

Falcon Heights Environment Commission
March 12th, 2018
6:30 p.m.

Agenda

ROLL CALL: Chair Wassenberg _____ Patricia Holmes _____
Nick Olson _____ Farook Meah _____
Martin McCleery _____
Council Liaison Lindstrom _____ Staff Liaison Moretto _____

- 1) Approval of Minutes – January 2018
- 2) News and Announcements
- 3) LED Bulbs – Paul
- 4) Spring Event – Holmes
- 5) SolSmart Update – Paul
- 6) Recycling End of the Year Report – Paul
- 7) City-wide Newsletter

Next Meeting: April 9th, 2018

If you have a disability and need accommodation in order to attend this meeting, please notify City Hall 48 hours in advance between the hours of 8:00 a.m. and 4:30 p.m. at 651-792-7600. We will be happy to help.

Falcon Heights Environment Commission
January 8th, 2018
6:30 p.m.
Meeting Minutes

Present: Chair Wassenber, Vice Chair Meah, Secretary Olson, Liaison Moretto, Mayor Lindstrom, and Commissioners: McCleery and Holmes.

1) Approval of Minutes- December 2017

2) Election of Officers

The Commission elected new officers to fill the vacancies for Chair and Vice Chair. James Wassenberg is the new chair and Farook Meah is the new Vice Chair.

3) LED Bulbs -Wassenberg

James Wassenberg updated the Commission on the subcommittee work on the Watts and Drops initiative from CERTS to purchase LED bulbs in bulk to distribute to Falcon Heights residents. 579 bulbs of the 1000 bulb allotted have been purchased. 200 of those have been distributed to multi-unit homes. Additional distribution methods will be rolled out to reach more citizens in the coming weeks.

4) Earth Day- Holms

Patti Holmes provided the Commission an updated proposal to host an Earth Day/Sustainability Fair. A detailed handout was given out at the last meeting with a number of possible participants, several of which have responded and have agreed to help out. The Commission discussed possible additional participants, and will continue to reach out.

5) News and Announcements

- Liaison Moretto reported to the Commission that WSB has been hired to help the City with the Comprehensive Plan. A visioning meeting will be held to understand City priorities.
- Liaison Moretto also shared information about a PUD (plan unit development) for multi-unit housing next to Good Acre. Commission discussed ways to incorporate electric vehicle charging at the property. One way would be for the Chair to attend the Planning Commission and recommend the inclusion.

Adjournment: Meeting was adjourned at 7:45 PM.

Next Meeting: Monday, February 12th, 2018

2017

Falcon Heights Recycling Report



Greg & Willie Tennis
Tennis Sanitation LLC.
1/31/2018

Prepared by: Angela Hamann



Index of Recycling Report

Letter of Purpose.....	Page 2
Recycling Data Summary.....	Page 3
Recycling Data (Single Family).....	Page 4
Recycling Data (Multi-family).....	Page 5
Multi-family individual summary letter.....	Page 6
Inquiries and Linens Summary.....	Page 7
Composite Study.....	Page 8
Environmental Impact Analysis.....	Page 9
Market Report - the end markets.....	Page 10
Summary of Year-end Recycling Report.....	Page 11

Appendix of Recycling Report

Recycling Report Summary (ALL).....	Appendix A
Recycling Report (Multi-family).....	Appendix B
Monthly Recycling Report Letter (Example).....	Appendix C
Monthly Multi-family Report Data (Example).....	Appendix D
Monthly Single Family Report Data (Example)....	Appendix E

TENNIS RECYCLING



January 31st, 2018

City of Falcon Heights
2077 Larpenteur Avenue West
Falcon Heights, MN 55113-5594

RE: LETTER OF PURPOSE

Dear City of Falcon Heights,

This 2017 Year-end recycling report has been prepared for the City of Falcon Heights.

The report contains summaries of recycling data for both single family and multi-family dwellings. Including but limited to: inquiries, composite study information, environmental impact report and a market report of recycling markets, along with a final summary of the report.

This year's report we have included six years of comparison data to help measure the success of the recycling program including participation.

The data in this report will assist us in developing a better understanding of the past, present and future progress of the City of Falcon Heights recycling program.

Sincerely,

Greg & Willie Tennis

Greg and Willie Tennis
Tennis Sanitation



RECYCLING DATA SUMMARY

In this report we have compiled annual data from both single family and multi-family dwellings (SEE APPENDIX A). This data includes:

- Net tonnage of all residential and multi-family dwellings combined (tan/black)
- Break-out of single family tonnage and set-out rates (yellow)
- Break-out of multi-family tonnage (blue)
- Separate measurement of weights for linens (APPENDIX A)
- Break-out of single family recycling materials by type and weight (yellow)
- Break-out of multi-family recycling materials by type and weight (blue)
- Break-out of combined tonnages (green)
- Inquiries tracked per month (bottom of APPENDIX A)

The data is compiled from recyclable materials collected from our drivers on a designated Falcon Heights route. Loads are weighed; weights are then compiled over a month's period of time. Weights are broken out based on a composite ratio of the entire load.



RECYCLING DATA (SINGLE FAMILY)

The Single-Family Data in APPENDIX A (yellow) was compiled from the single family homes after taking out the multi-family weights. From this data – we are able to illustrate the weight per home (in lbs.) per month. We also have monitored "participation" by route. The data from the routes is compiled from the Single-Family data spreadsheet which details each route and the total tons collected (APPENDIX E).

In analyzing the single-family data, we are able to provide the following observations:

- 2017 Average lbs. per household per month = 51.67 lbs. per month
 - 2016 comparison data: Average lbs. per household per month = 53.95 lbs. per month
 - 2015 comparison data: Average lbs. per household per month = 52.10 lbs. per month
 - 2014 comparison data: Average lbs. per household per month = 57.54 lbs. per month
 - 2013 comparison data: Average lbs. per household per month = 54.86 lbs. per month
 - 2012 comparison data: Average lbs. per household per month = 54.76 lbs. per month
 - 2011 comparison data: Average lbs. per household per month = 54.82 lbs. per month

- 2017 Annual Net total tons collected for single family were 381.96 tons.
 - 2016 comparison data: Annual Net total tons collected for single family were 398.83
 - 2015 comparison data: Annual Net total tons collected for single family were 385.12
 - 2014 comparison data: Annual Net total tons collected for single family were 425.36
 - 2013 comparison data: Annual Net total tons collected for single family were 405.54
 - 2012 comparison data: Annual Net total tons collected for single family were 404.80
 - 2011 comparison data: Annual Net total tons collected for single family were 405.26

Other New Data Collected: Participation Percentage of Residents

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVRG
2017	96%	96%	96%	97%	97%	98%	98%	98%	96%	97%	97%	96%	97%
2016	97%	95%	95%	97%	97%	97%	97%	97%	98%	97%	96%	98%	97%
2015	94%	92%	95%	95%	96%	96%	96%	96%	95%	97%	96%	97%	95%
2014	94%	96%	93%	95%	96%	96%	95%	96%	96%	96%	93%	94%	95%
2013	94%	92%	95%	94%	97%	96%	97%	97%	96%	93%	95%	94%	94%

Additional Trends: Though the weight averages and total tonnage is down from last year's numbers. The overall numbers are still similar in comparison to other Cities which we service. There are many factors that can affect this number which may include the economy and residents local buying habits.



RECYCLING DATA (MULTI-FAMILY)

The data in APPENDIX A (Blue) is the actual data compiled from net total weight family homes after factoring-out the multi-family weights. From this data – we are able to illustrate the weight per unit (in lbs.) per month. To assist us in providing accurate data, we compile weights on a quarterly basis. This weight is then used to provide us with a fair average of weight generated by each multi-family unit. Our drivers then documented the number of carts dumped at each location on a weekly basis (see APPENDIX D). These weights are then added at the end of each month to provide us with a net total. From the report we are able to calculate the weight per unit per month.

In analyzing the multi-family data, we are able to provide the following observations:

- 2017 Average lbs. per unit per month = 18.58 lbs. per month
2016 comparison data: Average lbs. per unit per month = 16.45 lbs. per month
2015 comparison data: Average lbs. per unit per month = 18.23 lbs. per month
2014 comparison data: Average lbs. per unit per month = 17.82 lbs. per month
2013 comparison data: Average lbs. per unit per month = 17.82 lbs. per month
2012 comparison data: Average lbs. per unit per month = 16.49 lbs. per month
2011 comparison data: Average lbs. per unit per month = 15.47 lbs. per month
- 2017 Annual Net total tons collected for multi-family (ANTMF) was 78.48 tons
2016 comparison data: ANTMF was 69.47 tons
2015 comparison data: ANTMF was 77.00 tons
2014 comparison data: ANTMF was 75.28 tons
2013 comparison data: ANTMF was 75.28 tons
2012 comparison data: ANTMF was 69.65 tons
2011 comparison data: ANTMF was 65.17 tons

How are the weights determined for the multi-family data? We use one truck to collect all multi-family dwellings - where we weigh full carts from each property to get a total weight. The total weight is then divided by the number of carts emptied to get an average weight per cart. This data is then entered into multi-family spreadsheet. See APPENDIX D for an example of this report.

This data is significant because we are able to easily separate this data from the total tons collected on each day of collection. The remaining tonnage is then the actual tonnage which comes from the single-family homes.



MULTI-FAMILY INDIVIDUAL SUMMARY LETTER

From the data compiled over the twelve months we are able to provide each multi-housing property with an accurate summary report of their recycling volumes (APPENDIX B). We also provide them with some information on how their efforts help with the environment along with additional information to assist them in enhancing their recycling efforts.

ENVIRONMENTAL IMPACT ANALYSIS

TENNIS SANITATION

1 688 Arona

ESTIMATED TOTAL TONS RECYCLED:

1.24

Total pounds 2470

Dear Property Manager,

Below is a recap of your recycling efforts from last year. Please notice the amount of recycling materials your tenants recycled and the estimated resources you saved from each category.

Our goal in providing you this information is to attempt to increase awareness and overall participation amongst your tenants. We have also enclosed a recycling brochure detailing the acceptable recycling materials.

Also, please contact us if you would like further information on ways to enhance your recycling. You can contact us at 651-459-1887. Awesome job on recycling!!

Thank you for recycling,

Greg & Willie Tennis

Recycling Type	MW total		Resource Saved	Calc/ Resource	Total Resources	
	Tons	Units			Saved	Type
Paper	0.80	tons	Trees	1 ton = 17 Trees	13.6	trees
Paper	0.80	tons	Electricity	1 ton = 601 Kw Hours	482	Kw hours of electricity
Paper	0.80	tons	Oil	1 ton = 1.7 barrels of oil	1.36	barrels of oil
Aluminum	0.05	tons	Ore	1 ton = 4 tons of ore	0.20	tons of ore
Aluminum	0.05	tons	Electricity	1 ton = 14,000 Kw Hours	688	Kw hours of electricity
Aluminum	0.05	tons	Oil	1 ton = 40 barrels of oil	1.97	barrels of oil
Tin/bi-metal	0.04	tons	Ore	1 ton = 1.49 tons of ore	0.06	tons of ore
Tin/bi-metal	0.04	tons	Electricity	1 ton = 642 Kw Hours	28	Kw hours of electricity
Tin/bi-metal	0.04	tons	Oil	1 ton = 1.8 barrels of oil	0.08	barrels of oil
Plastics	0.13	tons	Oil	1 ton = 6.3 barrels of oil	0.83	barrels of oil
Plastics	0.13	tons	Electricity	1 ton = 5,774 Kw Hours	1	Kw hours of electricity
Plastics	0.13	tons	Natural Gas	1 ton = 98,000,000 btu's	12,907,023	BTU's of fuel
Glass	0.21	tons	Sand	1 ton = 1,330 tons of sand	278	tons of sand
Glass	0.21	tons	Electricity	1 ton = 42 Kw Hours	9	Kw hours of electricity
Glass	0.21	tons	Oil	1 ton = .12 gallons of oil	0.03	barrels of oil
Glass	0.21	tons	Natural Gas	1 ton = 714,000 btu's	149,080	BTU's of fuel

Environmental Impact Summary

Resources	Amounts	Units Saved
Trees saved	14	Trees saved



Electricity saved	1,207	Kw Hours saved
-------------------	-------	----------------

Oil saved	4	Barrels of oil saved
-----------	---	----------------------



Natural Gas saved	13,056,103	BTU's of natural gas saved
-------------------	------------	----------------------------



**Disclaimer: The above numbers represent conversions from industrial and recycling markets. These numbers are ESTIMATED resources saved. All calculations are taken from annual total tons from Falcon Heights Year-end Recycling Report.

INQUIRIES SUMMARY

Below are twelve months of data documenting the number of residents that called into our office. The most common calls were comprised of residents asking what additional items they could recycle. Other less common calls were to see if our driver could come back because they forgot to put out their materials in time and the occasional request of how to dispose of hazardous waste.

We are confident that our Customer Service Staff (CSRs) resolved all inquiries to the resident's satisfaction. The amount of inquiries had increased from last year. Our team of CSRs and professional drivers are committed to providing the best service to the City of Falcon Heights – we feel this report is a direct result of our commitment.

TOTAL INQUIRIES FOR 2017

	4	4	4	2	4	8	2	2	1	3	2	4	40
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2016 Total Inquiries	7	6	7	8	12	4	6	3	4	5	4	5	71
2015 Total Inquiries	2	2	1	2	1	6	10	10	12	6	8	8	68
2014 Total Inquiries	8	1	1	4	1	2	6	2	6	4	1	1	37
2013 Total Inquiries	13	9	5	4	4	3	4	6	10	14	4	5	81
2012 Total Inquiries	8	10	5	7	4	4	10	14	9	6	7	7	91
2011 Total Inquiries	12	18	15	11	7	7	2	2	8	5	4	3	94

LINENS AND SHOES SUMMARY

Linens and shoes for the year 2017 totaled **16,003** pounds

2016 linens and Shoes totaled 1,125 pounds
 2015 linens and Shoes totaled 3,504 pounds
 2014 Linens and shoes totaled 4,199 pounds
 2013 Linens and shoes totaled 5,465 pounds
 2012 Linens and shoes totaled 1,616 pounds
 2011 Linens and shoes totaled 679 pounds



RECYCLING COMPOSITE STUDY

For the composite study we kept all loads from the entire weeks' worth of material and processed only Falcon Heights material through our MRF. The sorting floor was cleared and the recycling was sorted into the categories (as listed below). All of the categories were then weighed and documented. The results of the composite study were then entered back into the monthly report.

Why do a composite study?

Having a good understanding of the recycling composition provides us with data that may assist us in adjusting it to fit the needs of the Residents of Falcon Heights. With ongoing changes in the economy, cultural and even changes in the home we can develop more available markets, increase processing technologies to handle more items and enhance educational materials to instruct residents on proper recycling procedures.

Tennis Sanitation, L.L.C.

651-459-1887

"Recycling is Everyone's Future"

RE: COMPOSITE BREAK-OUT PERCENTAGE

Tennis Sanitation is pleased to provide the following composite sample break-out detailing the percentage ratios of each type of recycling category.

TYPE	RATIO %	DESCRIPTION
Cardboard:	22.40%	Includes all cardboard boxes.
Paper:	40.40%	Includes cardboard, paper, newspaper and junk mail
Scrap Metal:	2.70%	Metal pans and misc metal
Large Plastic:	1.80%	Toys, patio furniture and large containers
Plastic Bags:	1.00%	Includes retail plastic bags
Z-Bale Plastic:	3.20%	Food and beverage containers
PET Plastic:	4.80%	Food and beverage containers
Tin:	2.10%	Includes all bi-metal and tin cans
Chipped Glass:	18.00%	Includes all clear, brown and green colors
Aluminum:	1.50%	Includes all aluminum cans
Milk Cartons:	0.20%	Beverage cartons
Residuals (Trash):	1.90%	Includes all residuals and trash
	100.00%	Net total recycling for the month

The above percentage break-out of recycling material was based on the following sample Study done in November 2016. Our processing team had taken loads of recycling and had weighed the entire load then items were broken out into specific types as listed above and re-weighed to get the final percentage data of each type of material.

Sincerely,

Willie Tennis

Willie Tennis

Tennis Sanitation

ENVIRONMENTAL IMPACT ANALYSIS

From the detailed recycling data from this report, we are able to provide the City of Falcon Heights with some unique ways that the residents recycling efforts have made a difference. Over the years, recycling markets have been able to recycle more and more items out of the waste stream. They have also been able to determine what resources are saved by recycling various materials.

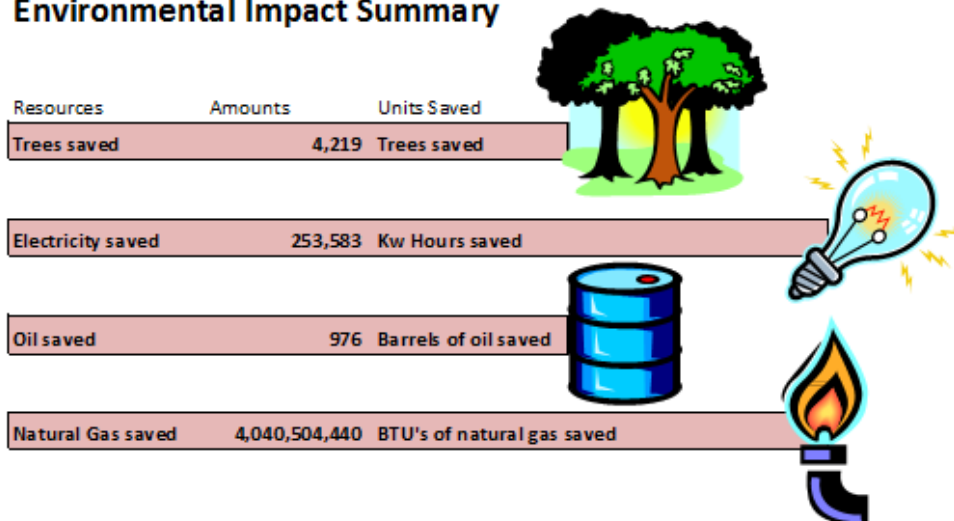
In this report we were able to convert the break-out of types of recycling materials into resources saved.

ENVIRONMENTAL IMPACT ANALYSIS

CITY OF FALCON HEIGHTS RECYCLING 2017

Recycling Type	MW total Tons	Units	Resource Saved	Calc/ Resource	Total Resources Saved	Type
Paper	248	tons	Trees	1 ton = 17 Trees	4,219	trees
Paper	248	tons	Electricity	1 ton = 601 Kw Hours	149,144	Kw hours of electricity
Paper	248	tons	Oil	1 ton = 1.7 barrels of oil	422	barrels of oil
Aluminum	6	tons	Ore	1 ton = 4 tons of ore	25	tons of ore
Aluminum	6	tons	Electricity	1 ton = 14,000 Kw Hours	87,220	Kw hours of electricity
Aluminum	6	tons	Oil	1 ton = 40 barrels of oil	249	barrels of oil
Tin/bi-metal	22	tons	Ore	1 ton = 1.49 tons of ore	33	tons of ore
Tin/bi-metal	22	tons	Electricity	1 ton = 642 Kw Hours	14,349	Kw hours of electricity
Tin/bi-metal	22	tons	Oil	1 ton = 1.8 barrels of oil	40	barrels of oil
Plastics	41	tons	Oil	1 ton = 6.3 barrels of oil	257	barrels of oil
Plastics	41	tons	Electricity	1 ton = 5,774 Kw Hours	163	Kw hours of electricity
Plastics	41	tons	Natural Gas	1 ton = 98,000,000 btu's	3,994,480,000	BTU's of fuel
Glass	64	tons	Sand	1 ton = 1,330 tons of sand	85,732	tons of sand
Glass	64	tons	Electricity	1 ton = 42 Kw Hours	2,707	Kw hours of electricity
Glass	64	tons	Oil	1 ton = .12 gallons of oil	8	barrels of oil
Glass	64	tons	Natural Gas	1 ton = 714,000 btu's	46,024,440	BTU's of fuel

Environmental Impact Summary



**Disclaimer: The above numbers represent conversions from industrial and recycling markets. These numbers are ESTIMATED resources saved. All calculations are taken from annual total tons from the Year-end Recycling Report.

MARKET REPORT

2017 was a steady year for metal and plastic commodities, but has been a rough market for cardboard and paper, which has been driven by the lower costs in crude oil and new recycling regulations.

Glass market is somewhat limited because there is only one processor available to sort glass. Their newest technology sorts broken glass using computerized optical sorters and a complex but innovative blower system. 90% of the broken glass is now being processed into post-consumer food and beverage containers.

The outlook for 2018

Future markets are looking like they will remain weak with slight inclines on some of the commodities.



SUMMARY OF YEAR-END RECYCLING REPORT

The 2017 Falcon Heights Year-end Recycling Report provides up-to-date information from the City's recycling activities over the past year. Each section of this report reflects the various ways data was collected, entered and calculated to contribute to meeting our goals.

In the report we have illustrated the composition of recyclables, itemized volumes of recyclables from both single family and multi-family dwellings as they relate to each break-out of each separate commodity. We also provide information on how the City's recycling efforts will impact our environment.

This year, Falcon Height's participation rate was 97% participation rate. Both single family tonnages as well as multi-family recycling volumes have remained steady with some increase and consistent with other Municipalities.

In 2018, we will maintain the comprehensive recycling program we offer with the additional types of plastics, metals and linens.

Together with the support of The City of Falcon Heights we will maintain these high standards of recycling for the single family and multi-family dwellings.



APPENDIX A - RECYCLING SUMMARY (ALL DATA)

2017 FALCON HEIGHTS RECYCLE TONNAGE DATA														NET TOTALS	
MONTHLY DATA/RTE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	UNITS	TYPE	
TOTAL TONS	34.71	33.18	41.34	35.10	35.34	43.57	34.67	34.77	44.67	44.57	36.58	41.94	460.44	TotalTons	
Single Family RECYCLED MATERIALS														Percentage Break-out	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Description
Cardboard:	6.77	6.06	7.56	6.81	6.83	8.46	6.27	6.29	8.48	8.48	6.86	7.83	86.70	TONS	
Paper:	12.20	12.41	15.46	12.17	12.32	15.25	11.31	11.35	15.29	15.29	12.37	14.13	159.55	TONS	
Scrap Metal:	0.82	0.08	0.10	0.80	0.82	1.02	0.76	0.76	1.02	1.02	0.83	0.94	8.97	TONS	
Large Plastic:	0.54	0.10	0.13	0.54	0.55	0.68	0.50	0.51	0.68	0.68	0.55	0.63	6.09	TONS	
Plastic Bags:	0.97	0.15	0.19	0.17	0.30	0.38	0.28	0.28	0.38	0.38	0.31	0.35	4.14	TONS	
Z-Bale Plastic:	1.45	0.83	1.03	0.95	0.98	1.21	0.90	0.90	1.21	1.21	0.98	1.12	12.77	TONS	
PET Plastic:	0.60	1.33	1.65	1.43	1.46	1.81	1.34	1.35	1.82	1.82	1.47	1.68	17.76	TONS	
Tin:	5.44	0.79	0.99	0.60	0.64	0.79	0.59	0.59	0.79	0.79	0.64	0.73	13.38	TONS	
Chipped Glass:	0.45	4.82	6.01	5.36	5.49	6.80	5.04	5.06	6.81	6.81	5.51	6.30	64.46	TONS	
Aluminum:	0.30	0.66	0.83	0.45	0.46	0.57	0.42	0.42	0.57	0.57	0.46	0.52	6.23	TONS	
Milk Cartons:	0.09	0.06	0.07	0.09	0.09	0.11	0.08	0.08	0.11	0.11	0.92	0.10	1.91	TONS	
TOTAL TONS	29.68	27.29	34.02	29.37	29.94	37.08	27.49	27.59	37.16	37.16	30.90	34.33	381.96	TONS	
# of HOMES ON ROUTE	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	51.67	Avg. Lbs./Unit	
AVERAGE LBS / HOME /	48.10	44.30	55.23	47.68	48.60	60.19	44.63	44.79	60.32	60.32	50.16	55.73			
Multi-Family RECYCLED MATERIALS														Percentage Break-out	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Description
Cardboard:	1.16	1.31	1.63	1.33	1.23	1.48	1.64	1.64	1.69	1.69	1.26	1.74	17.80	TONS	
Paper:	2.09	2.68	3.32	2.37	2.22	2.66	2.96	2.96	3.05	3.05	2.28	3.13	32.77	TONS	
Scrap Metal:	0.14	0.02	0.03	0.16	0.15	0.18	0.20	0.20	0.20	0.20	0.15	0.21	1.84	TONS	
Large Plastic:	0.09	0.02	0.03	0.10	0.10	0.12	0.13	0.13	0.14	0.14	0.10	0.14	1.24	TONS	
Plastic Bags:	0.17	0.03	0.04	0.03	0.05	0.07	0.07	0.07	0.08	0.08	0.06	0.08	0.83	TONS	
Z-Bale Plastic:	0.25	0.18	0.22	0.19	0.18	0.21	0.23	0.23	0.24	0.24	0.18	0.25	2.60	TONS	
PET Plastic:	0.10	0.29	0.36	0.28	0.26	0.32	0.35	0.35	0.36	0.36	0.27	0.37	3.67	TONS	
Tin:	0.95	0.17	0.21	0.12	0.12	0.14	0.15	0.15	0.16	0.16	0.12	0.16	2.59	TONS	
Chipped Glass:	0.08	1.04	1.28	1.04	0.99	1.19	1.32	1.32	1.36	1.36	1.01	1.39	13.38	TONS	
Aluminum:	0.05	0.14	0.18	0.09	0.08	0.10	0.11	0.11	0.11	0.11	0.08	0.12	1.28	TONS	
Milk Cartons:	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.12	0.12	0.17	0.02	0.48	TONS	
TOTAL TONS	5.08	5.99	7.32	5.73	5.40	6.49	7.18	7.18	7.51	7.41	5.68	7.61	78.48	TONS	
# of MF UNITS ON ROUTE	704	704	704	704	704	704	704	704	704	704	704	704	18.58	Avg. Lbs./Unit	
AVERAGE LBS / HOME /	14.43	16.73	20.80	16.28	15.34	18.44	20.40	20.40	21.34	21.05	16.14	21.62			
COMBINED BREAK-OUT RECYCLED MATERIALS															
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Description
PAPER	22.33	22.53	28.06	22.79	22.71	27.98	22.28	22.34	28.74	28.64	23.86	26.95	299.21	TONS	
ALUMINUM	1.31	0.90	1.14	1.50	1.51	1.87	1.49	1.49	1.90	1.90	1.52	1.79	18.32	TONS	
TIN	6.37	0.96	1.20	0.72	0.76	0.93	0.74	0.74	0.95	0.95	0.76	0.89	15.97	TONS	
PLASTICS	4.17	2.93	3.65	3.69	3.88	4.80	3.80	3.82	4.91	4.91	3.92	4.62	48.10	TONS	
GLASS	0.53	5.86	7.29	6.40	6.48	7.99	6.36	6.38	8.17	8.17	6.52	7.69	77.84	TONS	
TOTAL TONS	34.71	33.18	41.34	35.10	35.34	43.57	34.67	34.77	44.67	44.57	36.58	41.94	460.44	TONS	
LINENS	-	-	297	1,042	475	261	4,393	3,535	1,501	2,138	1,024	1,337	16,003	LBS	
TOTAL INQUIRIES	4	4	4	2	4	8	2	2	1	3	2	4	40		
% of contamination	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%		
Residuals in tons	0.7	0.6	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.7	0.8	8.7	TONS	
# of not non-partic.	40	40	38	27	26	20	25	24	17	28	31	35	29.25	Avg. Non-Part	
% of Participation	98%	98%	96%	97%	97%	98%	98%	98%	98%	97%	97%	95%	97%	Avg %	

APPENDIX B - RECYCLING REPORT (MULTI-FAMILY)

2017 Falcon Heights Annual Weight RECAP REPORT		January	February	March	April	May	June	July	August	September	October	November	December	NET TOTALS													
Multi-Family	Units	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt Wgt/Unit	Total Wgt	Average												
Apt Name	Units	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for mo. /Month	for Year(lbs)	wgt for yr												
1688 Arona	10	283	28	189	19	163	16	228	23	163	16	147	15	163	16	228	23	228	23	228	23	195	20	257	26	2470	21
1688 Coffman	93	2262	24	1917	21	1838	20	2344	25	2094	22	1954	21	2377	26	1954	21	2540	27	1986	21	2051	22	2376	26	25733	23
Relcon Arms Apts	17	314	18	251	15	260	15	326	19	293	17	260	15	326	19	260	15	326	19	260	15	260	15	321	19	3429	17
Relcon Arms Apts	17	314	18	283	17	260	15	326	19	293	17	260	15	326	19	260	15	326	19	260	15	260	15	321	19	3429	17
Relcon Arms Apts	17	314	18	251	15	260	15	326	19	293	17	260	15	326	19	260	15	326	19	260	15	260	15	321	19	3429	17
Relcon Arms Apts	17	314	18	251	15	260	15	326	19	293	17	260	15	326	19	260	15	326	19	260	15	260	15	321	19	3429	17
Shores w/1634,1642 Sheling	33	723	22	471	14	554	17	651	20	472	14	488	15	554	17	488	15	684	21	391	11	358	11	626	19	6480	16
1488 Lepentour	8	157	20	126	16	130	16	163	20	130	16	163	20	163	20	163	20	163	20	195	24	161	20	195	24	2234	23
1472 Lepentour	20	314	16	251	13	326	16	391	20	260	13	228	11	358	18	293	15	358	18	130	7	228	11	353	18	3491	15
1490 Lepentour	9	157	31	126	25	163	33	163	33	130	26	163	33	163	33	163	33	130	26	130	26	195	39	161	32	1843	31
1498 Lepentour	8	189	24	251	31	228	28	260	33	228	28	260	33	228	28	326	41	260	33	228	28	195	24	2912	30		
1504 Lepentour	10	251	25	220	22	260	26	293	29	260	26	195	20	260	26	228	23	260	26	163	16	257	26	2910	24		
1510 Lepentour	10	189	19	220	22	130	13	293	29	163	16	163	16	195	20	228	23	260	26	260	26	163	16	225	22	2489	21
1530 Lepentour	173	2953	17	1979	11	2116	12	1888	11	1595	9	1856	11	1400	8	1042	6	1623	9	1595	9	1302	7	1573	9	20930	10
1710 Lepentour	144	2199	15	1760	12	1823	13	2279	16	1823	13	2279	16	1823	13	2279	16	1823	13	2279	16	1823	13	2097	14	23824	14
1800 Lepentour	36	1005	28	786	22	879	24	1140	32	1042	29	912	25	1172	33	912	25	912	25	977	27	814	23	803	22	11302	26
1830 Lepentour	17	628	37	471	28	619	36	749	44	619	36	423	25	716	42	554	33	716	42	586	34	488	29	706	42	7276	36
1843 Lepentour	34	628	18	471	14	521	15	651	19	684	20	521	15	749	22	521	15	554	16	521	15	521	15	642	19	6994	17
1707 Lindig	12	346	29	314	26	2																					

APPENDIX C - MONTHLY RECYCLING REPORT LETTER (EXAMPLE)

Tennis Sanitation, L.L.C.

651-459-1887

"Recycling is Everyone's Future"

November 2017 - RECYCLING REPORT

Dear City of Falcon Heights Recycling Coordinator,

Tennis Sanitation is pleased to provide the following monthly recycling report detailing the materials that were collected, processed and delivered to recycling markets from both single family and multi-family dwellings.

The Community of Falcon Heights Recycled:

TYPE	Single Family Weight (tons)	Multi-Family Weight (tons)	NET Total Wgt	UNIT	DESCRIPTION
Cardboard: 22.40%	6.86	1.26	8.12	tons	Includes all cardboard boxes.
Paper: 40.40%	12.37	2.28	14.64	tons	Includes cardboard, paper, newspaper, junk mail.
Scrap Metal: 2.70%	0.83	0.15	0.98	tons	
Large Plastic: 1.80%	0.55	0.10	0.65	tons	Toys and parts
Plastic Bags: 1.00%	0.31	0.06	0.36	tons	Includes retail plastic bags
Z-Bale Plastic: 3.20%	0.98	0.18	1.16	tons	
PET Plastic: 4.80%	1.47	0.27	1.74	tons	
Tin: 2.10%	0.64	0.12	0.76	tons	Includes all bi-metal and tin cans
Chipped Glass: 18.00%	5.51	1.01	6.52	tons	
Aluminum: 1.50%	0.46	0.08	0.54	tons	Includes all aluminum cans
Milk Cartons: 3.00%	0.92	0.17	1.09	tons	Beverage cartons
Total Tons:	30.88	5.68	36.57	Tons	Net total recycling for the month

Other fun facts:

TYPE	Single Family Weight (lbs)	Multi-Family Weight (lbs)	NET Calcs.	
Units	1232	704	1936	Units collected per week
Wgt/home	50.14	16.14	33.14	lbs Average pounds per unit collected per month
**Linens	Combined	Combined	1024.00	lbs Includes all clothing, garments and other linens

Average % of serviced accounts (SF)	88%	Average % of participation (SF)	97%
-------------------------------------	-----	---------------------------------	-----

This month's homes that did not participate in weekly recycling collection was

40 residents

Total inquiries for this month were:	<u>2</u>
--------------------------------------	----------

Summary of report: This month illustrates resident's recycling efforts for both SF and MF Dwellings.

Contamination was minimal with only 1.8% that could not be recycled.

The above recycling break-out reflects the new composite study done in November 2015.

Great job on your recycling efforts.

Sincerely,
Willie Tennis

Willie Tennis
Tennis Sanitation

APPENDIX D - MONTHLY MULTI-FAMILY REPORT DATA (EXAMPLE)

Falcon Heights Multi-Family				WEEK 1			WEEK 2			WEEK 3			WEEK 4			WEEK 5			Total Wgt for mo.				
November 2017				Average			Average			Average			Average			Average			Units				
Apt Name	Number	Street Name	Units	# carts	Vgt/cart	Total Tare Vgt	# carts	Vgt/cart	Total Tare Vgt	# carts	Vgt/cart	Total Tare Vgt	# carts	Vgt/cart	Total Tare Vgt	# carts	Vgt/cart	Total Tare Vgt	Total Wgt	Units	Wgt/unit per Month		
Shares with 1511 W. Ierp	1688	Arona	10	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	10	25.69		
Shares w/1634,1642 Shelling	1561	Isho	33	3	74.71	96	3	74.71	96	3	74.71	161	3	74.71	96	0	74.71	0	450	33	13.62		
	1466	Larpenieur	8	2	74.71	64	3	74.71	161	2	74.71	64	1	74.71	32	0	74.71	0	321	8	40.14		
Shares w/1486	1472	Larpenieur	20	2	74.71	64	8	74.71	257	2	74.71	64	3	74.71	96	0	74.71	0	482	20	24.08		
	1480	Larpenieur	5	2	74.71	64	1	74.71	32	2	74.71	64	1	74.71	32	0	74.71	0	193	5	38.53		
	1496	Larpenieur	8	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	8	32.11		
	1504	Larpenieur	10	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	10	25.69		
	1510	Larpenieur	10	2	74.71	64	1	74.71	32	1	74.71	32	2	74.71	64	0	74.71	0	193	10	19.27		
Falcon Arms Apts.	1717	Fry	17	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	17	15.11		
Falcon Arms Apts.	1707	Fry	17	2	74.71	64	3	74.71	96	2	74.71	64	2	74.71	64	0	74.71	0	289	17	17.00		
Falcon Arms Apts.	1697	Fry	17	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	17	15.11		
Falcon Arms Apts.	1687	Fry	17	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	17	15.11		
	1707	Lindg	12	3	74.71	96	2	74.71	64	4	74.71	128	4	74.71	128	0	74.71	0	417	12	34.79		
Shares w/1855	1845	Larpenieur	34	4	74.71	128	4	74.71	128	3	74.71	96	4	74.71	128	0	74.71	0	482	34	14.17		
	1707	Tatum	11	2	74.71	64	2	74.71	64	2	74.71	64	2	74.71	64	0	74.71	0	257	11	23.35		
Condominiums	1666	Coffman	93	14	74.71	430	15	74.71	482	15	74.71	482	16	74.71	514	0	74.71	0	1927	93	20.72		
	1830	Larpenieur	17	3	74.71	96	2	74.71	64	4	74.71	128	2	74.71	64	0	74.71	0	353	17	20.78		
Hairfield Apts. 1800 & 1818	1800	Larpenieur	36	3	74.71	96	8	74.71	257	6	74.71	193	8	74.71	257	0	74.71	0	903	36	22.30		
Larpenieur/Monor 1710, 20,30,40	1710	Larpenieur	344	14	74.71	430	14	74.71	430	14	74.71	430	14	74.71	430	0	74.71	0	1798	144	12.49		
Shares w/1550	1550	Larpenieur	175	21	74.71	674	15	74.71	482	7	74.71	223	13	74.71	482	0	74.71	0	1863	175	10.64		
Total Number of Units			894																		11,367		

APPENDIX E - MONTHLY SINGLE FAMILY REPORT DATA (EXAMPLE)

Falcon Heights 2017 November

FRI RTE # 1							
	Week 1	Week 2	Week 3	Week 4	Week 5		
Tons - Load 1	4.73	3.79	5.22	4.49			
Tons - Load 2	0.00	0.00	0.00	0.00	0.00	Net Total	18.23
TOTAL Tons	4.73	3.79	5.22	4.49	0.00	Averages	87
# of Stops	760	760	760	760	760		89%
Not outs	88	78	78	105			13.55
% of Serviced Accounts	88%	90%	90%	86%	100%		
Lbs per Stop Recycled	14.08	11.11	15.31	13.71	0.00		
FRI RTE # 2							
	Week 1	Week 2	Week 3	Week 4	Week 5		
Tons - Load 1	4.69	5.29	3.87	4.49	0.00		
Tons - Load 2	0.00	0.00	0.00	0.00	0.00	Net Total	18.34
TOTAL Tons	4.69	5.29	3.87	4.49	0.00	Averages	95
# of Stops	472	472	472	472	472		80%
Not outs	83	83	90	123	0		
% of Serviced Accounts	82%	82%	81%	74%	100%		
Lbs per Stop Recycled	24.11	27.20	20.26	25.73	0.00		24.33
FRIDAY ROUTE SUMMARY FOR						November 2017	
FRIDAY	Week 1	Week 2	Week 3	Week 4	Week 5		
TOTAL Tons	9.42	9.08	9.09	8.98	0.00	Net Total	36.57
# of Stops	1232	1232	1232	1232	1232	Averages	146
Not outs	171	161	168	228	0		88%
% of Participation	86%	87%	86%	81%	100%		
Lbs per Stop Recycled	17.76	16.96	17.09	17.89	0.00		13.94
	Week 1	Week 2	Week 3	Week 4	Week 5	Net Total	
Clothing/Linens (lbs)	250.00	250.00	250.00	274.00		1024.00 Lbs	