



2022

## Birchwood Village Recycling Report

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1/31/2023



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January 31st, 2023

City of Birchwood Village  
207 Birchwood Avenue  
Birchwood, MN 55110  
RE: LETTER OF PURPOSE



Dear City of Birchwood Village Recycling Coordinator,

This 2022 Year-end recycling report has been prepared for the City of Birchwood Village.

The report contains summaries of recycling data from single family dwellings, environmental impact report and a market report of recycling markets.

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

Our goal is to develop future strategies to enhance the recycling program already in place.

Sincerely,

Greg & Willie Tennis

*Greg and Willie Tennis*

Tennis Sanitation



# RECYCLING DATA SUMMARY

In this report we have compiled annual data from single family dwellings. This data includes:

- Net tonnage of all residential dwellings combined
- Break-out of single family tonnage
- Break-out of single family recycling materials by type and weight

## APPENDIX A - RECYCLING DATA SUMMARY

2022 Birchwood Village RECYCLE TONNAGE DATA	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL TONS	
MONTHLY DATA/RTE	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	TYPE
Single Family RECYCLED MATERIALS	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	TONS	Description
Cardboard:	2.17	2.21	1.80	1.99	2.35	2.30	2.38	2.10	3.18	2.26	2.22	2.18	27.14	Tons
Paper:	2.31	2.35	1.92	2.11	2.49	2.44	2.53	2.24	3.38	2.40	2.36	2.31	28.84	Tons
Scrap Metal:	0.17	0.17	0.14	0.15	0.18	0.17	0.18	0.16	0.24	0.17	0.17	0.17	2.07	Tons
Large Plastic:	0.06	0.06	0.05	0.06	0.07	0.06	0.07	0.06	0.09	0.06	0.06	0.06	0.76	Tons
Z-Bale Plastic:	0.22	0.22	0.18	0.20	0.23	0.23	0.24	0.21	0.32	0.23	0.22	0.22	2.72	Tons
PET Plastic:	0.34	0.34	0.28	0.31	0.36	0.36	0.37	0.33	0.49	0.35	0.35	0.34	4.22	Tons
Tin:	0.12	0.12	0.10	0.11	0.13	0.13	0.13	0.12	0.17	0.12	0.12	0.12	1.49	Tons
NiHot Glass	1.38	1.40	1.15	1.26	1.49	1.46	1.51	1.34	2.02	1.44	1.41	1.38	17.24	Tons
Aluminum:	0.19	0.19	0.16	0.17	0.20	0.20	0.21	0.18	0.28	0.20	0.19	0.19	2.36	Tons
Linens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	Tons
Milk Cartons:	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.22	Tons
Residuals	0.41	0.42	0.34	0.38	0.43	0.43	0.45	0.40	0.60	0.43	0.42	0.41	5.12	Tons
<b>TOTAL TONS</b>	<b>7.38</b>	<b>7.50</b>	<b>6.13</b>	<b>6.75</b>	<b>7.97</b>	<b>7.80</b>	<b>8.08</b>	<b>7.15</b>	<b>10.80</b>	<b>7.68</b>	<b>7.55</b>	<b>7.40</b>	<b>92.19</b>	<b>Tons</b>
<b># of HOMES ON ROUTE</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>		
Average pounds per home per month	40.11	40.76	33.32	36.68	43.32	42.39	43.91	38.86	58.70	41.74	41.03	40.22	<b>41.75</b>	<b>Avg Lbs./Unit/mo</b>

The data is compiled from recyclable materials collected from our drivers on designated Birchwood Village routes. Loads are weighed and weights are then compiled over a month's period. Weights are broken out based on a composite ratio of the entire load.



## RECYCLING DATA (SINGLE FAMILY)

The single family Data on page 2 of the report was compiled from the single family homes collected on the route. From this data, we can illustrate the weight per home (in lbs.), per month.

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

### **2022 average lbs. per household, per month - 41.75 lbs. per month**

- 2021 average lbs. per household, per month - 49.08 lbs.
- 2020 average lbs. per household, per month - 53.25 lbs.
- 2019 average lbs. per household, per month - 48.48 lbs.
- 2018 average lbs. per household, per month - 54.24 lbs.
- 2017 average lbs. per household, per month - 57.81 lbs.
- 2016 average lbs. per household, per month - 59.17 lbs.
- 2015 average lbs. per household, per month - 59.55 lbs.
- 2014 average lbs. per household, per month - 53.86 lbs.
- 2013 average lbs. per household, per month - 53.47 lbs.

### **2022 Annual net total tons collected for single family were 92.19 tons**

- 2021 annual net total tons collected for single family -108.36 tons
- 2020 annual net total tons collected for single family - 117.58 tons
- 2019 annual net total tons collected for single family - 107.04 tons
- 2018 annual net total tons collected for single family - 119.76 ton
- 2017 annual net total tons collected for single family - 127.64 tons
- 2016 annual net total tons collected for single family - 127.31 tons
- 2015 annual net total tons collected for single family - 128.55 tons
- 2014 annual net total tons collected for single family - 116.79 tons
- 2013 annual net total tons collected for single family - 78.70 tons



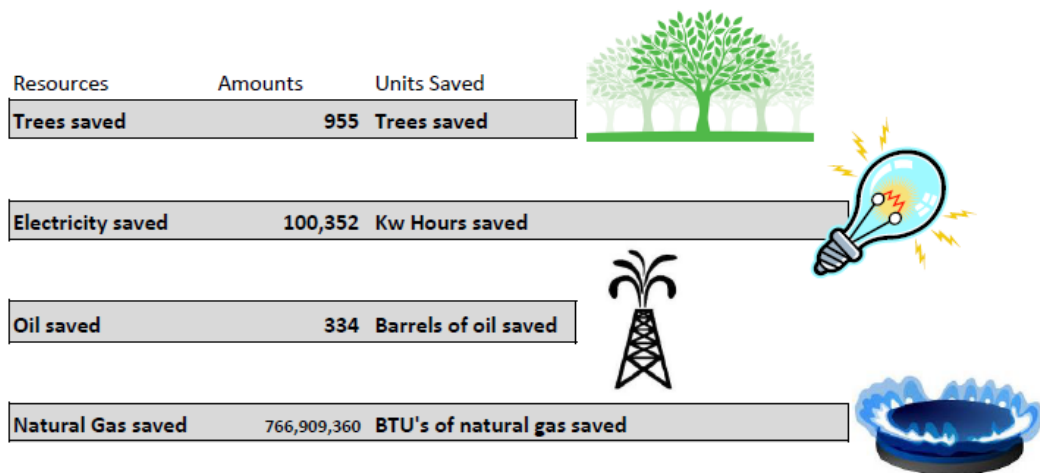
## ENVIRONMENTAL IMPACT ANALYSIS

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

### CITY OF BIRCHWOOD VILLAGE RECYCLING 2022

Recycling Type	MW total Tons	Units	Resource Saved	Calc/ Resource	Total Resources Saved	Type
Paper	56	tons	Trees	1 ton = 17 Trees	955	trees
Paper	56	tons	Electricity	1 ton = 601 Kw Hours	33,776	Kw hours of electricity
Paper	56	tons	Oil	1 ton = 1.7 barrels of oil	96	barrels of oil
Aluminum	4	tons	Ore	1 ton = 4 tons of ore	18	tons of ore
Aluminum	4	tons	Electricity	1 ton = 14,000 Kw Hours	62,020	Kw hours of electricity
Aluminum	4	tons	Oil	1 ton = 40 barrels of oil	177	barrels of oil
Tin/bi-metal	6	tons	Ore	1 ton = 1.49 tons of ore	9	tons of ore
Tin/bi-metal	6	tons	Electricity	1 ton = 642 Kw Hours	3,801	Kw hours of electricity
Tin/bi-metal	6	tons	Oil	1 ton = 1.8 barrels of oil	11	barrels of oil
Plastics	8	tons	Oil	1 ton = 6.3 barrels of oil	49	barrels of oil
Plastics	8	tons	Electricity	1 ton = 5,774 Kw Hours	31	Kw hours of electricity
Plastics	8	tons	Natural Gas	1 ton = 98,000,000 btu's	754,600,000	BTU's of fuel
Glass	17	tons	Sand	1 ton = 1,330 tons of sand	22,929	tons of sand
Glass	17	tons	Electricity	1 ton = 42 Kw Hours	724	Kw hours of electricity
Glass	17	tons	Oil	1 ton = .12 gallons of oil	2	barrels of oil
Glass	17	tons	Natural Gas	1 ton = 714,000 btu's	12,309,360	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 Birchwood Village Final Recycling Report.

## MARKET REPORT

The 2022 markets were steadily strong all the way through August, when they began to drop significantly through the end of the year. We continue seeing changes with regulations that have been influenced by China's markets, despite keeping all of our recyclable materials in the United States (mostly in the Midwest). Metal markets have continued to fluctuate though the year, but paper and cardboard markets have dropped drastically. The market for recycled plastics has remained low, but is gradually rising again, and material demand for some grades is increasing. Lastly, the demand and market have remained the same for glass. With our Ni-Hot machine, we are able to capture more glass; however, the only processor in the area has changed their dynamics and is now charging for glass processing based on quality.

### The outlook for 2023

Markets are stabilizing but will continue with the strict regulations on contaminants and clean material. With co-mingle curb side recycling it makes it easier to recycle but it is important to clean out your food containers, and make sure you are only placing items listed in your recycling brochure loosely into the recycling cart.



## SUMMARY OF YEAR-END RECYCLING REPORT

The 2022 Birchwood Village year-end recycling report provides up-to-date information from the City's recycling activities over the past year. Each section of this report details the data that was collected, entered and calculated to contribute to meeting our goals.

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

This year, Birchwood Village's average lbs. per month was 41.75 per home per month and total tonnage was 92.19.

With the support of Birchwood Village we will maintain these high standards of recycling for the residents.



**REDUCE-REUSE-RECYCLE**