	0.07%
Paper Bags - Fast Food	8	0.90%	4	0.29%
Misc. Cardboard	8	0.90%	19	1.40%
Candy Bar Wraps	6.5	0.73%	10	0.74%
Paper /Foil Composite Wrap	7	0.79%	17.5	1.29%
Other Cloth	7	0.79%	30.5	2.24%
Polystyrene Cups (foam)	6	0.68%	6	0.44%
Plastic Retail Bags	7	0.79%	7.5	0.55%
Tire & Rubber debris	6	0.68%	24	1.76%
Misc. Paperboard	6	0.68%	14	1.03%
Food Waste	6	0.68%	5	0.37%
Zipper Bags/Sandwich Bags	5	0.56%	11	0.81%
Paper Trays	5	0.56%	1	0.07%
Candy Pouches	6	0.68%	6	0.44%
Plastic Bags - Not Retail	5	0.56%	5	0.37%
Gum Wrappers	4	0.45%	6	0.44%
Sweet Packaging	4	0.45%	10.5	0.77%
Condiment Packaging	4	0.45%	8	0.59%
Stationary (school, business etc.)	4	0.45%	13	0.96%
Soft Drink (cans)	3	0.34%	6	0.44%
Other Paper Cups	3	0.34%	0	0.00%
Paper Retail Bags	3	0.34%	1	0.07%
Foil Materials/Foil Pieces	3	0.34%	4	0.29%
Plastic Wrap	3	0.34%	13	0.96%
Utensils	3	0.34%	7	0.51%

Category	2017 Total	2017 Percent	2016 Total	2016 Percent
Popsicle Sticks	4	0.45%	2	0.15%
Beer Cans	2	0.23%	3	0.22%
Sport Drink (plastic)	2	0.23%	0	0.00%
Paper Beverage Cases/Sleeves	2	0.23%	5	0.37%
Plastic Jars / Bottles/ Lids	2	0.23%	2	0.15%
Polystyrene Trays	3	0.34%	3	0.22%
Name Brand Napkins / Serviettes	2	0.23%	2	0.15%
Water (plastic)	1	0.11%	2	0.15%
Wine/ Liquor (plastic/other)	1	0.11%	2	0.15%
Milk/Juice (plastic)	1	0.11%	0	0.00%
Aseptic (box)	1	0.11%	0	0.00%
Other Plastic Shells/Boxes	2	0.23%	0	0.00%
Container Lids	1	0.11%	6	0.44%
Aerosol cans (paint, oils, etc.)	1	0.11%	0	0.00%
Foil Containers	1	0.11%	0	0.00%
Other Plastic FF Plates	0	0.00%	0	0.00%
Beer Bottles (glass)	0	0.00%	1	0.07%
Soft Drink (glass)	0	0.00%	0	0.00%
Soft Drink (plastic)	0	0.00%	0	0.00%
Sport Drink (glass)	0	0.00%	1	0.07%
Water (glass)	0	0.00%	0	0.00%
Wine/ Liquor (glass)	0	0.00%	0	0.00%
Milk/Juice (glass)	0	0.00%	0	0.00%
Milk/Juice (gable top)	0	0.00%	1	0.07%
Foil Pouches	0	0.00%	0	0.00%
Broken Glass Container	0	0.00%	10	0.74%
Six Pack Plastic Rings	1	0.11%	0	0.00%
Paper Bags - Not Retail	0	0.00%	0	0.00%
Polystyrene Clamshells	0	0.00%	0	0.00%
Paper Clamshells	0	0.00%	0	0.00%
Glass Jars/Bottles	0	0.00%	0	0.00%
Cans - Steel	0	0.00%	2	0.15%
Cans - Aluminum	0	0.00%	1	0.07%
Plastic/Composite Other	0	0.00%	1	0.07%
Other Trays	0	0.00%	0	0.00%
Paper Fast Food Plates	0	0.00%	3	0.22%
Poly Fast Food Plates	0	0.00%	0	0.00%
Plates - Other Mat's	1	0.11%	0	0.00%
Lottery \Ticket Debris	0	0.00%	1	0.07%
Cigarette / Cigar Debris	0	0.00%	0	0.00%
Misc. Glass	0	0.00%	0	0.00%
Pet Waste in a Bag	1	0.11%	2	0.15%
<b>Total</b>	<b>888.5</b>	<b>100.00%</b>	<b>1360</b>	<b>100.00%</b>

APPENDIX F

SMALL LITTER DATA



Small Litter Items	2017		2016	
	Items	Percent	Items	Percent
Cigarette butts/debris	291	33.80%	324	27.91%
Other tobacco	0	0.00%	2	0.17%
Bottle caps	8	0.93%	1	0.09%
Straws	3	0.35%	4	0.34%
Candy packaging and wrappers	52	6.04%	31	2.67%
Polystyrene packing materials, ie. foam peanuts	17	1.97%	10	0.86%
Other polystyrene debris, ie. poly foam pieces	53	6.16%	85	7.32%
Glass	53	6.16%	143	12.32%
Paper	158	18.35%	271	23.34%
Plastic film	27	3.14%	55	4.74%
Hard plastic	81	9.41%	78	6.72%
Aluminum/foil debris	3	0.35%	40	3.45%
Rubber	3	0.35%	6	0.52%
Metal (not aluminum)	0	0.00%	2	0.17%
Other material	8	0.93%	28	2.41%
Chewing gum (stuck on pavement)	96	11.15%	70	6.03%
Food & Other Organics	8	0.93%	11	0.95%
<b>Total Site Litter</b>	<b>861</b>	<b>100.00%</b>	<b>1,161</b>	<b>100.00%</b>

APPENDIX G  
RANKING OF SITES

2017			
Site #	Lg Litter	Street Name	Site Description
21	56	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
34	52	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
46	37	107A AVENUE NW	Site is west of 97 St. Site is on the north side of 107A Ave. NW
101	35	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
36	34.5	JASPER AVENUE NW	Jasper Ave. at 90 St. NW. Site is on west boulevard commencing at 90St. NW in front of Boardwalk Centre and proceeding south.
43	29	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.
50	24	107 St. NW	Site is north of 109 Ave. on east side of the street commencing at the NE corner of 107 St and 109 Avenue in park across the street
89	24	19 AVENUE NW	Site just east of Gateway Boulevard NW on the north side of 19 Ave. NW across from Tim Horton's.
22	23	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.
120	22	92 STREET NW	Site is on 92 St. NW commencing at 106A Ave. where the LRT crossing is.
75	21	104 STREET NW	Site is north of 64 Ave. NW. Site is on the east side of 104 St., NW commencing at 64 Ave. at house #6404. NW.
82	21	92 AVENUE NW	Site is west of 34 St. NW. Site on the north side of 92 Avenue in front of the street from Esso Distribution #9210.
5	19.5	YELLOWHEAD TRAIL NW	Site is on the south side of Yellowhead Trail NW. Site is on the south side of the ramp to St. Albert Trail NW
100	19.5	TERWILLEGAR DRIVE NW	NE of Anthony Henday Dr. Site is on west side of Terwillegar Dr. NW 50 meters south of Haddow Dr.
28	18	127 AVENUE NW	Turn left (west) onto 127 Ave. Site on 127 Ave NW beginning at the north west corner of 67 St.
2	17	YELLOWHEAD TRAIL	Site is west of 190 St. between 184 St. and Anthony Henday Dr.
40	17	91 STREET NW	91 STREET NW- N of 117 Ave. NW. Site is on east side of 91 St. NW beginning at house #11705.
49	16	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave. commencing at bus stop #1466 and proceeding east. Site is in front of Covenant Health Edmonton General
116	16	YELLOWHEAD TR	Traveling eastbound on Yellowhead Trail the site is just before the Victoria Trail exit.
16	15	146 AVENUE NW	Site is West of 50 St. NW. Site is on the north side of 146 Ave. NW beginning in front of the Casselwood Shopping Centre and ending just before house #5116.
31	15	81 STREET NW	Site on west side of 81 St. NW south of 123 Ave.. Site begins at house # 12224 proceeding south for 200'.
38	15	108 AVENUE NW	108 Ave. - West of 93 St., Site on north side of 108 Ave. NW beginning at the Baptist Fellowship Building.
41	15	YELLOWHEAD TRAIL NW	Proceed east on Yellowhead Trail. Site on ramp to 82 St. NW. Site beginning at pumping station and proceeding west.

2017			
Site #	Lg Litter	Street Name	Site Description
110	15	MERIDIAN ST	Site is north of West Railway St. Site on west side of Meridian St. commencing at RR warning sign and proceeding south.
32	13	77 STREET NW	Site on 77 St. NW south of 121 Ave. NW. Site is on east side of 77 St. commencing at house # 12118.
45	13	93 STREET NW	Site is north of 112 Ave., on the east side of 93 St. NW commencing at house #11207.
118	13	199 STREET NW	Site is on 199 St. NW north of 107 Ave. NW beginning at the entrance to M.A.P. on the east side of the road.
63	11	170 St - near West Edm Mall	Site is north of 90 Ave. NW. Site is on the east side of 170 St. commencing at 90 Ave.
117	11	YELLOWHEAD TR	Travelling west on Yellowhead Tr. The site is on Yellowhead Tr. 200m east of the Winterburn exit.
47	10	103 AVENUE NW	Site is east of 101 St. . Site is on the north side of 103 Ave. beginning at SE corner of 101 St. in front of parking lot area opposite Capital Clean.
51	10	120 AVENUE NW	Site is west of 124 St. Site is on the north side of 120 Ave. beginning at house #12402.
121	10	112 AVENUE NW	Site is on the south side of 112 Ave. NW commencing 100 feet west of 82 St. NW and proceeding east. Site starts in front of the Highland's Plaza and continues in front of the Highland's Apt. Building.
11	8	97 STREET NW	Site is on 97 St. south of 144 Ave.
44	8	113 AVENUE NW	Site is on the north side of 113 Ave. NW west of 97 St.
86	8	23 AVENUE NW	Site is west of 66 St. NW. Site is on the north side of 23 Ave. NW adjacent to Mill Wood Pk.
119	8	JASPER AVENUE NW	Site is in Rice Howard Way. Site is on the south side of Jasper Ave. beginning at 100A St. and proceeding east.
122	8	50 STREET NW	Site is on 50 St. NW south of Manning Dr. and north of 137 Ave. NW. Site is in front of the Red Robin Restaurant. Site is in the Clareview Town Centre Site.
10	7	113A STREET NW	Site is on 113A St. north of 134 Ave. NW beginning at house #13419 and ending at house # 13435.
29	7	127 AVENUE NW	Proceeding west on Yellowhead Trail, turn north onto 66 St. and proceed to 127 Ave. NW. Turn west onto 127 Ave. Site begins west of 73 St.
52	7	57 STREET NW	Victoria Trail & 118 Avenue: Start at NE corner of 57 St and 122 Ave, proceed North
8	6	123A STREET NW	Site is north of 131 Ave. NW and south of 132 Ave. NW in front of Chalmers Park.
37	6	106A AVENUE NW	Site is on north side of 106A NW commencing at 93 St. at house # 10640.
70	6	68 AVENUE NW	Site is east of 109 St. NW . Site on 68 Ave. NW on north side of street commencing at intersection of 109 St. and 68 Ave. proceeding east for 200'.

2017			
Site #	Lg Litter	Street Name	Site Description
87	6	94 STREET NW	Site is north of 45 Ave. NW. Site is on the west side of 94 St. NW between Dresser-Rand and Daco Industries Inc.
114	6	WAYNE GRETZKY DR.	Site is south of 119 Avenue in the Blvd. of parking lot B of Rexall Place on Wayne Gretzky Dr.
115	6	JASPER AVENUE NW	Site is on the south side of Jasper Avenue NW between 102 St. NW and 103 St. NW.
17	5.5	KIRKNESS ROAD NW	Site is West of 30 St. NW. Site is on the north side of Kirkness Rd. NW in Kirkness Park immediately west of Kirkness School.
3	5	107 AVENUE NW	Site is on the south side of 107 Ave; East of Mayfield Road. Site is adjacent to Jasper Place Curling Club.
27	5	66 STREET NW	66th St. NW - just south of Yellowhead Trail and north of 122 Ave. Going west on 118 Ave. turn right onto 66 St. NW and proceed north to 122 Avenue NW. Site begins at the SE corner of 66 St. and 122 Ave. proceeding east.
33	5	119 AVENUE NW	Site north of Coliseum Transit Centre (76 St. NW) . Site on south side of 119 Ave. NW between 77 St. and 78 St. in front of James Kidney Park.
35	5	JASPER AVENUE NW	Site on south side of Jasper Ave. between 82 St & 83 St.
64	5	170 St - south of West Edmonton Mall	Site on west side of 170 St. south of 69 Avenue. just south of the Husky Station.
72	5	WHITEMUD AVENUE	Site is west of 106 St. NW on the ramp from Whitemud Avenue to 106 St. NW.
104	5	199 STREET NW	Site is west of Anthony Henday and south of 45 Ave. NW. Site is on the east side of 199 St. NW terminating at 45 Ave. Site in front of River West Christian Church.
123	5	109 STREET NW	Site is in front of the Highlevel Diner on 109 St. at 89 Ave. NW.
108	4.5	ELLERSLIE RD	Site is east of 111 St. Site is on the south side of Ellerslie Rd. in front of the Ellerslie Rugby Club.
9	4	129 AVENUE NW	Site is on 129 Avenue NW between 119 St. NW and 117 St. NW. Beginning at house # 11804 and proceeding east to house #11822.
83	4	70 AVENUE NW	Site is on 70 Avenue NW just east of 17 St. NW commencing at the corner of 17 St. NW and 70 Ave. in front of Precision Coatings & Hydraulics.
13	3	88 STREET NW	Site is just north of 153 Ave. NW. Site is on 88 St. and begins at the corner of 156 Avenue proceeding north and beginning at house # 15615.
39	3	110 AVENUE NW	110 Ave. - West of 92 St. NW - 9003-9123. Site is on south side of 110 Ave. across from St. Marta Rectory in front of parking lot.
61	3	160 STREET NW	Site is north of 91 Ave. NW. Site on the east side of 160 street NW across the street from house #9131. Site is in front of Meadowlark Public School.
73	3	104A STREET NW	Site is north of 52 Ave. NW. Site is on the east side of 104 A St. NW beginning at house # 5219.

2017			
Site #	Lg Litter	Street Name	Site Description
81	3	68 STREET NW	Site is north of 89 Ave. NW. Site on east side of 68 St. commencing at 89 Ave. NW.
85	3	50 STREET NW	Site is north of 44 Ave. NW. Site is on the west side of 50 St. NW commencing 200' North of 44 Ave. NW.
95	3	OCKENDEN PLACE NW	Site is east of Rabbit Hill Rd NW. Site on east side of Ockenden Place NW commencing at fire hydrant # 12916.
106	3	205 STREET NW	Site is on 205 St. NW just south of 60 Ave. NW.
6	2	134 AVENUE NW	Site is west of 142 St. between 142 St. and St. Albert Trail on the north side of the street.
12	2	173A AVENUE NW	Site is on 173A Avenue; west of 108 St. NW and east of 115 St. NW; between house #'s 10810 and 10834.
18	2	EVERGREEN DRIVE NW	Site is East of Fir Ave. NW. Site ion Evergreen Dr. NW begins at East Boundary of Community Park and ends at the West boundary at Evergreen Way.
30	2	128 AVENUE NW	Site on 128 Ave. NW just west 78 St. Site on north side of 128 Ave. beginning at house # 7907.
48	2	100 AVENUE NW	Site is west of 102 St. Site is on the north side of 100 Ave. NW across from Riverview Inn (was Econo Lodge) commencing at house #10207.
60	2	154 STREET NW	Site is north of 76 Ave. NW. Site is on the west side of 154 St. NW commencing at the NE corner of the school yard of Rio Terrace Elementary School.
66	2	89 AVENUE NW	Site is west of 213 St. NW - 21303. Site is on the north side of 89 Ave. NW commencing at intersection of 213 St. and 89 Ave. at house #21303.
68	2	117A STREET NW	Site is north of Whitemud & 46 Ave. NW. Site on east side of 117A north of 46 Ave. commencing at house # 46076.
76	2	82 AVENUE ( Whyte Ave.)	Site is on 82 Ave. NW just west of 105 St.
79	2	75 STREET NW	Site is north of 96A Ave. NW. Site on right boulevard (east side) of 75 St. NW commencing at 96A Ave.
96	2	BULYEA ROAD NW	Just N of OEMING RD - 221. Site on east side of Bulyea Rd. commencing at house # 221.
109	2	16A AVENUE	Site on south side of 16A Avenue east of 34 St. NW commencing at house #3415.
19	1	28 STREET NW	Site is South of 137 Ave. and North of 136 Ave. Site on 28 St. NW begins at house #13605.
23	1	118 AVENUE NW	Site is on 118 Ave. at 38 St. NW. Site is on the north side of 118 Ave. NW and begins at Shoppers Drug Mart proceeding west 200'.
24	1	30 STREET NW	Victoria Tail & 118 Ave. Going west on 118 Ave. turn left onto 34 St. then left onto 113 Ave. Proceed to 30 St. NW on right. Site is on 30 St. NW on west side of street beginning at the corner of 113 Ave. and 30 St. NW.
55	1	141 STREET NW	Site is north of 107A Ave. NW - Site is on the east side of 141 St. NW commencing at house #10703.
56	1	144A STREET NW	Site is north of 107 Ave. NW and east of McQueen Rd NW. Site is on the north side of 144A St. NW in front of McQueen Pk. Commencing in front of the 144A St.

2017			
Site #	Lg Litter	Street Name	Site Description
69	1	51 AVENUE NW	Site is east of 114A St. NW. Site on south side of 51 Ave. NW commencing at house # 11415 proceeding east 200'.
71	1	110 STREET NW	Site is north of 64 Ave. NW and south of 65 Ave. NW. Site is on the west side of 110 St. NW commencing at 65 Ave. NW and proceeding south for 200'.
74	1	GATEWAY BOULEVARD NW	Just N of 51 Ave. NW. Site on east side of Gateway Blvd. NW along Koch Motors fence line.
80	1	106 AVENUE NW	Site is east of 48 St. NW. Site on the south side of 106 Ave. NW commencing at 48 St.. NW in front of Bible Church.
84	1	ROPER RD NW	Site is west of 59 St. NW. Site on the north side of Roper Rd. NW beginning at # 5918 CCI Thermal Technologies.
90	1	33 AVENUE NW	Site is west of 108 St. NW. Site on north side of 33 Ave. NW commencing at house # 10808.
91	1	111 STREET NW	Site is north of 40 Ave. NW. Site on west side of 111 St. NW. Site moved due to construction.
92	1	114 STREET NW	Site is south of 42 Ave. NW. Site on the west side of 114 St. NW commencing at 42 Ave. NW at house #4204.
93	1	35 AVENUE NW	Site is west of 113 St. NW across from house # 11347. Site on north side of 35 Avenue commencing at 114 St. NW in parkland.
97	1	BURTON ROAD NW	East of Terwilligar Rd. and north of Butterworth Dr. Site on east side of Burton Road commencing at bus stop 4383 along Aspen Gardens Parkland.
102	1	CAMERON HEIGHTS DR.	Off of Anthony Henday NW. Site commencing at corner of Cameron Heights Dr. and Caldwell Way on east side of street proceeding north.
107	1	199 STREET NW	Site is on the west side of 199 St. NW commencing north of 23 Ave.
111	1	154 AVENUE NW	Site is on 154 Ave. NW; west of 133 St. NW. Site begins at house # 13322 and proceeds to house # -13342.
1	0	WESTVIEW BLVD. NW	Site is on the south side of Westview Blvd. at the intersection of Westview Blvd. and Winterburn Rd.
4	0	155 STREET NW	Site is south of 128 Ave. NW. Site is on 155 St. NW across from the Hexion chemicals gate on the west side of the street.
7	0	135A AVENUE NW	Site is on the south side of 135A Avenue commencing at intersection of 131 St. and 135A Avenue.
14	0	168A AVENUE NW	Site is on 168A Avenue NW. Site is west of 76 St. NW and east of 79 St.
15	0	63 STREET NW	Site is north of 144A Ave. NW. Site is on 63 St. beginning at house # 1407 and ending at house # 14419.
20	0	42 STREET NW	Site is South of 132A Ave. and North of 131 Ave. Site on 42 St. NW begins at house #13107 and ends at #13203.
25	0	124 AVENUE NW	Victoria Trail & 118 Avenue: Proceed west on 118 Ave. and turn right onto 50 St. Proceed to 123 and turn left. Take next right onto 51 St. and proceed to 124 Ave. NW. Site is on the north side of 124 Ave. beginning at house # 5104.

2017			
Site #	Lg Litter	Street Name	Site Description
26	0	121 AVENUE NW	118 Ave. & 50 St.: Proceed west on 118 Ave. to 62 St. NW. Turn right and proceed north to 121 Ave. Turn left onto 121 Avenue. Site on 121 Ave. NW begins at the SE corner of 63 St. & 121 Ave. N.
42	0	95 STREET NW	Site on 95 ST. NW North of 124 Ave. commencing at house # 12402. Site on east side of 95 St. commencing at corner of 124 Ave. and 95 St.
53	0	106 AVENUE NW	Site is west of 129 St. NW. Site is on the south side of 106 Ave. commencing at the corner of 106 Ave. and 129 St. NW at house # 12930.
54	0	103 AVENUE NW	Site is west of 137 St. NW. Site is on the north side of 103 Ave. NW commencing at house # 13703.
57	0	146 STREET NW	Site is north of 106 Ave. NW. Site is on the west side of 146 St. NW commencing at house # 10607.
58	0	145 STREET NW	Site is south of 82 Ave. NW. Site is on the west side of 145 St. NW commencing at 82 Ave. NW.
59	0	RIO TERRACE DRIVE NW	Site is west of 151 St. NW. Site is on the north side of Rio Terrace Dr. NW commencing across the street from house #14902.
62	0	164 STREET NW	Site is south of 88 Ave. and north of 87 Ave. Site is on the east side of 164 St. NW commencing in front of house #8707.
65	0	90 AVENUE NW	Site is west of 184 St. NW. Site is on the north side of 90 Ave. NW commencing at intersection of 90 Ave. And 184 St. at house #18403.
67	0	219 STREET NW	219 STREET NW - North of 94A Ave. NW. House #9461
77	0	73 AVENUE NW	Site is west of 91 St. NW . Site on north side of 73 Avenue NW at commencing at 91 St.
78	0	94 STREET NW	Site is north of 92 Ave. NW. Site is on the east side of 94 Street NW in front of the park commencing at house # 9230.
88	0	99 STREET NW	Site is north of 45 Ave. NW. Site on the east side of 99 St., NW commencing at house # 4505 just north of the bus stop.
94	0	32 AVENUE NW	Site is east of 115 and west of 114 St. NW. Site on the south side of 32 Ave. NW commencing at house # 11404.
98	0	49 AVENUE NW	Site is east of 151 St. NW. Site on east side of 49 Ave. NW proceeding north and commencing opposite house # 15164.
99	0	ROUTLEDGE ROAD NW	Site is north of Rabbit Hill Rd. Site is on the north side of Routedge Rd. NW commencing opposite house # 301 and proceeds west.
103	0	WEDGEWOOD BLVD	Site is on Wedgewood Blvd. - E of Anthony Henday Dr. and south of Lessard. Site is on Wedgewood Blvd. across from house #1190 beginning at the first lamp post and proceeding north, in Parkland.
105	0	54 AVENUE NW	54 Site is west of 202 St. NW. Site is on the south side of 54 Ave. NW commencing at house #20203.
112	0	116 STREET NW	Site is north of 32A Ave. NW. Site is on 116 St. NW commencing at house #11604.
113	0	99 AVENUE NW	Site is west of 89 St. NW. Site is on the south side of 99 Avenue NW across from the River Grande Condo Development.. Site commences at 92 St. NW and proceeds east.



2017			
Site ID #:	Sm Litter	Street Name	Site Description
33	45	119 AVENUE NW	Site north of Coliseum Transit Centre (76 St. NW) . Site on
49	45	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave.
82	44	92 AVENUE NW	Site is west of 34 St. NW. Site on the north side of 92 Avenue
101	33	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of
34	30	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
21	29	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
76	29	82 AVENUE ( Whyte Ave.)	Site is on 82 Ave. NW just west of 105 St.
115	27	JASPER AVENUE NW	Site is on the south side of Jasper Avenue NW between 102 St. NW and 103 St. NW.
108	23	ELLERSLIE RD	Site is east of 111 St. Site is on the south side of Ellerslie Rd. in front of the Ellerslie Rugby Club.
43	21	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.
22	19	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.
100	19	TERWILLEGAR DRIVE NW	NE of Anthony Henday Dr. Site is on west side of Terwillegar Dr. NW 50 meters south of Haddow Dr.
89	17	19 AVENUE NW	Site just east of Gateway Boulevard NW on the north side of 19 Ave. NW across from Tim Horton's.
16	16	146 AVENUE NW	Site is West of 50 St. NW. Site is on the north side of 146 Ave. NW beginning in front of the Casselwood Shopping Centre and ending just before house #5116.
2	15	YELLOWHEAD TRAIL	Site is west of 190 St. between 184 St. and Anthony Henday Dr.
23	15	118 AVENUE NW	Site is on 118 Ave. at 38 St. NW. Site is on the north side of 118 Ave. NW and begins at Shoppers Drug Mart proceeding west 200'.
46	15	107A AVENUE NW	Site is west of 97 St. Site is on the north side of 107A Ave. NW beginning at 98 Street.
48	14	100 AVENUE NW	Site is west of 102 St. Site is on the north side of 100 Ave. NW across from Riverview Inn (was Econo Lodge) commencing at house #10207.
84	14	ROPER RD NW	Site is west of 59 St. NW. Site on the north side of Roper Rd. NW beginning at # 5918 CCI Thermal Technologies.
11	13	97 STREET NW	Site is on 97 St. south of 144 Ave.
17	13	KIRKNESS ROAD NW	Site is West of 30 St. NW. Site is on the north side of Kirkness Rd. NW in Kirkness Park immediately west of Kirbness School.
41	13	YELLOWHEAD TRAIL NW	Proceed east on Yellowhead Trail. Site on ramp to 82 St. NW. Site beginning at pumping station and proceeding west.
86	13	23 AVENUE NW	Site is west of 66 St. NW. Site is on the north side of 23 Ave. NW adjacent to Mill Wood Pk.

2017			
Site ID #:	Sm Litter	Street Name	Site Description
3	12	107 AVENUE NW	Site is on the south side of 107 Ave; East of Mayfield Road. Site is adjacent to Jasper Place Curling Club.
38	12	108 AVENUE NW	108 Ave. - West of 93 St., Site on north side of 108 Ave. NW beginning at the Baptist Fellowship Building.
47	12	103 AVENUE NW	Site is east of 101 St. . Site is on the north side of 103 Ave. beginning at SE corner of 101 St. in front of parking lot area opposite Capital Clean.
117	12	YELLOWHEAD TR	Travelling west on Yellowhead Tr. The site is on Yellowhead Tr. 200m east of the Winterburn exit.
40	11	91 STREET NW	91 STREET NW- N of 117 Ave. NW. Site is on east side of 91 St. NW beginning at house #11705.
123	11	109 STREET NW	Site is in front of the Highlevel Diner on 109 St. at 89 Ave. NW.
45	10	93 STREET NW	Site is north of 112 Ave., on the east side of 93 St. NW commencing at house #11207.
63	10	170 St - near West Edm Mall	Site is north of 90 Ave. NW. Site is on the east side of 170 St. commencing at 90 Ave.
70	10	68 AVENUE NW	Site is east of 109 St. NW . Site on 68 Ave. NW on north side of street commencing at intersection of 109 St. and 68 Ave. proceeding east for 200'.
104	10	199 STREET NW	Site is west of Anthony Henday and south of 45 Ave. NW. Site is on the east side of 199 St. NW terminating at 45 Ave. Site in front of River West Christian Church.
50	9	107 St. NW	Site is north of 109 Ave. on east side of the street commencing at the NE corner of 107 St and 109 Avenue in park across the street from the school yard..
121	9	112 AVENUE NW	Site is on the south side of 112 Ave. NW commencing 100 feet west of 82 St. NW and proceeding east. Site starts in front of the Highland's Plaza and continues in front of the Highland's Apt. Building.
122	9	50 STREET NW	Site is on 50 St. NW south of Manning Dr. and north of 137 Ave. NW. Site is in front of the Red Robin Restaurant. Site is in the Clareview Town Centre Site.
5	8	YELLOWHEAD TRAIL NW	Site is on the south side of Yellowhead Trail NW. Site is on the south side of the ramp to St. Albert Trail NW
13	8	88 STREET NW	Site is just north of 153 Ave. NW. Site is on 88 St. and begins at the corner of 156 Avenue proceeding north and beginning at house # 15615.
35	8	JASPER AVENUE NW	Site on south side of Jasper Ave. between 82 St & 83 St.
36	8	JASPER AVENUE NW	Jasper Ave. at 90 St. NW. Site is on west boulevard commencing at 90St. NW in front of Boardwalk Centre and proceeding south.
6	7	134 AVENUE NW	Site is west of 142 St. between 142 St. and St. Albert Trail on the north side of the street.
72	7	WHITEMUD AVENUE	Site is west of 106 St. NW on the ramp from Whitemud Avenue to 106 St. NW.
75	7	104 STREET NW	Site is north of 64 Ave. NW. Site is on the east side of 104 St., NW commencing at 64 Ave. at house #6404. NW.

2017			
Site ID #:	Sm Litter	Street Name	Site Description
85	7	50 STREET NW	Site is north of 44 Ave. NW. Site is on the west side of 50 St. NW commencing 200' North of 44 Ave. NW.
114	7	WAYNE GRETZKY DR.	Site is south of 119 Avenue in the Blvd. of parking lot B of Rexall Place on Wayne Gretzky Dr.
116	7	YELLOWHEAD TR	Traveling eastbound on Yellowhead Trail the site is just before the Victoria Trail exit.
18	6	EVERGREEN DRIVE NW	Site is East of Fir Ave. NW. Site on Evergreen Dr. NW begins at East Boundary of Community Park and ends at the West boundary at Evergreen Way.
32	6	77 STREET NW	Site on 77 St. NW south of 121 Ave. NW. Site is on east side of 77 St. commencing at house # 12118.
54	6	103 AVENUE NW	Site is west of 137 St. NW. Site is on the north side of 103 Ave. NW commencing at house # 13703.
120	6	92 STREET NW	Site is on 92 St. NW commencing at 106A Ave. where the LRT crossing is.
44	5	113 AVENUE NW	Site is on the north side of 113 Ave. NW west of 97 St.
52	5	57 STREET NW	Victoria Trail & 118 Avenue: Start at NE corner of 57 St and 122 Ave, proceed North
69	5	51 AVENUE NW	Site is east of 114A St. NW. Site on south side of 51 Ave. NW commencing at house # 11415 proceeding east 200'.
87	5	94 STREET NW	Site is north of 45 Ave. NW. Site is on the west side of 94 St. NW between Dresser-Rand and Daco Industries Inc.
91	5	111 STREET NW	Site is north of 40 Ave. NW. Site on west side of 111 St. NW. Site moved due to construction.
1	4	WESTVIEW BLVD. NW	Site is on the south side of Westview Blvd. at the intersection of Westview Blvd. and Winterburn Rd.
28	4	127 AVENUE NW	Turn left (west) onto 127 Ave. Site on 127 Ave NW beginning at the north west corner of 67 St.
64	4	170 St - south of West Edmonton Mall	Site on west side of 170 St. south of 69 Avenue. just south of the Husky Station.
110	4	MERIDIAN ST	Site is north of West Railway St. Site on west side of Meridian St. commencing at RR warning sign and proceeding south.
119	4	JASPER AVENUE NW	Site is in Rice Howard Way. Site is on the south side of Jasper Ave. beginning at 100A St. and proceeding east.
29	3	127 AVENUE NW	Proceeding west on Yellowhead Trail, turn north onto 66 St. and proceed to 127 Ave. NW. Turn west onto 127 Ave. Site begins west of 73 St.
42	3	95 STREET NW	Site on 95 ST. NW North of 124 Ave. commencing at house # 12402. Site on east side of 95 St. commencing at corner of 124 Ave. and 95 St.
66	3	89 AVENUE NW	Site is west of 213 St. NW - 21303. Site is on the north side of 89 Ave. NW commencing at intersection of 213 St. and 89 Ave. at house #21303.
95	3	OCKENDEN PLACE NW	Site is east of Rabbit Hill Rd NW. Site on east side of Ockenden Place NW commencing at fire hydrant # 12916.

2017			
Site ID #:	Sm Litter	Street Name	Site Description
102	3	CAMERON HEIGHTS DR.	Off of Anthony Henday NW. Site commencing at corner of Cameron Heights Dr. and Caldwell Way on east side of street proceeding north.
109	3	16A AVENUE	Site on south side of 16A Avenue east of 34 St. NW commencing at house #3415.
8	2	123A STREET NW	Site is north of 131 Ave. NW and south of 132 Ave. NW in front of Chalmers Park.
37	2	106A AVENUE NW	Site is on north side of 106A NW commencing at 93 St. at house # 10640.
39	2	110 AVENUE NW	110 Ave. - West of 92 St. NW - 9003-9123. Site is on south side of 110 Ave. across from St. Marta Rectory in front of parking lot.
61	2	160 STREET NW	Site is north of 91 Ave. NW. Site on the east side of 160 street NW across the street from house #9131. Site is in front of Meadowlark Public School.
73	2	104A STREET NW	Site is north of 52 Ave. NW. Site is on the east side of 104 A St. NW beginning at house # 5219.
74	2	GATEWAY BOULEVARD NW	Just N of 51 Ave. NW. Site on east side of Gateway Blvd. NW along Koch Motors fence line.
78	2	94 STREET NW	Site is north of 92 Ave. NW. Site is on the east side of 94 Street NW in front of the park commencing at house # 9230.
83	2	70 AVENUE NW	Site is on 70 Avenue NW just east of 17 St. NW commencing at the corner of 17 St. NW and 70 Ave. in front of Precision Coatings & Hydraulics.
93	2	35 AVENUE NW	Site is west of 113 St. NW across from house # 11347. Site on north side of 35 Avenue commencing at 114 St. NW in parkland.
96	2	BULYEA ROAD NW	Just N of OEMING RD - 221. Site on east side of Bulyea Rd. commencing at house # 221.
97	2	BURTON ROAD NW	East of Terwillegar Rd. and north of Butterworth Dr. Site on east side of Burton Road commencing at bus stop 4383 along Aspen Gardens Parkland.
106	2	205 STREET NW	Site is on 205 St. NW just south of 60 Ave. NW.
111	2	154 AVENUE NW	Site is on 154 Ave. NW; west of 133 St. NW. Site begins at house # 13322 and proceeds to house # -13342.
7	1	135A AVENUE NW	Site is on the south side of 135A Avenue commencing at intersection of 131 St. and 135A Avenue.
19	1	28 STREET NW	Site is South of 137 Ave. and North of 136 Ave. Site on 28 St. NW begins at house #13605.
20	1	42 STREET NW	Site is South of 132A Ave. and North of 131 Ave. Site on 42 St. NW begins at house #13107 and ends at #13203.
30	1	128 AVENUE NW	Site on 128 Ave. NW just west 78 St. Site on north side of 128 Ave. beginning at house # 7907.

2017			
Site ID #:	Sm Litter	Street Name	Site Description
53	1	106 AVENUE NW	Site is west of 129 St. NW. Site is on the south side of 106 Ave. commencing at the corner of 106 Ave. and 129 St. NW at house # 12930.
55	1	141 STREET NW	Site is north of 107A Ave. NW - Site is on the east side of 141 St. NW commencing at house #10703.
58	1	145 STREET NW	Site is south of 82 Ave. NW. Site is on the west side of 145 St. NW commencing at 82 Ave. NW.
62	1	164 STREET NW	Site is south of 88 Ave. and north of 87 Ave. Site is on the east side of 164 St. NW commencing in front of house #8707.
67	1	219 STREET NW	219 STREET NW - North of 94A Ave. NW. House #9461
79	1	75 STREET NW	Site is north of 96A Ave. NW. Site on right boulevard (east side) of 75 St. NW commencing at 96A Ave.
92	1	114 STREET NW	Site is south of 42 Ave. NW. Site on the west side of 114 St. NW commencing at 42 Ave. NW at house #4204.
94	1	32 AVENUE NW	Site is east of 115 and west of 114 St. NW. Site on the south side of 32 Ave. NW commencing at house # 11404.
103	1	WEDGEWOOD BLVD	Site is on Wedgewood Blvd. - E of Anthony Henday Dr. and south of Lessard. Site is on Wedgewood Blvd. across from house #1190 beginning at the first lamp post and proceeding north, in Parkland.
112	1	116 STREET NW	Site is north of 32A Ave. NW. Site is on 116 St. NW commencing at house #11604.
118	1	199 STREET NW	Site is on 199 St. NW north of 107 Ave. NW beginning at the entrance to M.A.P. on the east side of the road.
4	0	155 STREET NW	Site is south of 128 Ave. NW. Site is on 155 St. NW across from the Hexion chemicals gate on the west side of the street.
9	0	129 AVENUE NW	Site is on 129 Avenue NW between 119 St. NW and 117 St. NW. Beginning at house # 11804 and proceeding east to house #11822.
10	0	113A STREET NW	Site is on 113A St. north of 134 Ave. NW beginning at house #13419 and ending at house # 13435.
12	0	173A AVENUE NW	Site is on 173A Avenue; west of 108 St. NW and east of 115 St. NW; between house #'s 10810 and 10834.
14	0	168A AVENUE NW	Site is on 168A Avenue NW. Site is west of 76 St. NW and east of 79 St.
15	0	63 STREET NW	Site is north of 144A Ave. NW. Site is on 63 St. beginning at house # 1407 and ending at house # 14419.
24	0	30 STREET NW	Victoria Trail & 118 Ave. Going west on 118 Ave. turn left onto 34 St. then left onto 113 Ave. Proceed to 30 St. NW on right. Site is on 30 St. NW on west side of street beginning at the corner of 113 Ave. and 30 St. NW.
25	0	124 AVENUE NW	Victoria Trail & 118 Avenue: Proceed west on 118 Ave. and turn right onto 50 St. Proceed to 123 and turn left. Take next right onto 51 St. and proceed to 124 Ave. NW. Site is on the north side of 124 Ave. beginning at house # 5104.
26	0	121 AVENUE NW	118 Ave. & 50 St.: Proceed west on 118 Ave. to 62 St. NW. Turn right and proceed north to 121 Ave. Turn left onto 121 Avenue. Site on 121 Ave. NW begins at the SE corner of 63 St. & 121 Ave. N.

2017			
Site ID #:	Sm Litter	Street Name	Site Description
27	0	66 STREET NW	66th St. NW - just south of Yellowhead Trail and north of 122 Ave. Going west on 118 Ave. turn right onto 66 ST. NW and proceed north to 122 Avenue NW. Site begins at the SE corner of 66 St. and 122 Ave. proceeding east.
31	0	81 STREET NW	Site on west side of 81 St. NW south of 123 Ave.. Site begins at house # 12224 proceeding south for 200'.
51	0	120 AVENUE NW	Site is west of 124 St. Site is on the north side of 120 Ave. beginning at house #12402.
56	0	144A STREET NW	Site is north of 107 Ave. NW and east of McQueen Rd NW. Site is on the north side of 144A St. NW in front of McQueen Pk. Commencing in front of the 144A St.
57	0	146 STREET NW	Site is north of 106 Ave. NW. Site is on the west side of 146 St. NW commencing at house # 10607.
59	0	RIO TERRACE DRIVE NW	Site is west of 151 St. NW. Site is on the north side of Rio Terrace Dr. NW commencing across the street from house #14902.
60	0	154 STREET NW	Site is north of 76 Ave. NW. Site is on the west side of 154 St. NW commencing at the NE corner of the school yard of Rio Terrace Elementary School.
65	0	90 AVENUE NW	Site is west of 184 St. NW. Site is on the north side of 90 Ave. NW commencing at intersection of 90 Ave. And 184 St. at house #18403.
68	0	117A STREET NW	Site is north of Whitemud & 46 Ave. NW. Site on east side of 117A north of 46 Ave. commencing at house # 46076.
71	0	110 STREET NW	Site is north of 64 Ave. NW and south of 65 Ave. NW. Site is on the west side of 110 St. NW commencing at 65 Ave. NW and proceeding south for 200'.
77	0	73 AVENUE NW	Site is west of 91 St. NW . Site on north side of 73 Avenue NW at commencing at 91 St.
80	0	106 AVENUE NW	Site is east of 48 St. NW. Site on the south side of 106 Ave. NW commencing at 48 St.. NW in front of Bible Church.
81	0	68 STREET NW	Site is north of 89 Ave. NW. Site on east side of 68 St. commencing at 89 Ave. NW.
88	0	99 STREET NW	Site is north of 45 Ave. NW. Site on the east side of 99 St., NW commencing at house # 4505 just north of the bus stop.
90	0	33 AVENUE NW	Site is west of 108 St. NW. Site on north side of 33 Ave. NW commencing at house # 10808.
98	0	49 AVENUE NW	Site is east of 151 St. NW. Site on east side of 49 Ave. NW proceeding north and commencing opposite house # 15164.
99	0	ROUTLEDGE ROAD NW	Site is north of Rabbit Hill Rd. Site is on the north side of Roulledge Rd. NW commencing opposite house # 301 and proceeds west.
105	0	54 AVENUE NW	54 Site is west of 202 St. NW. Site is on the south side of 54 Ave. NW commencing at house #20203.
107	0	199 STREET NW	Site is on the west side of 199 St. NW commencing north of 23 Ave.
113	0	99 AVENUE NW	Site is west of 89 St. NW. Site is on the south side of 99 Avenue NW across from the River Grande Condo Development.. Site commences at 92 St. NW and proceeds east.

2017			
Site ID #:	All Litter	Street Name	Site Description
21	85	50 STREET NW	Site is just south of Hermitage Rd. south of Kennedale Shopping Centre.
34	82	80 STREET NW	80 St NW - just North of 116 Ave. Site is 100m north of 116 Ave. adjacent to Parkdale recycling depot.
101	68	ANTHONY HENDAY DR.	Site is on Anthony Henday Dr - West of 127 St. NW and East of 142 St. NW. Site on south side of Anthony Henday Dr. 300 ft east of the White Mud Creek sign.
82	65	92 AVENUE NW	Site is west of 34 St. NW. Site on the north side of 92 Avenue in front of the street from Esso Distribution #9210.
49	61	JASPER AVENUE	Site is west of 111 St. NW. Site on South side of Jasper Ave. commencing at bus stop #1466 and proceeding east. Site is in front of Covenant Health Edmonton General
46	52	107A AVENUE NW	Site is west of 97 St. Site is on the north side of 107A Ave. NW beginning at 98 Street.
33	50	119 AVENUE NW	Site north of Coliseum Transit Centre (76 St. NW) . Site on south side of 119 Ave. NW between 77 St. and 78 St. in front of James Kidney Park.
43	50	117 AVENUE NW	117 AVENUE NW - End of site is at corner of 101 St and 117 Ave. Site is between 101 St and 102 St.
36	43	JASPER AVENUE NW	Jasper Ave. at 90 St. NW. Site is on west boulevard commencing at 90St. NW in front of Boardwalk Centre and proceeding south.
22	42	YELLOWHEAD TRAIL	Site on Yellowhead Tr. Site is 500m East of 50 St. and West of Victoria Trail.
89	41	19 AVENUE NW	Site just east of Gateway Boulevard NW on the north side of 19 Ave. NW across from Tim Horton's.
100	39	TERWILLEGAR DRIVE NW	NE of Anthony Henday Dr. Site is on west side of Terwillegar Dr. NW 50 meters south of Haddow Dr.
50	33	107 St. NW	Site is north of 109 Ave. on east side of the street commencing at the NE corner of 107 St and 109 Avenue in park across the street from the school yard..
115	33	JASPER AVENUE NW	Site is on the south side of Jasper Avenue NW between 102 St. NW and 103 St. NW.
2	32	YELLOWHEAD TRAIL	Site is west of 190 St. between 184 St. and Anthony Henday Dr.
16	31	146 AVENUE NW	Site is West of 50 St. NW. Site is on the north side of 146 Ave. NW beginning in front of the Casselwood Shopping Centre and ending just before house #5116.
76	31	82 AVENUE ( Whyte Ave.)	Site is on 82 Ave. NW just west of 105 St.
40	28	91 STREET NW	91 STREET NW- N of 117 Ave. NW. Site is on east side of 91 St. NW beginning at house #11705.
41	28	YELLOWHEAD TRAIL NW	Proceed east on Yellowhead Trail. Site on ramp to 82 St. NW. Site beginning at pumping station and proceeding west.
75	28	104 STREET NW	Site is north of 64 Ave. NW. Site is on the east side of 104 St., NW commencing at 64 Ave. at house #6404. NW.
120	28	92 STREET NW	Site is on 92 St. NW commencing at 106A Ave. where the LRT crossing is.
5	28	YELLOWHEAD TRAIL NW	Site is on the south side of Yellowhead Trail NW. Site is on the south side of the ramp to St. Albert Trail NW
108	28	ELLERSLIE RD	Site is east of 111 St. Site is on the south side of Ellerslie Rd. in front of the Ellerslie Rugby Club.
38	27	108 AVENUE NW	108 Ave. - West of 93 St., Site on north side of 108 Ave. NW beginning at the Baptist Fellowship Building.
45	23	93 STREET NW	Site is north of 112 Ave., on the east side of 93 St. NW commencing at house #11207.
116	23	YELLOWHEAD TR	Traveling eastbound on Yellowhead Trail the site is just before the Victoria Trail exit.
117	23	YELLOWHEAD TR	Travelling west on Yellowhead Tr. The site is on Yellowhead Tr. 200m east of the Winterburn exit.

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28	22	127 AVENUE NW	Turn left (west) onto 127 Ave. Site on 127 Ave NW beginning at the north west corner of 67 St.
47	22	103 AVENUE NW	Site is east of 101 St. . Site is on the north side of 103 Ave. beginning at SE corner of 101 St. in front of parking lot area opposite Capital Clean.
11	21	97 STREET NW	Site is on 97 St. south of 144 Ave.
63	21	170 St - near West Edm Mall	Site is north of 90 Ave. NW. Site is on the east side of 170 St. commencing at 90 Ave.
86	21	23 AVENUE NW	Site is west of 66 St. NW. Site is on the north side of 23 Ave. NW adjacent to Mill Wood Pk.
32	19	77 STREET NW	Site on 77 St. NW south of 121 Ave. NW. Site is on east side of 77 St. commencing at house # 12118.
110	19	MERIDIAN ST	Site is north of West Railway St. Site on west side of Meridian St. commencing at RR warning sign and proceeding south.
121	19	112 AVENUE NW	Site is on the south side of 112 Ave. NW commencing 100 feet west of 82 St. NW and proceeding east. Site starts in front of the Highland's Plaza and continues in front of the Highland's Apt. Building.
17	19	KIRKNESS ROAD NW	Site is West of 30 St. NW. Site is on the north side of Kirkness Rd. NW in Kirkness Park immediately west of Kirbness School.
3	17	107 AVENUE NW	Site is on the south side of 107 Ave; East of Mayfield Road. Site is adjacent to Jasper Place Curling Club.
122	17	50 STREET NW	Site is on 50 St. NW south of Manning Dr. and north of 137 Ave. NW. Site is in front of the Red Robin Restaurant. Site is in the Clareview Town Centre Site.
23	16	118 AVENUE NW	Site is on 118 Ave. at 38 St. NW. Site is on the north side of 118 Ave. NW and begins at Shoppers Drug Mart proceeding west 200'.
48	16	100 AVENUE NW	Site is west of 102 St. Site is on the north side of 100 Ave. NW across from Riverview Inn (was Econo Lodge) commencing at house #10207.
70	16	68 AVENUE NW	Site is east of 109 St. NW . Site on 68 Ave. NW on north side of street commencing at intersection of 109 St. and 68 Ave. proceeding east for 200'.
123	16	109 STREET NW	Site is in front of the Highlevel Diner on 109 St. at 89 Ave. NW.
31	15	81 STREET NW	Site on west side of 81 St. NW south of 123 Ave.. Site begins at house # 12224 proceeding south for 200'.
84	15	ROPER RD NW	Site is west of 59 St. NW. Site on the north side of Roper Rd. NW beginning at # 5918 CCI Thermal Technologies.
104	15	199 STREET NW	Site is west of Anthony Henday and south of 45 Ave. NW. Site is on the east side of 199 St. NW terminating at 45 Ave. Site in front of River West Christian Church.
118	14	199 STREET NW	Site is on 199 St. NW north of 107 Ave. NW beginning at the entrance to M.A.P. on the east side of the road.
35	13	JASPER AVENUE NW	Site on south side of Jasper Ave. between 82 St & 83 St.
44	13	113 AVENUE NW	Site is on the north side of 113 Ave. NW west of 97 St.
114	13	WAYNE GRETZKY DR.	Site is south of 119 Avenue in the Blvd. of parking lot B of Rexall Place on Wayne Gretzky Dr.
52	12	57 STREET NW	Victoria Trail & 118 Avenue: Start at NE corner of 57 St and 122 Ave, proceed North
72	12	WHITEMUD AVENUE	Site is west of 106 St. NW on the ramp from Whitemud Avenue to 106 St. NW.
119	12	JASPER AVENUE NW	Site is in Rice Howard Way. Site is on the south side of Jasper Ave. beginning at 100A St. and proceeding east.



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13	11	88 STREET NW	Site is just north of 153 Ave. NW. Site is on 88 St. and begins at the corner of 156 Avenue proceeding north and beginning at house # 15615.
87	11	94 STREET NW	Site is north of 45 Ave. NW. Site is on the west side of 94 St. NW between Dresser-Rand and Daco Industries Inc.
29	10	127 AVENUE NW	Proceeding west on Yellowhead Trail, turn north onto 66 ST. and proceed to 127 Ave. NW. Turn west onto 127 Ave. Site begins west of 73 St.
51	10	120 AVENUE NW	Site is west of 124 St. Site is on the north side of 120 Ave. beginning at house #12402.
85	10	50 STREET NW	Site is north of 44 Ave. NW. Site is on the west side of 50 St. NW commencing 200' North of 44 Ave. NW.
6	9	134 AVENUE NW	Site is west of 142 St. between 142 St. and St. Albert Trail on the north side of the street.
64	9	170 St - south of West Edmonton Mall	Site on west side of 170 St. south of 69 Avenue. just south of the Husky Station.
8	8	123A STREET NW	Site is north of 131 Ave. NW and south of 132 Ave. NW in front of Chalmers Park.
18	8	EVERGREEN DRIVE NW	Site is East of Fir Ave. NW. Site ion Evergreen Dr. NW begins at East Boundary of Community Park and ends at the West boundary at Evergreen Way.
37	8	106A AVENUE NW	Site is on north side of 106A NW commencing at 93 St. at house # 10640.
10	7	113A STREET NW	Site is on 113A St. north of 134 Ave. NW beginning at house #13419 and ending at house # 13435.
54	6	103 AVENUE NW	Site is west of 137 St. NW. Site is on the north side of 103 Ave. NW commencing at house # 13703.
69	6	51 AVENUE NW	Site is east of 114A St. NW. Site on south side of 51 Ave. NW commencing at house # 11415 proceeding east 200'.
83	6	70 AVENUE NW	Site is on 70 Avenue NW just east of 17 St. NW commencing at the corner of 17 St. NW and 70 Ave. in front of Precision Coatings & Hydraulics.
91	6	111 STREET NW	Site is north of 40 Ave. NW. Site on west side of 111 St. NW. Site moved due to construction.
95	6	OCKENDEN PLACE NW	Site is east of Rabbit Hill Rd NW. Site on east side of Ockenden Place NW commencing at fire hydrant # 12916.
27	5	66 STREET NW	66th St. NW - just south of Yellowhead Trail and north of 122 Ave. Going west on 118 Ave. turn right onto 66 ST. NW and proceed north to 122 Avenue NW. Site begins at the SE corner of 66 St. and 122 Ave. proceeding east.
39	5	110 AVENUE NW	110 Ave. - West of 92 St. NW - 9003-9123. Site is on south side of 110 Ave. across form St. Marta Rectory in front of parking lot.
61	5	160 STREET NW	Site is north of 91 Ave. NW. Site on the east side of 160 street NW across the street form house #9131. Site is in front of Meadowlark Public School.
66	5	89 AVENUE NW	Site is west of 213 St. NW - 21303. Site is on the north side of 89 Ave. NW commencing at intersection of 213 St. and 89 Ave. at house #21303.
73	5	104A STREET NW	Site is north of 52 Ave. NW. Site is on the east side of 104 A St. NW beginning at house # 5219.
106	5	205 STREET NW	Site is on 205 St. NW just south of 60 Ave. NW.
109	5	16A AVENUE	Site on south side of 16A Avenue east of 34 St. NW commencing at house #3415.
1	4	WESTVIEW BLVD. NW	Site is on the south side of Westview Blvd. at the intersection of Westview Blvd. and Winterburn Rd.
9	4	129 AVENUE NW	Site is on 129 Avenue NW between 119 St. NW and 117 St. NW. Beginning at house # 11804 and proceeding east to house #11822.

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Site ID #:	All Litter	Street Name	Site Description
96	4	BULYEA ROAD NW	Just N of OEMING RD - 221. Site on east side of Bulyea Rd. commencing at house # 221.
102	4	CAMERON HEIGHTS DR.	Off of Anthony Henday NW. Site commencing at corner of Cameron Heights Dr. and Caldwell Way on east side of street proceeding north.
30	3	128 AVENUE NW	Site on 128 Ave. NW just west 78 St. Site on north side of 128 Ave. beginning at house # 7907.
42	3	95 STREET NW	Site on 95 ST. NW North of 124 Ave. commencing at house # 12402. Site on east side of 95 St. commencing at corner of 124 Ave. and 95 St.
74	3	GATEWAY BOULEVARD NW	Just N of 51 Ave. NW. Site on east side of Gateway Blvd. NW along Koch Motors fence line.
79	3	75 STREET NW	Site is north of 96A Ave. NW. Site on right boulevard (east side) of 75 St. NW commencing at 96A Ave.
81	3	68 STREET NW	Site is north of 89 Ave. NW. Site on east side of 68 St. commencing at 89 Ave. NW.
93	3	35 AVENUE NW	Site is west of 113 St. NW across from house # 11347. Site on north side of 35 Avenue commencing at 114 St. NW in parkland.
97	3	BURTON ROAD NW	East of Terwillegar Rd. and north of Butterworth Dr. Site on east side of Burton Road commencing at bus stop 4383 along Aspen Gardens Parkland.
111	3	154 AVENUE NW	Site is on 154 Ave. NW; west of 133 St. NW. Site begins at house # 13322 and proceeds to house # -13342.
12	2	173A AVENUE NW	Site is on 173A Avenue; west of 108 St. NW and east of 115 St. NW; between house #'s 10810 and 10834.
19	2	28 STREET NW	Site is South of 137 Ave. and North of 136 Ave. Site on 28 St. NW begins at house #13605.
55	2	141 STREET NW	Site is north of 107A Ave. NW - Site is on the east side of 141 St. NW commencing at house #10703.
60	2	154 STREET NW	Site is north of 76 Ave. NW. Site is on the west side of 154 St. NW commencing at the NE corner of the school yard of Rio Terrace Elementary School.
68	2	117A STREET NW	Site is north of Whitemud & 46 Ave. NW. Site on east side of 117A north of 46 Ave. commencing at house # 46076.
78	2	94 STREET NW	Site is north of 92 Ave. NW. Site is on the east side of 94 Street NW in front of the park commencing at house # 9230.
92	2	114 STREET NW	Site is south of 42 Ave. NW. Site on the west side of 114 St. NW commencing at 42 Ave. NW at house #4204.
7	1	135A AVENUE NW	Site is on the south side of 135A Avenue commencing at intersection of 131 St. and 135A Avenue.
20	1	42 STREET NW	Site is South of 132A Ave. and North of 131 Ave. Site on 42 St. NW begins at house #13107 and ends at #13203.
24	1	30 STREET NW	Victoria Tail & 118 Ave. Going west on 118 Ave. turn left onto 34 St. then left onto 113 Ave. Proceed to 30 St. NW on right. Site is on 30 St. NW on west side of street beginning at the corner of 113 Ave. and 30 St. NW.
53	1	106 AVENUE NW	Site is west of 129 St. NW. Site is on the south side of 106 Ave. commencing at the corner of 106 Ave. and 129 St. NW at house # 12930.
56	1	144A STREET NW	Site is north of 107 Ave. NW and east of McQueen Rd NW. Site is on the north side of 144A St. NW in front of McQueen Pk. Commencing in front of the 144A St.
58	1	145 STREET NW	Site is south of 82 Ave. NW. Site is on the west side of 145 St. NW commencing at 82 Ave. NW.
62	1	164 STREET NW	Site is south of 88 Ave. and north of 87 Ave. Site is on the east side of 164 St. NW commencing in front of house #8707.

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67	1	219 STREET NW	219 STREET NW - North of 94A Ave. NW. House #9461
71	1	110 STREET NW	Site is north of 64 Ave. NW and south of 65 Ave. NW. Site is on the west side of 110 St. NW commencing at 65 Ave. NW and proceeding south for 200'.
80	1	106 AVENUE NW	Site is east of 48 St. NW. Site on the south side of 106 Ave. NW commencing at 48 St.. NW in front of Bible Church.
90	1	33 AVENUE NW	Site is west of 108 St. NW. Site on north side of 33 Ave. NW commencing at house # 10808.
94	1	32 AVENUE NW	Site is east of 115 and west of 114 St. NW. Site on the south side of 32 Ave. NW commencing at house # 11404.
103	1	WEDGEWOOD BLVD	Site is on Wedgewood Blvd. - E of Anthony Henday Dr. and south of Lessard. Site is on Wedgewood Blvd. across from house #1190 beginning at the first lamp post and proceeding north, in Parkland.
107	1	199 STREET NW	Site is on the west side of 199 St. NW commencing north of 23 Ave.
112	1	116 STREET NW	Site is north of 32A Ave. NW. Site is on 116 St. NW commencing at house #11604.
4	0	155 STREET NW	Site is south of 128 Ave. NW. Site is on 155 St. NW across from the Hexion chemicals gate on the west side of the street.
14	0	168A AVENUE NW	Site is on 168A Avenue NW. Site is west of 76 St. NW and east of 79 St.
15	0	63 STREET NW	Site is north of 144A Ave. NW. Site is on 63 St. beginning at house # 1407 and ending at house # 14419.
25	0	124 AVENUE NW	Victoria Trail & 118 Avenue: Proceed west on 118 Ave. and turn right onto 50 St. Proceed to 123 and turn left. Take next right onto 51 St. and proceed to 124 Ave. NW. Site is on the north side of 124 Ave. beginning at house # 5104.
26	0	121 AVENUE NW	118 Ave. & 50 St.: Proceed west on 118 Ave. to 62 St. NW. Turn right and proceed north to 121 Ave. Turn left onto 121 Avenue. Site on 121 Ave. NW begins at the SE corner of 63 St. & 121 Ave. N.
57	0	146 STREET NW	Site is north of 106 Ave. NW. Site is on the west side of 146 St. NW commencing at house # 10607.
59	0	RIO TERRACE DRIVE NW	Site is west of 151 St. NW. Site is on the north side of Rio Terrace Dr. NW commencing across the street from house #14902.
65	0	90 AVENUE NW	Site is west of 184 St. NW. Site is on the north side of 90 Ave. NW commencing at intersection of 90 Ave. And 184 St. at house #18403.
77	0	73 AVENUE NW	Site is west of 91 St. NW . Site on north side of 73 Avenue NW at commencing at 91 St.
88	0	99 STREET NW	Site is north of 45 Ave. NW. Site on the east side of 99 St., NW commencing at house # 4505 just north of the bus stop.
98	0	49 AVENUE NW	Site is east of 151 St. NW. Site on east side of 49 Ave. NW proceeding north and commencing opposite house # 15164.
99	0	ROUTLEDGE ROAD NW	Site is north of Rabbit Hill Rd. Site is on the north side of Routedge Rd. NW commencing opposite house # 301 and proceeds west.
105	0	54 AVENUE NW	54 Site is west of 202 St. NW. Site is on the south side of 54 Ave. NW commencing at house #20203.
113	0	99 AVENUE NW	Site is west of 89 St. NW. Site is on the south side of 99 Avenue NW across from the River Grande Condo Development.. Site commences at 92 St. NW and proceeds east.