



2024 Solid Waste Management Plan



Crow Wing County

**2024 Solid Waste Management Plan
Project No. 155227**

3/26/2024



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prepared for

**Crow Wing County
2024 Solid Waste Management Plan
Brainerd, MN**

Project No. 155227

3/26/2024

prepared by

**Burns & McDonnell Engineering Company, Inc.
Bloomington, Minnesota**

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
BOD	Biochemical Oxygen Demand
BPUC	Brainerd Public Utilities Commission
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
C&D	Construction and Demolition
CID	Crosby-Ironton-Deerwood Area
CLP	Closed Landfill Program
COD	Chemical Oxygen Demand
CON	Certificate of Need
County	Crow Wing County
CWCRC	Crow Wing County Recycling Center
cy	Cubic Yards
DIY	Do-it-Yourselfers
DNR	MN Department of Natural Resources
EAW	Environmental Assessment Worksheet
EPA	U.S. Environmental Protection Agency
FA	Financial Assurance
GCCS	Gas Collection and Control System
GMLCF	Greater Minnesota Landfill Cleanup Fee
GVT	Goal Volume Table
GWI	Goodwill Industries
HDPE	High Density Polyethylene

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
HHW	Household Hazardous Waste
ISW	Industrial Solid Waste
Landfill	County MMSW Landfill, SW-376
LFG	Landfill Gas
LLDPE	Linear Low-Density Polyethylene
LRI	Limited Remedial Investigation
MATEX	North Central Materials Exchange
MCES	Metropolitan Council Environmental Services
MDA	Minnesota Department of Agriculture
Minn. R.	Minnesota Rule
MMSW	Mixed Municipal Solid Waste
MN DEED	Minnesota Department of Employment and Economic Development
MnDOT	Minnesota Department of Transportation
MnTAP	Minnesota Technical Assistance Program
Monofill	Potlatch Brainerd Monofill Industrial Solid Waste Land Disposal Facility SW-533
MPCA	Minnesota Pollution Control Agency
MSW	Municipal Solid Waste
NEWAC	Northeast Solid Waste Advisory Council
NSPS	New Source Performance Standards
OEA	Office of Environmental Assistance
PCBs	Polychlorinated Biphenyls
Plan	Crow Wing County Solid Waste Management Plan
PLP	Permanent List of Priorities

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
RBRC	Rechargeable Battery Recycling Corporation
RFD	Refuse Derived Fuel
RL	Recirculation Lateral
RTE	Recirculation-to-Energy
SCORE	Select Committee on Recycling and the Environment
Site	Crow Wing County Solid Waste Disposal Site
SSO	Source-separated organics
SW-111	Old Unlined County Landfill Permit SW-111
SW-376	MMSW Landfill Permit SW-376
SW-440	C&D Debris Landfill Permit SW-440
SW-533	Sludge Monofill Permit SW-533
SWCD	Soil and Water Conservation District
SWMP	Crow Wing County Solid Waste Management Plan
SWMT	Solid Waste Management Tax
TCLP	Toxic Characteristic Leaching Procedure
US	United States
VOCs	Volatile Organic Compounds
VSQG	Very Small Quantity Generator
WLSSD	Western Lake Superior Sanitary District
WTE	Waste-to-Energy
WWTF	Wastewater Treatment Facility
WWTP	Wastewater Treatment Plant

1.0 EXECUTIVE SUMMARY

Crow Wing County (County), located in north central Minnesota, has developed a new Solid Waste Management Plan (Plan or SWMP) that supersedes the existing Crow Wing County Solid Waste Management Plan approved by the Minnesota Pollution Control Agency (MPCA) in 2013. Counties are required by State rules to update their Plan every 10 years. This Plan is intended to fulfill the State requirement and document the policies, programs, and goals that will guide the continuation, development, and implementation of solid waste programs within the County. This Plan also includes a description of the County's solid waste abatement programs commonly referred to as Select Committee on Recycling and the Environment (SCORE) programs.

This Plan reviews the County's past and present comprehensive, environmentally, and economically sound solid waste management system, solid waste abatement programs and policies, and anticipated solid waste management activities. Many elements of the integrated solid waste system are located at the County's Solid Waste Disposal Site (Site) located 6 miles east of Brainerd on State Highway 210 in Oak Lawn Township. The Site is 590.5 acres and includes the following:

- A lined Mixed Municipal Solid Waste (MMSW) Landfill (SW-376) (Landfill)
- A Construction and Demolition (C&D) Debris Landfill (SW-440).
- A yard waste composting operation.
- A brush disposal area.
- The new Crow Wing County Recycling Center (CWCRC), which has areas for:
 - HHW collection and product exchange.
 - A recycling drop off area (one of three located throughout the County and discussed below, the other two are at the Nisswa Community Center and the Ideal Transfer Station).
 - Used electronics collection and storage area.
 - A used mattress collection and storage area.
 - A used oil/filter and antifreeze collection facility (one of 11 located throughout the County).
 - A lead-acid battery collection container.
 - A household appliance and scrap metal collection area.
 - A used tire collection area.

It is the policy of the County to comply with MPCA statutes and rules and implement ordinances consistent with the integrated solid waste management system for the State of Minnesota. The County acknowledges the MPCA's requirement to maintain and implement a SWMP. Furthermore, the County is

committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound. Outside of any new developments, the County considers the existing system to be the most prudent and feasible waste management system available for the County.

The County recognizes that in choosing a solid waste processing or disposal system, they are making long-term environmental and financial decisions and commitments that can have significant economic and environmental impacts on present and future citizens. The County believes that the management system chosen in the SWMP is justified and is the best available system for the County. The County believes that mixed municipal solid waste will continue to be delivered to the Crow Wing County Mixed Municipal Solid Waste Landfill, SW-376 (Landfill) as long as the tipping fee remains competitive.

The CWCRC opened on July 11, 2023. The convenience of this new facility on the Site is expected to increase the quantities of materials diverted from being disposed in the Landfill (discussed in **Section 4.3.1**). The County has also expanded their HHW collection to accept this material during all open hours, instead of the previously scheduled twice per month events. Additionally, the County will continue to promote education efforts to drive participation in the County's recycling, diversion, and HHW programs (discussed in **Section 4.3.2**), and will continue to track quantities of food waste, demolition debris, and other material being diverted from the waste stream for reuse or recycling (discussed in **Section 5.3**). Proposed new initiatives are discussed in more detail in **Section 4.3**.

Land disposal at the Site will continue as the primary MMSW management method over the next 10 years, supplemented by recycling, education, source reduction, the new CWCRC, and the other programs outlined in Sections 5.0 through 18.0. The County made the decision in 1997 to operate a stabilized landfill through leachate recirculation, thereby accelerating waste decomposition. This landfill operation method improves leachate quality, provides LFG available for reuse, and optimizes airspace utilization. Long term, it reduces environmental liability impacts by stabilizing the waste before closure.

During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. This resulted in the 2022 recycling rate being 37.5 percent for the County, which is a known underreported number. Data reported from businesses are inconsistent and incomplete (several did not report any recycling quantities despite numerous attempts to collect data). The County sends out approximately 65 surveys per year to businesses to collect this data but has not received consistent participation and data from businesses. The County will continue to attempt to obtain data from businesses; however, a requirement from the MPCA

to report recycling numbers to the County would be prudent for accurate reporting of the recycling amounts. Due to the lack of reporting, the recycling rate goal set in the Goal Volume Table (GVT) for 2033 is 43 percent.

Based on calculations herein, the County's estimated required municipal solid waste (MSW) disposal capacity (not including industrial waste or daily, intermediate, or cover soils) is 706,301 cubic yards for the 2024-2033 planning period. This volume should be reflected in a subsequent certificate of need (CON) issued by the MPCA and available for SW-376 permitting. Additional discussion on the calculation of the CON requested is provided in **Section 23.0**, and the estimated CON required for each year is provided on the last page of the GVT in **Appendix F**. The calculation for estimated CON required assumes a compaction rate of 1,350 pounds/cubic yard, which represents the average compaction rate in SW-376 from 1998-2022. The estimated CON required is greater than what was approved in 2014 (see **Appendix C**) due to population growth and an increase in MSW tonnages received from seasonal residents.

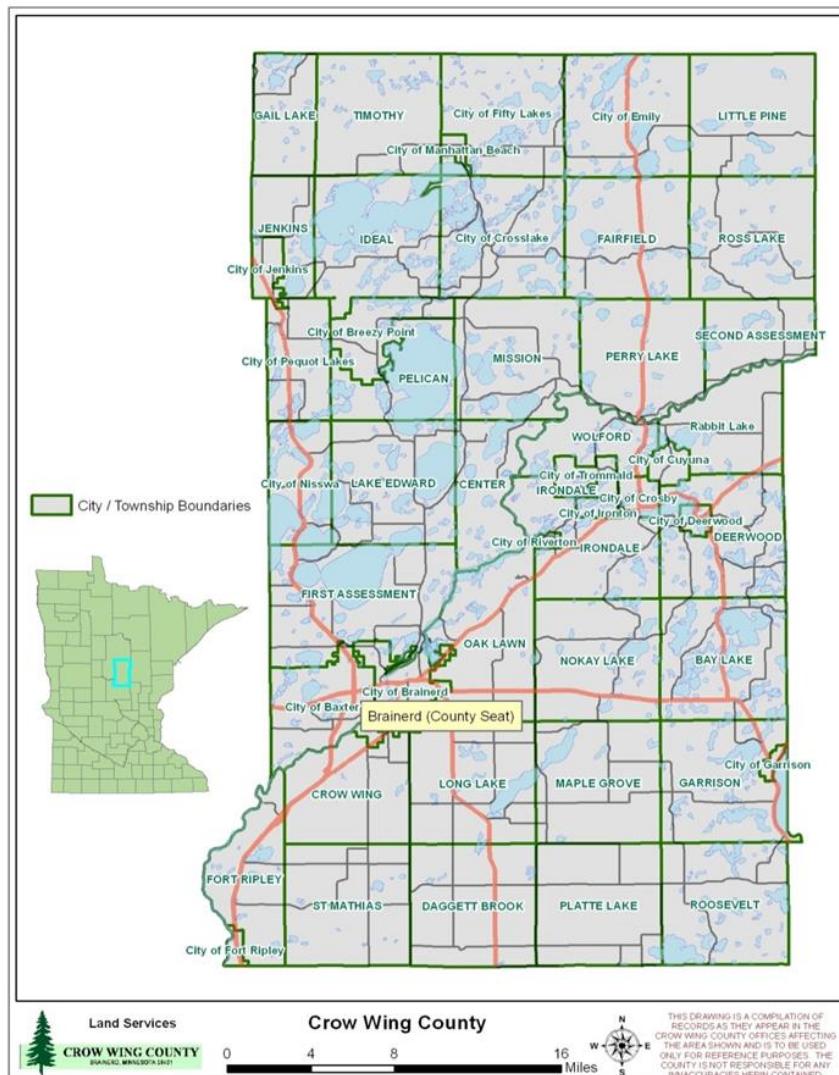
Detailed waste characterization results for the 2013 statewide waste characterization study are provided in **Appendix A**. The County has prepared a 10-year budget summary located in **Appendix B**. A breakdown of the remaining Certificate of Need and the 2014 CON approval letter from the MPCA are provided in **Appendix C**. The 2023 fee schedule for various waste types is provided in **Appendix D**. The County's Solid Waste Ordinance is provided in **Appendix E**. The completed GVT for Crow Wing County, supplemented by a revised MSW capacity calculation using actual Landfill compaction, is provided in **Appendix F**.

2.0 BACKGROUND INFORMATION

2.1 Demographics

Crow Wing County is located in north central Minnesota approximately 132 miles northwest of the Minneapolis and St. Paul metropolitan area. The County is predominantly rural with many lakes and small communities. Population growth will likely continue to concentrate around Brainerd, on lakeshore and in rural locations near lakes and adjacent roads. A growth corridor runs along Highway 371 north of Brainerd through Pequot Lakes. Most of the growth has been in the Brainerd/Baxter area and the Crosby-Ironton-Deerwood (CID) area. A map of Crow Wing County is provided in **Figure 2-1**.

Figure 2-1: Crow Wing County Map



Source: Crow Wing County.

2.1.1 Current Population Distribution

The County is approximately 998 square miles in land area with a population of 66,123 and a population disbursement of 66.3 persons per square mile, according to the 2020 Census. Brainerd had a population of 14,395 as of the 2020 census and has the highest population in the County, while the next most populated cities are Baxter (8,612) and Crosby (2,281).

In 2020, approximately 57 percent of the population lived in the 18 cities while the remaining 43 percent lived in the County's 29 townships and two unorganized areas. The cities located within the County and their 2010 and 2020 populations are outlined in **Table 2-1**.

Table 2-1: Crow Wing County Cities & Population

City	2010	2020	Population Change	10-Year Percent Annual Change
Baxter	7,610	8,612	1,002	1.32%
Brainerd	13,590	14,395	805	0.59%
Breezy Point	2,346	2,437	91	0.39%
Crosby	2,386	2,281	-105	-0.44%
Crosslake	2,141	2,591	450	2.10%
Cuyuna	332	372	40	1.20%
Deerwood	532	538	6	0.11%
Emily	813	837	24	0.30%
Fifty Lakes	387	407	20	0.52%
Fort Ripley	69	67	-2	-0.29%
Garrison	210	207	-3	-0.14%
Ironton	572	544	-28	-0.49%
Jenkins	430	502	72	1.67%
Manhattan Beach	57	72	15	2.63%
Nisswa	1,971	2,222	251	1.27%
Pequot Lakes	2,161	2,278	117	0.54%
Riverton	117	110	-7	-0.60%
Trommald	98	97	10	1.15%
Totals	35,822	38,569	2,758	0.77%

Source: U.S. Census Bureau. <https://www.census.gov/programs-surveys/decennial-census/decade/2020/2020-census-main.html>

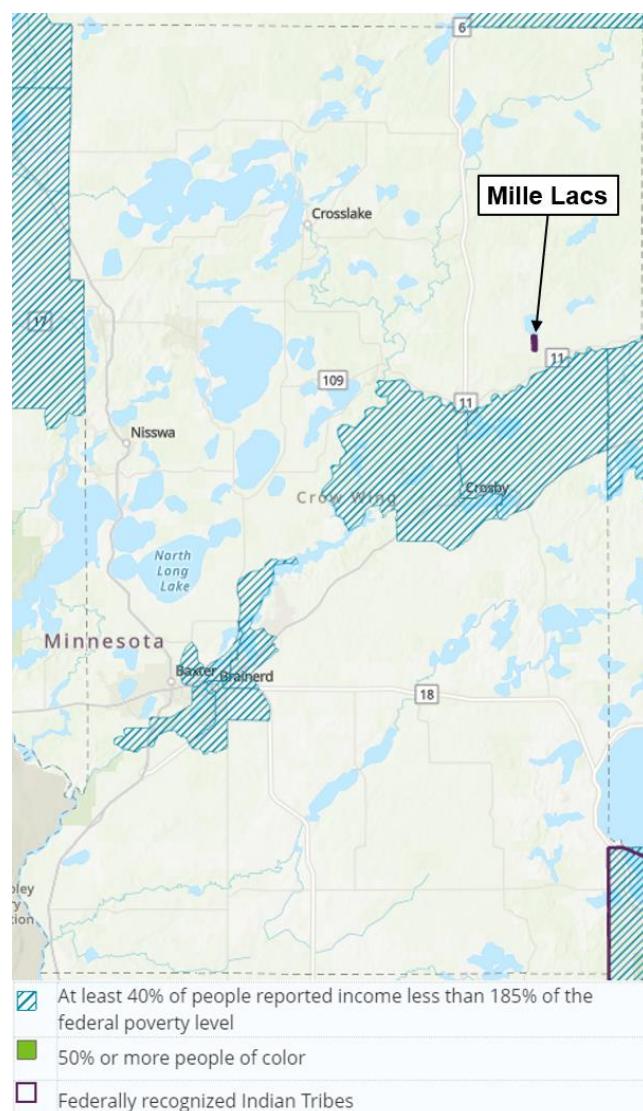
Minority populations within the County are summarized in **Table 2-2**. A map depicting the location of tribal nations and geographic areas of low-income within the County is provided in **Figure 2-2**.

Table 2-2: Crow Wing County Minority Populations

Minority Population	Percentage of County's Population
Caucasian	95.8%
American Indian and Alaska Native	1.0%
African American	0.9%
Asian	0.5%
Hispanic or Latino	1.7%

Source: U.S. Census Bureau.

<https://www.census.gov/quickfacts/crowwingcountyminnesota>

Figure 2-2: Locations of Tribal Nations and Low-Income Areas within Crow Wing County

Source: Minnesota Pollution Control Agency.

<https://mpca.maps.arcgis.com/apps/MapSeries/index.html?appid=f5bf57c8dac24404b7f8ef1717f57d00>

As shown in **Figure 2-2**, the Mille Lacs Band is the only tribal nation within Crow Wing County. This Tribal land is not a formal reservation and there is not believed to be anyone living there. Approximately 10.7 percent of the County is characterized as low income, defined as areas where at least 40 percent of the population reported income of less than 185 percent of the federal poverty level.

The area to the north of Brainerd has a large number of lakes and a large number of resorts near the lakes. These areas serve as popular vacation destinations for residents from the Twin Cities metropolitan area and other locations. Compared to the resort towns surrounding the lakes in Crow Wing County, the City of Brainerd itself is a historically underserved area (at least 40 percent of people reported income less than 185 percent of the federal poverty level), as shown with the blue hatching in **Figure 2-2**.

2.1.2 Population Projections

The State Demographer's Office provides projections on population changes based on census results. The 2010 United States (US) Census Bureau population count was 62,500, and the 2020 US Census Bureau population count was 66,123. **Table 2-3** illustrates past, present, and projected population levels for Crow Wing County. The County experiences a significant population increase in the summer due to tourism and out-of-county residents with second homes in the County.

Table 2-3: Crow Wing County Population Summary

Year	Population	Average Annual Percent Change
2010	62,500 ¹	--
2020	66,123 ¹	0.58%
2033	67,359 ²	0.15%

Sources:

(1) U.S. Census Bureau. <https://www.census.gov/programs-surveys/decennial-census/decade/2020/2020-census-main.html>

(2) Minnesota Department of Employment and Economic Development.
<https://mn.gov/deed/data/data-tools/county-profiles/>

2.2 Geographics

2.2.1 Current and Projected Land Use Patterns

The largest city in the County is Brainerd, which is also the location of County government. The cities of Brainerd and Baxter continue to experience the most significant development in commercial properties with few significant industrial activities. The State Highway 371 Corridor from Baxter north is the most significant commercial development in the County. The County is experiencing growth in city and rural residential areas. Cities continue to demonstrate the largest growth.

The population is gradually aging within the County as outlined below in **Table 2-4**. The County is a desirable retirement area due to the high-quality lake and forest resources and accessibility to excellent medical care.

Table 2-4: Crow Wing County Population Breakdown by Age

Population Group	2023 Percentage	2033 Projections
1-24	27.7%	26.6%
25-65	47.3%	45.0%
65 & Older	25.0%	28.4%

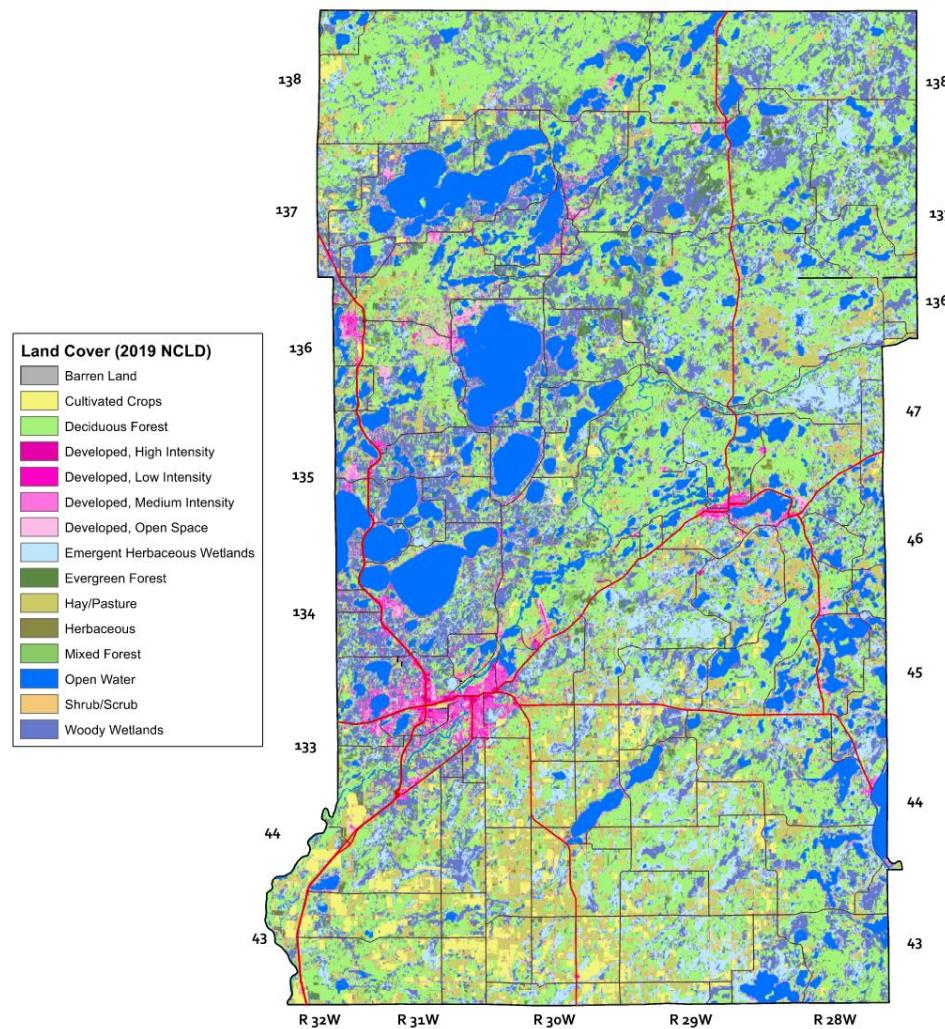
Source: Minnesota Department of Employment and Economic Development. <https://mn.gov/deed/data/data-tools/county-profiles/>

The 2010 US Census Bureau population estimate for the County was 62,500 (26,033 households) and increased to an estimated population of 66,123 in 2020 (27,872 households). An important part of this trend is the fact that the number of households has increased at a faster rate than the population. County households grew at a rate of 7.1 percent compared to a 5.8 percent County growth rate for population during the same period (2010 to 2020). This means that the pressure to develop more land for permanent housing is exceptional.

Crow Wing County adopted a Comprehensive Land Use Plan in April 2004 which is planned to be updated in 2024. The plan is the policy framework Crow Wing County will use to guide its land use activities. The plan sets broad goals to direct the future growth and development of the County in the following areas: agriculture; economic development; parks, recreation, and open space; housing and residential development; forest resources; water resources; transportation; utilities; and County government. The policies, implementation, and strategies contained in the plan were created in response to citizen input and were based on the principles of sustainable development, which recognize that a healthy environment, a strong economy, and a high quality of life and social connections should not occur at the expense of each other, but rather are interdependent and can strengthen each other in the long term.

2.2.2 County Geography

Crow Wing County has vast forest, beautiful lakes and wetlands, large areas of public land and open space, interconnected trail system, and a diversity of rural and urban areas. A geographic map of Crow Wing County is provided in **Figure 2-3**.

Figure 2-3: Crow Wing County Geographic Map

Source: Crow Wing County.

There are 1,157 square miles (740,480 acres) of land and water. Of this total, over 13 percent (100,480 acres) is covered by lakes, rivers, and streams. An additional 26 percent is covered by wetlands. Roughly 80 percent of the land in the County is privately owned, 14 percent is County owned (103,000 acres - much of it is located in the northern third of the County), and the remaining is state and federal owned. This County is rich in diversity of its cities, rural area geography, land use, and economy. The natural resources of the County are the most significant factor accounting for continued economic growth.

The County contains 202 lakes greater than 40 acres. The County has a high amount of high-quality lakeshore property. Over 30 percent is hard and elevated sand shoreline with only 17 percent marsh or swamp. Approximately one-half of the lakeshore is free of aquatic plants. The lakes are located in two clusters. The largest is north of Brainerd, and includes Gull, Pelican, and the Whitefish Chain. This

cluster is one of the highest quality and the most developed lake recreational areas in the upper Midwest. The other cluster is in the southern part of the County that includes Bay Lake and Mille Lacs Lake, both of which host significant lakeshore development, retail services, and tourism-oriented businesses.

Agricultural activity is declining. The number of farms, acreage in cultivation and pasturage has fluctuated in the past, but it is now being sold for residential development. Agriculture is no longer a significant activity in the County. Most of the present agriculture is located in the southern part of the County, south of Brainerd.

Of the land area, forest land occupies approximately 60 percent, much of which is under commercial ownership. Tax forfeit land is administered by the County. The forest is highly productive. For this reason, commercial forestry and its related manufacturing facilities are important to the County.

2.3 Economic Conditions

In the last 10 years, the complexion of the economy has continued to change from resource based (commercial forestry, mining, and tourism) to a more diverse service economy. There is still a strong resource-based economy, but the trend is more diversity with increased strength in individual and family services, community care facilities for the elderly, employment services, investigation and security services, and administration of human resources programs health care, retail, manufacturing, recreation/accommodations, and construction. A significant portion of the population is 65 or over, resulting in an increase in health care facilities and services. Tourism, development of seasonal recreational property, and the Highway 371 Corridor are considered significant enhancers to the local economy. The area's many lakes and woodlands attract thousands of people to the County each year. Many of the jobs in the County rely on tourism and travel expenditures. Seasonal recreational property owners have an effect on the economy similar to tourism, as well as contributing significantly to the tax base. The County has become more attractive to light manufacturing during the past decade. The County has one of the largest nonresident ownership populations in Minnesota. During summer months, the population increases by three to four times.

The County's employment base is estimated to be 31,979 in 2022 but varies by approximately 20 percent from summer to winter due to the large number of seasonal service jobs and weather-related construction jobs. Due to tourism and seasonal recreational activity, many jobs in the County are related to the recreation, retail, and accommodation industries rather than manufacturing. However, a light-manufacturing base has become established. Also, the County has a relatively large number of retired people on fixed incomes. These factors are demonstrated in the County's median household income in

2022 which was \$57,779 compared to \$44,659 in 2010. The State median income in 2022 was \$73,382 compared to \$57,243 in 2010.

In 2022, the State's per capita income was \$38,881. In comparison, the County's per capita income for 2022 was \$32,962. In 2020, persons below the poverty level in the State were 9.3 percent, and the County was 10.7 percent. Although the County has a lower per capita income than the state average and a slightly higher poverty level, the County's economy is bolstered by tourism and seasonal visitors during the summer months.

The State unemployment rate for 2022 was 3.4 percent compared to 4.0 percent in the County. Typically, employment rates for the County are lower during the winter months but increase during the summer months due to greater seasonal populations, greater tourism, construction, and recreational activities.

Table 2-5 illustrates employment by trade in the County in 2022.

Table 2-5: Crow Wing County Employment by Trade and Number Employed in 2022

Industry	Number Employed	Percent
Agriculture, Forestry, Fish & Hunt	68	0.2%
Mining	N/A	N/A
Construction	2,054	7.1%
Manufacturing	2,894	10.0%
Utilities	120	0.4%
Wholesale Trade	627	2.2%
Retail Trade	4,673	16.2%
Transportation & Warehousing	638	2.2%
Information	408	1.4%
Finance & Insurance	1,366	4.7%
Real Estate & Rental & Leasing	260	0.9%
Professional & Technical Services	763	2.6%
Management of Companies	134	0.5%
Administration Support and Waste Management Services	759	2.6%
Educational Services	2,040	7.1%
Health Care & Social Assistance	5,645	19.6%
Arts, Entertainment, & Recreation	336	1.2%
Accommodation & Food Services	3,753	13.0%
Other Services	945	3.3%
Public Administration	1,365	4.7%
Total	28,854	100%

Source: Minnesota Department of Employment and Economic Development.

<https://mn.gov/deed/data/data-tools/county-profiles/>

Between 2015 and 2020, the entire sum of jobs in all industries overall has decreased by 919 jobs or an average of 0.62 percent per year.

2.4 Demographic, Geographic, and Regional Constraints and Opportunities

Population dynamics will impact the school systems, government (public health services) and socio-political needs. These and other changes will have an impact on solid waste services in the future. Other changes possibly impacting services include: a trend toward larger resorts and subsequent reduction of smaller resorts and the creation of common interest communities, the availability and quality of lake shore property declining, fewer but larger farms, increasing demand for saw timber and fiber, and continuing growth along the major transportation corridors.

The population of the County increases from an average of 66,123 to between 200,000 and 265,000 during the summer months. Seasonal population changes, which are not indicated in the census information, have a major impact on the County's solid waste generation. For example, there are several events held annually at the Brainerd International Raceway with 400,000 individuals attending and a major winter fishing contest is held each winter (one weekend in January) drawing another 10,000 people. Even though these events are not well documented, it is assumed they greatly impact the amount of waste generated. These visitors represent a large portion of the residential and commercial waste streams.

While tourism is a strong component of the County's economic and population growth, the development of second homes is perhaps an even more critical factor. The level of property taxes generated by seasonal/recreational residential property in the County is one of the highest in the region.

Crow Wing County experiences a seasonal waste generation increase of approximately 67 percent between the winter and summer based on gate receipts at the Landfill. Part of the increase is due to normal residential waste generation patterns for spring and summer months due to yard and home cleaning as well as increased social activities.

These dynamics in County population and waste generation are challenging but provide opportunities for recycling. The County is planning to increase their education efforts, as described in **Section 4.3.2**. In addition, the County also regularly posts ads in local newspapers, as discussed in **Section 6.2**, to inform residents of the available waste disposal programs in the County. Information on how to properly dispose of solid waste can also be found on the County's website: <https://www.crowwing.gov/226/Solid-Waste>.

2.5 Solid Waste Collection and Generation

2.5.1 Annual Quantities Generated

Table 2-6 illustrates historically the amount of solid waste generated annually per person in the County in the last 5 years. The 5.8 pounds of waste generated per person per day in the County in 2022 is higher than the national average of 4.9 (EPA 2018, <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials>). This is attributable to tourism and out of county residents with second homes in the County.

Table 2-6: Crow Wing County Waste Generation Analysis

	2018	2019	2020	2021	2022
Population ¹	64,975	65,274	66,123	67,887	68,794
Waste Generated (tons of MMSW and, recyclable materials) ²	85,092	89,973	115,323	96,518	73,375
Lbs./person/yr.	2,619	2,757	3,488	2,843	2,133
Lbs./person/day	7.2	7.6	9.6	7.8	5.8

Sources:

(1) Minnesota State Demographic Center. <https://mn.gov/admin/demography/>

(2) MPCA SCORE Reports.

Table 2-7 provides a better overview and demonstrates the historical flow of MMSW to the Landfill.**Table 2-7: Crow Wing County Waste Generation, Disposal, & Recycling Analysis (Tons)**

Method	2018	2019	2020	2021	2022
MSW Landfilled ¹	51,219	51,834	53,853	52,731	54,473
Asbestos Landfilled ¹	19	97	18	245	119
Industrial Solid Waste (ISW) Landfilled ¹	384	66	48	192	93
Recycled ²	38,089	42,456	67,294	50,192 ³	27,498 ³
On-site Disposal ²	226	226	226	231	231
Generated	89,937	94,679	121,392	103,591	82,514

Sources:

(1) Crow Wing County Waste Receipts.

(2) MPCA SCORE Reports.

(3) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

2.5.2 Collection Services

The integrated solid waste program in the County is a mix of public and private facilities and operations. MMSW waste collection and transportation are privatized, thus allowing haulers to determine the final disposal location. The choice by the haulers at this time is the Landfill. The County does not collect or haul MMSW and does not require haulers to use specific disposal facilities. Haulers are licensed through the County and are required to abide by all County, State and federal regulations concerning the collection and transportation of MMSW. There is a contract in place by the County for the operation of aspects of the County Solid Waste Management Complex, and there is a contract with a recycling hauler to collect recyclables from the Site and the recycling drop off sites. In the future, the County may look at organized collection if the County Board of Commissioners chooses this option.

The only direction or requirements for others possibly considering entering the waste disposal arena is addressed under the County's Solid Waste Ordinance and is consistent with State solid waste management rules. Haulers may, if they so desire, negotiate contracts with waste processing or disposal facilities. The County will not at this time determine the manner in which waste is collected, transported, or delivered nor to which disposal facility except as required by statute. In the future, the County may look at modifying the existing ordinance to allow for the potential of organized collection or waste designation if the County Board of Commissioners chooses this option.

MMSW collection services in the County are largely privately owned and operated. Waste collection in the County is not mandatory; waste collection services are provided through an open system in which individual generators contract with a hauler of their choice. Weekly curbside collection service is available in Baxter, Brainerd, Breezy Point, Crosslake, Ironton, and Pequot Lakes, and in a portion of the rural areas of the County through a contracted hauler. The refuse collection business is very competitive in the County with more than one hauler serving all areas of the County. The County provides no subsidy for refuse collection services. The County estimates that approximately 68 percent of households within the County have solid waste collection service based on data received from major MSW haulers in the County. The County revised the Crow Wing County Solid Waste Hauler's Manual in 2023 to request haulers to report the approximate number of households they service annually.

The County Solid Waste Office has the authority and does annually license solid waste haulers operating within the County. A \$25 fee is charged annually for each licensed vehicle. Currently, the County licenses 16 haulers to provide collection and transportation of MMSW within the County. Each licensed hauler is listed below in **Table 2-8**. It is assumed that the 16 licensed haulers operating within the County will continue to transport MMSW collected within the County to the Landfill. This assumption is based upon a competitive tipping fee at the Landfill.

Table 2-8: Crow Wing County 2023 Licensed Haulers

Hauler's Name
American Disposal, Inc.
Bob Lemieur Rolloff, Refuse, and Recycling
Grinning Bear Rolloff
Emily Roll-off
Garrison Disposal
Greenday Hauling
Hengel Ready Mix & Construction, Inc.
Jim's Mille Lacs Disposal
Mille Lacs Band Public Works
North Country Sanitation & Roll-Off – Pequot Lakes
Pequot Lakes Sanitation dba Gull Lake Sanitation
Range Disposal
Tiger Rolloff LLC
Waste Management – Baxter
Waste Partners

Source: Crow Wing County.

The choice of collection system can have a substantial impact on the County's ability to implement its solid waste policies. If the current system of solid waste collection and management is not moving the County toward its long-term goals, then the County may look into implementing organized collection. County staff will assist cities, towns, and townships if they want to establish an organized collection system. The County may also investigate establishing organized collection in the unorganized townships.

The source of funding for this program is primarily through a fee charged by the hauler to the customer. This fee should be set at a level sufficient to cover the cost of collection and disposal.

There are currently two canister sites in the County. These are located at the Nisswa Community Center and the Ideal Transfer Station. In addition, these sites accept tires, appliances, yard waste and other recyclables. The hours of operation vary at each facility.

2.5.3 On-Site Disposal

Waste collection in the County is not mandatory. However, all residents in the County have access to solid waste services through self-hauling, drop-off, or collection services. Based on SCORE reporting, it has been estimated that approximately 1 percent of the County's population (or 550 individuals) was without or not utilizing waste collection services and are disposing of waste through on-site burning or

burying. Using a per capita generation of 2.3 pounds per day (from the formula in the MPCA SCORE reports), this amounts to 231 tons of waste material being disposed of on-site per year.

2.5.4 Rate Structure

State law and County Ordinance requires all haulers to provide volume or weight-based fees to residential customers. The County does not regulate or monitor residential or commercial/industrial collection rates. The licensed haulers set their own fees, and the fees vary among haulers. Rates for residential and commercial collection vary based on volume and distance to the disposal facility. These rates range between \$20 and \$40 per month.

Rates and fees as established by the County Board for the most common materials disposed at the Landfill are located in **Table 2-9**. A complete list of rates is provided in **Appendix D**.

Table 2-9: Crow Wing County Site Fees (2023)

Item	Tipping Fee	Unit
MSW Landfill	\$60.88	Cubic Yard
Demolition Landfill	\$6.30	Cubic Yard
Furniture	\$7.00	Each
Mattresses	\$30.00	Each
Appliances	\$5.00	Each
Used Electronics	\$5.00	Each
TVs (27 inches or smaller)	\$10.00	Each
TVs (28 inches or larger)	\$15.00	Each
Car Tires (15 inches or smaller)	\$2.00	Each
Car Tires (16 inches or greater)	\$3.50	Each
Semi-truck Tires	\$7.00	Each
Tractor Tires	\$10.00	Each
Equipment Tires	\$140.00	Each

Source: Crow Wing County. <https://crowwing.us/727/Fee-Schedule>

2.5.5 Financial Incentives for Waste Reduction and Recycling

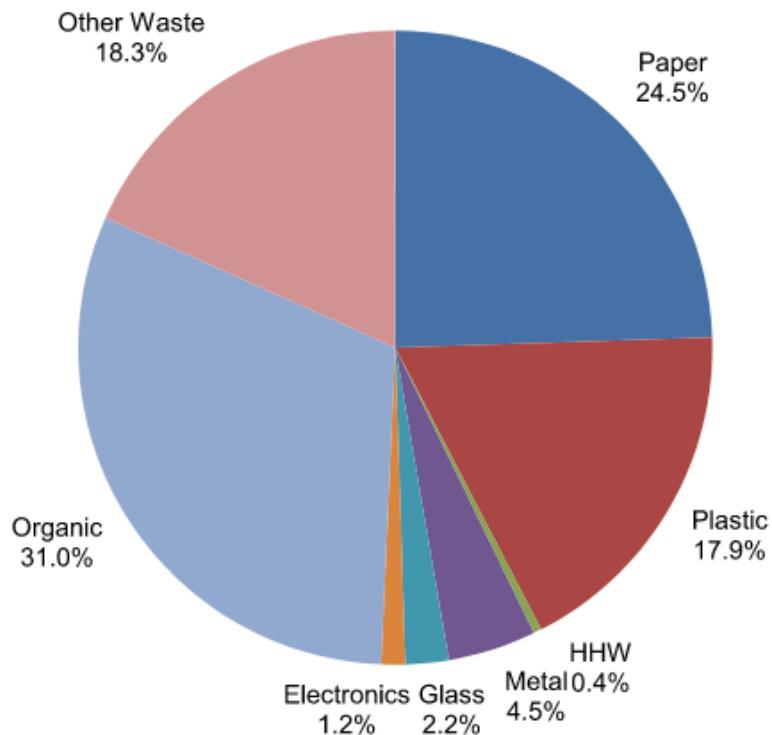
The County's recycling drop sites, oil drop sites, and Take It To The Box program are all free for County resident use. These free programs offer incentives for residents to recycle.

2.5.6 Solid Waste Composition

The most recent Minnesota statewide solid waste characterization study was completed in 2013 and is believed to be the most representative data available for the waste composition for Crow Wing County.

Figure 2-4 summarizes the results of the study.

Figure 2-4: 2013 Statewide Characterization Results



Source: Burns & McDonnell 2013 Minnesota Statewide Waste Characterization Report.

Note: The total may not equal the sum of the material categories due to rounding. The material category of Other Waste includes but is not limited to bulky items, textiles, carpet, and other items not classified in the other categories.

The 2013 statewide waste characterization study estimated the quantities and types of mixed municipal solid waste disposed. The methodology included sampling and sorting of materials per ASTM D 5231-92 (2016); Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste from a representative set of landfills, transfer stations, and energy-from-waste facilities throughout the state. A comprehensive set of material categories were included in the study and nearly 200 Municipal Solid Waste (MSW) samples of 200 to 300 pounds each sampled and sorted as part of the study.

The detailed results for all of the material categories are provided in **Appendix A**. Food waste, paper, film plastic, and wood waste represented the largest materials diversion opportunities.

Additional detail on the composition of recyclable materials and problem materials in the County is presented in **Table 7-5** and **Table 7-6** in **Section 7.3**.

2.5.7 Residential and Commercial/Industrial Waste

It is estimated that 64 percent of MMSW generated within the County is from residential sources and the remaining 36 percent is from commercial/industrial generators.

2.5.8 Solid Waste Collection and Generation Constraints and Opportunities

Potential barriers to solid waste collection and generation in the County include flow control (waste designation), recycling market variability, transportation costs, distance to other facilities, system costs, capital investment funds, political issues, legal waste assurance mechanisms, and cooperation and agreement among counties.

Regional cooperation in solid waste management facilities does not, in all cases, result in economic benefits without flow designation. A lined landfill operates more effectively by handling a greater quantity of MMSW and a resource recovery facility operates more cost effectively near capacity.

However, each incremental ton of MMSW must be transported further to a facility and as the distance increases, transfer stations are warranted. Thus, there are increased transportation and transfer station costs that offset economies of scale. Regional solid waste management facilities do not necessarily equate to more efficient management. Regional cooperation will develop naturally where prudent, and supposedly in areas of the solid waste management system without flow designation. Crow Wing County will continue to explore regional opportunities as they arise.

Within the County, opportunities to better quantify solid waste collection and generation, and increase recycling, include better data collection from businesses, materials recovery from resorts and events, and better education for residents and tourists (including lake associations). Data collection from businesses is discussed in more detail in **Section 7.10**. As discussed in **Section 2.4**, winter fishing contests and events at Brainerd International Raceway bring in several thousand visitors during each occurrence. Recycling collection and waste diversion at these large events is challenging and provides an opportunity for the County to work with these entities for increased material recovery.

The County is planning to increase their education efforts, as described in **Section 4.3.2**. In addition, the County also regularly posts advertisements in local newspapers, as discussed in **Section 6.2**, to inform residents of the available waste disposal programs in the County. Information on how to properly dispose of solid waste can also be found on the County's website: <https://www.crowwing.gov/226/Solid-Waste>.

2.5.9 Construction and Demolition Debris Generated

The amount of construction and demolition debris generated annually in the County from 2016-2020, as provided by the MPCA, is summarized in **Table 2-10**.

Table 2-10: Crow Wing County Construction and Demolition Debris Generation

Year	Demolition Debris Generated (Tons)
2016	15,864
2017	11,802
2018	13,231
2019	11,334
2020	16,231

Source: MPCA Goal Volume Table.

2.5.10 Large Generators

Large MSW generators for the County include the school districts of Brainerd, Crosby-Ironton, and Pequot Lakes, state, county and city government, hospitals, and the area's many resorts. It is estimated that these generators account for 10 percent annually of the total waste generated in the County. Currently, there are no specific data regarding the volume and composition of the waste generated by these individual sources.

2.6 Local and Regional Solid Waste Planning

Past solid waste management planning activities include the establishment and development of the current long-term environmentally and economically sound integrated solid waste management system within the County. Some of these activities include:

- May 21, 1973 – MPCA issued Solid Waste Permit SW-111 for the old unlined County Landfill (SW-111)
- June 17, 1974 – disposal operations begin at SW-111
- 1989 – Potlatch constructed the lined paper mill waste Monofill for disposal of paper mill wastewater sludge and coal ash, Permit SW-533 (originally part of SW-111 and then SW-533)
- September 26, 1989 – Solid Waste Management Plan (updates completed on February 18, 1993, November 26, 1997, September 22, 2003, and November 14, 2013)
- November 1, 1989 – Potlatch began disposal in the Monofill
- February 1991 – Environmental Assessment Worksheet, Crow Wing County MMSW Landfill SW-376 (updates completed January 1995, and November 1998)

- 1991 – Arrangements for two curbside and twelve drop off recycling programs; expanded to three curbside and sixteen drop off recycling programs by 2012 (in 2022 there were six curbside and three drop off recycling programs)
- August 5, 1991 – MPCA issued Solid Waste Permit SW-376 for the new Subtitle D lined Landfill (Permit Reissuance 1996, 2001, 2007, 2015, and reissuance application submittal anticipated for May 2023 concurrent with this Plan)
- November 1991 – Disposal operations begin at SW-376
- 1991 and 1992 – County working in conjunction with MPCA identified and provided an avenue for the proper disposal of existing large tire dumps located throughout the County
- 1992 – Closure of the old unlined County Landfill
- 1993 – Solid Waste Management Ordinance for the County
- 1993 – MPCA issued permit for the Demolition Debris Landfill (SW-440) (Permit Reissuance 2002, 2008, and 2015)
- June 1993 – Industrial Waste Management Plan for the County Landfill (last updated in June 2021)
- 1993 – County HHW facility/services including product exchange for County residents began operations
- 1995 – County provided drop off sites for used oil. Program was expanded in 2003 to larger tanks and to incorporate used oil filters and antifreeze – as of 2010 eleven sites are located throughout the County
- 1997 – County started to provide assistance to cities, local organizations, and others in organizing cleanup days for their local community
- 1998 – NPDES Industrial Stormwater General Permit for the County Site (last updated in 2020)
- Enrollment of two landfills (Crosby SLF-181 and Fifty Lakes SLF-243) in the MPCA Closed Landfill Program (CLP)
- 2001 – Started to provide an annual \$5 coupon to County residents for services offered at the County Site to help promote proper solid disposal actions (updated in 2019 to \$10 coupon)
- 2001 – County started to provide recycling opportunity to business and institutions for electronic waste
- 2001 – County started disposal opportunity to business and institution for Very Small Quantity Generator (VSQG) waste
- October 2002 – Potlatch discontinued use of Monofill, SW-533
- 2003 – Potlatch Monofill was closed and received final cover

- 2004 – County started to provide recycling opportunity to residents for electronic waste
- 2006 – County started to provide recycling opportunity for mattresses
- 1998 – 2011, in conjunction with the City of Brainerd and Northland Arboretum, worked with MPCA to bring the old City of Brainerd Dump to closure
- 2012 – County started to provide disposal opportunity to resident's pharmaceuticals
- 2015 – County completed Residential Recycling Program Evaluation Study
- 2020 – County Developed a Landfill/Solid Waste Comprehensive Review
- 2017-2023 – County transitioning the old unlined County Landfill SW-111 to the CLP (SW-111 entered the CLP on June 30, 2023)
- 2022-2023 – Construction of the CWCRC (The CWCRC opened on July 11, 2023), which provides convenient collection of HHW, e-waste, mattresses, used oil, batteries, recyclables, appliances and scrap metal, and waste tires in one location near the Site entrance
- Annual Reports for the County lined MMSW landfill, closed unlined Landfill and Demolition Debris Landfill
- Annual Haulers Manual for the County's licensed haulers
- Annual Recycling Reports prepared by the County Solid Waste Office

2.6.1 Local and Regional Planning Activities

2.6.1.1 Local Planning

The County has a Solid Waste Committee Board comprised of two commissioners, County staff, and the Landfill Operator. Issues are brought to the County Commissioners on an as needed basis to discuss and make recommendations regarding special solid waste issues such as "Certificate of Need (CON)," phase construction of the landfill cells, progress with County wide recycling programs, etc.

Involvement of the public in solid waste management planning is encouraged. All meetings of the County Board of Commissioners are open to the public. In addition, the County regularly solicits the inputs of affected parties. The County intends to continue to actively solicit comments from affected and/or interested parties when addressing solid waste management issues. Other than the requirements of statute or rules (i.e., record of public hearings or public notices), the County has no formal record of public input by interested parties. The record of public input regarding solid waste matters is maintained at the County Solid Waste Office.

The County prepared a Landfill/Solid Waste Comprehensive Review in 2020. This review outlined investments and modifications to staffing and infrastructure that the County can make to improve

operations at the Site by pivoting to a full customer service model. Recommended improvements from the Landfill/Solid Waste Comprehensive Review include the following:

- Modify recycling drop off sites to reduce contamination, resulting in cleaner materials being recycled. This has been accomplished, as discussed in **Section 7.10**.
- Expand HHW hours and capacity to increase the quantities of materials recovered. This has been accomplished through the new CWCRC (discussed in more detail in **Section 4.3.1**).
- Improve electronics collection. The electronics drop off area and storage building were too small for the volume of electronics received. This has been accomplished through the new CWCRC.

2.6.1.2 Regional Planning

In the past, County officials have met with Cass, Morrison, Aitkin, and Todd County officials on a monthly basis to discuss solid waste issues affecting the State and the region. The solid waste officers still meet on an as needed basis as Region 5 of the Solid Waste Administrator Association. The group includes Crow Wing, Morrison, Benton, Mille Lacs, Kanabec, Chisago, Isanti, Wright, Sherburne, and Meeker Counties. In addition, Aitkin and Cass Counties are also invited. The purpose is to cover agenda items relative to current solid waste issues, invite guest speakers, and exchange topical information on relevant issues thus developing regional cooperation.

The Northeast Solid Waste Advisory Council (NEWAC) was formed on July 13, 1992 to investigate the potential of developing a regional solid waste management plan for nine counties in central and northeastern Minnesota. NEWAC originally included Aitkin, Carlton, Cass, Cook, Crow Wing, Itasca, Koochiching, Lake, and St. Louis Counties and Western Lake Superior Sanitary District (WLSSD). However, Crow Wing and Cass counties chose not to participate in the NEWAC as full-time members. The County may participate in specific programs in the future.

WLSSD established a local pilot program in Minnesota in 2000 with the federal prison concerning mattresses. WLSSD, MPCA, and members of NEWAC established a Mattress Recycling/Disposal Work Group in 2003 for the purpose of developing and implementing a program to deal with mattress disposal practices in the region. Crow Wing County was part of this group. This is a public-private partnership between Goodwill Industries (GWI), the northeast counties, retail sales operations, and other businesses and institutions that collectively generate a steady stream of used mattresses. The goal of the program was to establish a stable, self-supporting market mechanism to divert mattresses from the waste stream, recycle by-products, and provide training and employment for individuals working within GWI. The small-scale pilot testing began in June 2004. By January 2005, larger scale pilot operations began as other

county partners implemented some form of mattress collection with full scale operation being initiated in June 2005. Crow Wing County started to utilize this program in August 2006 and has continued to utilize this program. Recycling mattresses increases the County recycling rate, removes an operational issue at the Landfill, and extends the life of the Landfill.

The County participated in the Tri-County Solid Waste Commission's regional HHW Program with Morrison, Pope/Douglas, Todd, Wright, McLeod, Sherburne, Benton, and Stearns Counties. Starting in 2003, the County formed its own regional group with Morrison and Todd County. This includes training, review of specific legislative activities, disposal of waste and exchange of information between participating counties and other regional programs. The County still works with Morrison and Todd Counties.

Cass County received an electronic collection improvement project grant from MPCA to explore potential avenues for electronics within the region in 2011. Working with Crow Wing and Hubbard Counties, Cass County received quotes from vendors to provide this service starting July 2012. The low quote received will take electronics for no cost, plus no cost for transportation. This contract met the County's goal of reducing the cost for this program and provided a partnership opportunity with surrounding counties.

2.6.2 Past Barriers to Development of Regional Projects

The main barrier to regional projects continues to stem from hauling distance, as Crow Wing County spans a large geographic area and the region is sparsely populated. Other barriers include increasing solid waste services' costs, capital and operating costs associated with potential regional solid waste facility solutions, and lack of local recovered materials markets.

2.6.3 Resolution of Overlapping Solid Waste Management Efforts

Multiple entities in the County work together to address solid waste management. Some of the materials managed at the Site are also managed elsewhere in the County. For example, tires are managed at the Site and by private retailers. The combination of services provided at the Site and by others in the County provide residents with sufficient options to properly address solid waste management needs in the County.

3.0 EXISTING SOLID WASTE MANAGEMENT SYSTEM

3.1 Overview of Existing System

Solid waste generated within the County is primarily delivered to the County owned Solid Waste Disposal Site. The County's existing integrated solid waste management program encompasses a broad range of elements that include a:

- Waste reduction program
- Waste education program
- Recycling program
- Yard waste program
- Tire management program
- Used electronics program
- Major appliance program
- Used mattress program
- Used oil/filter, and a lead-acid battery program
- HHW facility/program
- MMSW Landfill disposal facility
- Demolition Debris Landfill disposal facility

3.2 Existing System Policy and Goals

3.2.1 State Policy

State law requires Greater Minnesota counties to consider and, where feasible and prudent, implement programs to process MMSW utilizing solid waste composting, incineration, or other mixed waste processing techniques.

Minnesota Rules (Minn. R.) 9215.0577, Subpart 4 requires counties which propose to manage the majority of their solid waste by land disposal to include a description of the technical, financial, demographic, geographic, regional, and solid waste constraints or barriers that limit the county's ability to achieve greater independence from land disposal. The information must demonstrate that there are no solid waste system alternatives that are more feasible and prudent than the proposed land disposal system. A discussion on the constraints and barriers limiting independence from land disposal is provided in **Section 4.1**.

3.2.2 County Policies and Goals

It is the policy of the County Board of Commissioners to assist the State with the compliance of its statutes and rules and implement ordinances consistent with the integrated solid waste management system for the State of Minnesota. The Board of Commissioners acknowledges the MPCA's requirement to maintain and implement a solid waste management plan. Furthermore, the County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

3.3 History of System Development

Minnesota's statewide recycling efforts began in earnest in 1989, when the Legislature adopted comprehensive legislation based on the recommendation of the Governor's SCORE. This set of laws initiated a source of State funding for programs for recycling, waste reduction, and the improved management of HHW and problem materials. SCORE related programs are a key element of the integrated solid waste management program initiated and managed by Crow Wing County through its Solid Waste Office within the Land Services Department.

The County's efforts on developing a solid waste system go back to the permitting of the County's old unlined Landfill SW-111 that started operations in 1974. Prior to this, many of the communities within the County had their own local dump. The development of the County's integrated municipal solid waste management system goes back to 1991 when many of the area's recycling programs were initiated, and a new lined Landfill, SW-376 was constructed.

3.4 Description of Existing Resource Recovery Programs or Facilities in Use

No County solid waste is transported to waste-to-energy (WTE) or other resource recovery facilities for management.

3.5 Description of Land Disposal Facilities in Use

3.5.1 MMSW Landfill SW-376

The County obtained the original permit SW-376 to construct and operate the lined Landfill on August 5, 1991; the permit was reissued by the MPCA on June 18, 1996, April 4, 2001; the permit was modified to incorporate the recirculation-to-energy (RTE) demonstration on August 13, 2002; and the MPCA modified the permit on March 18, 2005 to incorporate electronic data transfer. The permit was reissued again on June 28, 2007, modified by the MPCA on September 25, 2008 to incorporate the south land application area, and reissued again on April 1, 2015. The permit was modified by the MPCA on May 25,

2019 to incorporate partial Cell 5, a 5.5-acre expansion with a waste and final cover volume of 462,699 cubic yards (cy), for a total ultimate capacity of 2,459,749 cy and Cells 1 through 5 are 28.0 acres. The volume of Cell 5 was based on the 1998 approved environmental assessment worksheet (EAW) capacity of 1,967,800 cy for waste, cover soils and final cover. The EAW allows for a twenty-five percent increase in capacity prior to submitting a new EAW, or 491,950 additional cy. The 2007 permit reissuance added an additional 29,250 cy to the permitted capacity, leaving a remaining increase availability of 462,700 cy (Cell 5 2018 permitted capacity was 462,699 cy). The 2023 permit reissuance requests an additional permitted capacity of 1,377,251 cy, which represents the remaining volume of Cell 5 (identified as the Cell 5 wedge) and airspace for proposed Cells 6 and 7. The ultimate capacity for Cells 1 through 7 of 3,837,000 cy, and a total disposal footprint of 39.4 acres. The requested volume provides permitted capacity for County MMSW until an estimated 2039 or approximately 15 years of capacity.

3.5.2 Demolition Landfill SW-440

The Demolition Debris Landfill was constructed and began accepting waste in 1990 as a permit-by-rule landfill. It was permitted formally by the MPCA as SW-440 in 1993 and utilized approximately 4.6 acres of land for demolition debris. The most recent permit reissuance for SW-440 was issued on May 15, 2015. Phase I accepted waste from 1993 until July 2003. Phase I was closed in two parts during 2001 and 2004. The Phase II expansion is located west of the existing facility, is 4.71 acres, and began accepting waste in August 2003. The 2015 Permit approved future expansion into Phase III of the Demolition Debris Landfill, located west of the existing Potlatch Monofill and east of the MMSW Landfill with a permitted capacity of 400,413 cubic yards. Future expansions of the Demolition Debris Landfill include Phase III (145,000 cubic yards), Phase IV (92,000 cubic yards) and Phase V (230,000 cubic yards). Therefore, the ultimate design capacity of the Landfill is 760,904 cubic yards of waste, intermediate, and final cover.

3.6 Costs to Operate and Maintain the System

Crow Wing County's 10-year projected budget is provided in **Appendix B**.

3.7 Summary of Achievements, Opportunities, and Challenges

The County has a successful and mature integrated solid waste management program. In addition, many of the businesses within the County have well-developed recycling/waste reduction programs. The County's system has a range of opportunities from recycling (providing a vital environmental benefit) to the Landfill (providing a safe, reliable, and essential disposal option for residents and businesses). The County has expended significant time and capital in planning, designing, and implementing the current program. In many cases, the County's problem material program complements existing retailer programs

to ensure in-depth coverage. The goal is maximum recovery, and to encourage residential participation; convenient times, location, and ease of disposal are key features of the County's program. The County's Solid Waste Disposal Site is located between the two major population centers for the County: Brainerd/Baxter and Crosby/Ironton/Deerwood. The "One-Stop-Service" provides convenient access for proper disposal for these materials at a reasonable price. Prices are set to promote the proper management of waste, eliminate illegal dumping, and halt backyard burn barrels. Programs have been established to be sustainable, economically feasible, and environmentally protective.

Challenges to the County's existing solid waste management system are discussed in **Section 2.4** and **Section 2.6.2**. These sections discuss demographic, geographic, and regional constraints, and barriers to the development of regional projects, respectively. The main challenges center around data collection and education.

3.7.1 Market and Economic Conditions

One of the most significant challenges for the County's existing solid waste management system is transportation and hauling distance. Recyclables collected in the County are hauled out of the County for processing. The lack of adequate materials processing capacity and regional end markets within the County results in challenging economic conditions for materials recovery.

3.7.2 Availability of Resource Recovery Programs or Facilities

There are no available resource recovery programs or facilities in Crow Wing County.

3.7.3 Availability of Local and State Funding Resources

The County's revenue sources include annual MPCA SCORE funding, MPCA HHW grant funds, the Greater Minnesota Landfill Cleanup Fee (GMLCF), the Solid Waste Assessment, interest generated through the Landfill financial assurance funds, and tip fee revenues generated by the County owned land disposal facilities.

4.0 PROPOSED SOLID WASTE MANAGEMENT SYSTEM

4.1 Constraints and Barriers Limiting Independence from Land Disposal

To accomplish additional recovery of waste through either composting, co-composting, refuse derived fuel processing, or incineration, the County would need to construct and direct waste to a new facility or direct waste to an existing facility. The County examined the possibility of a co-composting processing system in the 1998 plan update and incineration in the 2003 plan update. In both updates the County opted for land disposal as the most feasible means at that time. Due to the intense competition, closure of many of the existing composting facilities, and substantially higher cost of a composting and incineration facilities, the County was led to the conclusion that it is not prudent to pursue this type of waste disposal. Due to economic costs and environmental benefits of the proposed programs, the County Board of Commissioners considers the existing system to be the most prudent and feasible waste management system available to the County. Significant investment has already been made for the existing system.

The County has well-established programs to address reduction, reuse, recycling, and composting as characterized in the waste management hierarchy. There are no WTE facilities located in the County and no County-generated MSW is currently being exported out of the County for energy recovery.

Based on the volumes and types of materials generated, the County proposes to use land disposal as the primary MMSW management method over the next 10 years, supplemented by recycling, education, source reduction, the new CWCRC, and the other programs outlined in Sections 5.0 through 18.0 of this Plan.

The system constraints or barriers that limit the County's ability to achieve greater independence from land disposal are described below.

4.1.1 Geographic and Demographic

Crow Wing County composes a relatively large geographic area. The nearest WTE facilities located in Fosston, Alexandria, Perham, and Newport (Refuse Derived Fuel (RDF) processing) range from more than 80 to over 150 miles from the County. The overall size and rural nature of the County makes it problematic to consolidate adequate quantities of MSW to long haul materials to these WTE facilities.

4.1.2 Financial

Transporting MSW from the County to a WTE or RDF facility also faces financial hurdles. The current cost of fuel (currently \$4 per gallon of diesel) is prohibitive to long haul all of the County's MSW when

compared to the current and proposed system of land disposal. A transfer station would also need to be constructed and operated to facilitate waste transfer to an out-of-county facility.

4.1.3 Technical

Even if it were geographically and financially feasible to transport waste from the County to one or more WTE or RDF facilities, it is uncertain if these facilities would have capacity to manage more solid waste in the future. Each of these WTE facilities currently serves their respective jurisdictions/regions and likely would need to expand to accommodate MSW from the County. In addition, the recent closure of the Elk River WTE Facility has resulted in MMSW being diverted to landfills. The WTE facilities in the Twin Cities metropolitan area are at capacity, leaving land disposal as the most feasible option.

4.2 Demonstration of No Alternatives More Feasible than Land Disposal

The discussion in **Section 4.1** provides an explanation of the geographic, demographic, financial, and technical constraints to considering alternatives to land disposal outside the County. Excluding anaerobic digestion, there are no commercially operating gasification, pyrolysis, or fermentation facilities in the United States applying these technologies to the management of MSW. As a result, the County proposes to utilize land disposal as its primary management method upon maximizing materials diversion.

The County Commissioners recognize that in choosing a solid waste processing or disposal system, they are making long-term environmental and financial decisions and commitments that can have significant economic and environmental impacts on present and future citizens. The County Commissioners and the Environmental Services Operations Manager believe that the management system chosen in this plan is justified and is the best available system for the County during the coming years. The County believes that MMSW will continue to be delivered to the County owned facility as long as its tipping fee remains competitive.

Due to environmental and economic costs and benefits and proposed programs, the existing system is the most prudent and feasible waste management system available for the County. The decision to continue recycling and landfilling as the best available system for the County during the coming years is justified for the reasons below.

The operational history and technology involved in the design of the Landfill confirms the County Commissioners' decision to select landfilling as the most appropriate disposal method. The County is also looking out far into the future. The County has set aside 175-acres to the west of the existing Landfill for future expansion. The 2023 permit reissuance application and EAW are being submitted concurrently with this Plan and provide the full ultimate capacity for the life of the site. In addition, the County has

leachate recirculation and an active landfill gas system, which includes Landfill Gas (LFG) reuse to heat two equipment shops onsite. This has the potential to address both short- and long-term leachate quality and landfill gas generation and emission concerns. The County made the decision in 1997 to operate a stabilized landfill through leachate recirculation, thereby accelerating waste decomposition. This landfill operation method improves leachate quality, provides LFG available for reuse, and optimizes airspace utilization. Long term, it reduces environmental liability impacts by stabilizing the waste before closure.

Direct County control of the Landfill provides many benefits in several areas:

- Direct control over operations enables the County to determine the quantities, types, and sources of waste being disposed of at the Landfill. The County desires to conserve landfill space through waste reduction and recycling.
- Direct control allows the County to limit the amount of waste disposed from areas outside the County. It also enables the County to methodically plan for future disposal needs.
- Direct control over Landfill operations and services allows policy modifications to take place without having to go through contractual negotiations with all the private haulers.
- Direct control over Landfill operations allows the County to limit its environmental liabilities. When contracting for private disposal, it is possible to “buy into” the liability associated with the private disposal site while having no control over the type and sources of wastes disposed of at the private facility or its design and operations.
- The waste in the Landfill comes from the residents and businesses in the County. As such, they pay for the Landfill’s management and any future expenses. Surpluses within the County’s enterprise fund can be used to support other aspects of the integrated solid waste management system, such as addressing unforeseen circumstances.

The availability of long-term, publicly controlled landfill capacity is a desirable community asset that can be offered to private industry. In this way, a well-planned and operated public landfill offers economic development benefits to the County. In addition, by being County owned and contractor operated, the County is achieving the cost savings associated with privatization.

4.3 New Initiatives

4.3.1 Crow Wing County Recycling Center

The CWCRC at the Site opened on July 11, 2023. The new facility replaces the previous e-waste and mattress building in the recycling area behind the Landfill office and the HHW building by the Landfill.

The new CWCRC functions as a one-stop-shop for County residents and will accept HHW, mattresses, e-waste, used oil/filters, antifreeze, batteries, and recyclable materials and is located adjacent to the waste tire, appliance, and scrap metal drop-off area. The CWCRC provides residents with a more convenient opportunity for residents to drop off their problem materials, thus increasing participation and diverting additional materials from the Landfill. The CWCRC will be open five days per week during the hours the Site is open (the County previously increased the HHW collection hours from two days per month) from October through March, and six days per week from April through September. The County funded the project entirely from the property solid waste assessment as part of their efforts to increase landfill diversion. The estimated cost of the CWCRC was \$3.8 million.

4.3.2 Increased Education

In addition to existing education efforts, the County is planning to increase advertising and outreach on digital platforms (e.g., Facebook and other social media). This includes promoting the Habitat for Humanity deconstruction program (discussed in **Section 5.4.2.1**) and food waste recovery (discussed in **Section 5.4.2.2**). The County recently created a full-time position for social media, outreach, and networking, and that person will be working with the Environmental Services Operations Manager to develop and maintain a digital presence. This will allow the County to share information with a larger population of County residents and seasonal County visitors and make them aware of the existing services available to them at the Site and throughout the County, driving participation in the County's recycling, landfill diversion, and HHW programs.

4.3.3 Source Reduction

Through the planning process, the County has recently been able to identify several source reduction measures taking place in the County. Habitat for Humanity's deconstruction program diverts approximately 1,300 tons per year from being landfilled. In addition, Costco Wholesale and Super One Foods are donating excess food. Additional discussion on these measures is provided in **Section 5.3**. The County plans to track the quantities diverted through these programs in future years and continue to try to identify source reduction efforts.

4.3.4 Consistent Reporting

During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. This resulted in the 2022 recycling rate being 37.5 percent for the County, which is a known underreported number. Data reported from businesses are inconsistent and incomplete (several did not report any recycling quantities despite numerous attempts to collect data). The County sends out approximately 65 surveys per year to

businesses to collect this data but has not received consistent participation and data from businesses. The County will continue to attempt to obtain data from businesses; however, a requirement from the MPCA to report recycling numbers to the County would be prudent for accurate reporting of the recycling amounts.

5.0 SOLID WASTE REDUCTION

The County recognizes source reduction as a priority in solid waste management. The County intends to assist local municipalities, businesses, and residents by setting an example for reducing waste generated from County government sources.

5.1 Policy and Goals

It is the policy of the County to promote the reduction of solid waste and to assist in the implementation of these programs to achieve the greatest reduction in the amount of solid waste generated each year. The County will continue to rely upon strategies that motivate individuals and businesses to reduce waste.

5.2 Existing Program

The County's source reduction activities are varied and designed to suit the specific needs of residents and businesses. Primarily, efforts are directed toward educational opportunities through media events and displays during special events such as Earth Week.

The County recognizes that it must be an example for local units of government, businesses, and residents by reducing waste generated from County sources. The County encourages source reduction practices that impact waste generation in public agencies through education and by example.

5.2.1 Internal Programs

The County has implemented the following source reduction programs:

- Use of post-consumer recycled content materials.
- Recycled content building/landscaping products.
- Use of recycled content janitorial products including recycling bins and trash liners.
- Purchase and reuse of repairable goods.
- Sale of reusable or repairable goods.

5.2.2 Business and Institutional Programs

The County provides the following activities to promote business and institutional waste reduction:

- Encourage businesses to use the HHW product exchange.
- Provide telephone guidance for source reduction.
- Encourage the use of Minnesota Waste Wise and Minnesota Technical Assistance Program (MnTAP) for source reduction technical assistance.

In addition, businesses have targeted specific waste streams for recycling, such as organics. One example of organics recycling is waste grease from restaurants such as McDonalds is collected by Midwest Grease and brought to their rendering plant in Long Prairie, where it is processed into feed ingredients. The quantity of organics collected for the last 5 years is provided in **Table 5-1**. 2022 SCORE reported numbers included data from Costco and Brainerd Dispatch but did not include Super One Foods as their numbers were reported after SCORE reporting was due.

Table 5-1: Quantities of Organics Collected within Crow Wing County

Year	Waste Grease from Restaurants (Tons)	Food to People (Tons)
2017	540	105
2018	535	213
2019	527	43
2020	527	58
2021 ¹	20	0
2022 ¹	7	112

Source: MPCA SCORE Reports.

(1) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

5.2.3 Residential Programs

The County provides the following activities to promote residential waste reduction:

- Distribute educational materials, flyers, and posters.
- Continue the Bites for Lights Christmas light recycling program to collect unneeded Christmas lights and extension cords during the holiday season.
- Distribute source reduction fact sheets and pamphlets concerning the generation of HHW with those that request it at the County fair.

5.2.4 Regional Programs

The Material Exchange Program was initiated in 1999 through a 2-year grant from the Office of Environmental Assistance (OEA) to Crow Wing, Cass, and Hubbard Counties. Due to available staffing and a central location, Cass County was the lead and provides the office space for the project director. Part of the program's focus is a one-on-one business assistance program. This requires the project director going to area businesses to discuss what waste they currently generate and a walk through of their

business to determine areas where waste could be reduced. The goal is to help local businesses to reduce waste, reduce disposal costs and maximize resource use.

The regional residential and commercial material exchange program (North Central Materials Exchange - MATEX) is continuing to develop. The program came online in 2000.

5.3 Amount of Solid Waste Reduced

Through the planning process, the County has been able to identify several source reduction measures taking place in the County, described in **Section 5.4.2.1** and **Section 5.4.2.2**. While these programs have been identified for the first time in this Plan, they are established programs in the County. The County will continue to document these source reduction measures in the future now that they have been identified and will strive to obtain the information annually from the entities below to include in future SCORE reports. County staff will also work to identify and quantify other similar diversion activities (e.g., Cub Foods, thrift stores, and institutions such as Central Lakes College) during the first couple years of this planning period to better document source reduction activities in the County.

5.4 Programs to be Developed

5.4.1 Internal

The County intends to continue its internal source reduction efforts by encouraging the continual purchasing of post-consumer content materials for County facilities.

5.4.2 Business and Institutions

The County intends to continue to encourage businesses to utilize MnTAP/MATEX and Minnesota Waste Wise for technical assistance with source reduction, recycling, and pollution prevention programs. Through the planning process, the County has been able to identify several source reduction measures taking place in the County, described in **Section 5.4.2.1** and **Section 5.4.2.2**.

5.4.2.1 Habitat for Humanity

Habitat for Humanity has been offering a deconstruction program since 2006. They offer the removal of items that can be safely removed in the time that contractors allow them. Depending on the age and size of the home and the time they are granted, they remove kitchen cabinets, doors (interior & exterior), flooring, lighting, trim, tongue & groove lumber, windows, decking, furnaces, water heaters, and other working appliances. **Table 5-2** summarizes the number of house deconstructions and tons of waste diverted from the landfill from deconstruction for each of the last five years. The County will continue to document the amount of reused material annually and promote its benefits in the educational program.

Table 5-2: Crow Wing County Habitat for Humanity House Deconstructions

Fiscal Year	Number of House Deconstructions	Tons Diverted from Landfill
2016-2017	77	1,228
2017-2018	59	1,330
2018-2019	53	1,284
2019-2020	52	1,177
2020-2021	69	1,539

Source: Habitat for Humanity.

5.4.2.2 Food Donation

The County has recently gathered food reuse data from Costco and Super One Foods. The County will continue to document and promote food recovery from these and other programs.

5.4.2.2.1 Costco Wholesale

Costco Wholesale in Baxter, Minnesota donates food to Second Harvest North Central Food Bank in Grand Rapids, Minnesota. In FY 2022 (September 2021 – August 2022), they donated 76 tons of food. In FY 2021, they donated 122 tons of food.

5.4.2.2.2 Super One Foods

Super One Foods in Baxter and Crosby donate food as summarized in **Table 5-3**. The quantities of food donated have been consistent for approximately the last 5 years, and Super One Foods expects the numbers to be similar in the future.

Table 5-3: Quantities of Food Waste Donated from Super One Foods, Baxter and Crosby, MN

Donated From	Food Waste Donated Weekly (Pounds) ¹	Donated To
Brainerd		
Bakery	350	Food Shelf
Deli	25	Food Shelf
Grocery	100	Food Shelf
Produce	400	Local Pig Farmer
Dairy	50	Local Pig Farmer
Crosby		
Grocery	100	Food Shelf
Produce	100	Local Farmer

Source: Super One Foods.

(1) Quantities represent weekly averages for January, February, and March 2023.

5.4.3 Residential

The County will maintain the existing residential source reduction program.

5.4.4 Regional

The County Solid Waste Office will continue to participate in regional planning and strategy sessions with Aitkin, Cass, Morrison, Todd, and Wadena County. The purpose of these meetings will include a variety of solid waste issues but would include developing regional cooperation for the continuation of a source reduction program for the business community.

5.5 Program Budget

A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

5.6 Implementation Schedule

Given that the County owns and operates, under contract, a land disposal facility; the County will continue to manage its waste through land disposal means but will continue to maintain existing landfill diversion programs and investigate any new waste abatement options as they arise. An implementation schedule is provided in **Table 5-4**.

Table 5-4: Solid Waste Reduction Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Continue to track and identify source reduction measures taking place in the County, including Habitat for Humanity's deconstruction program and food donations from Costco Wholesale and Super One Foods.
2024	Identify and quantify other source reduction measures taking place in the County, and continue existing program.
2025	Identify and quantify other source reduction measures taking place in the County, and continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

6.0 SOLID WASTE EDUCATION

The County considers public education a fundamental component of its overall integrated solid waste management system. Ongoing public education will be provided for all elements of the solid waste management system and will have a prominent role in the County's waste reduction, recycling, yard waste composting and HHW disposal programs.

6.1 Policy and Goals

It is the policy of the County to provide educational opportunities to its residents, visitors, businesses and institutions regarding solid waste management. It is the County's goal to achieve a total community awareness of its integrated solid waste system for waste management. This goal will stress environmentally and economically sound integrated waste disposal methods and abatement programs.

6.2 Existing Program

The public education program is designed to complement existing retailer programs and to target the portion of the population that is improperly or illegally disposing waste in conjunction with maintaining adequate site infrastructure. The County believes maintaining aesthetics and updating infrastructure (e.g., new CWCRC) at the Site has a parallel effect to a proficient public education program. A proficient education program will bring customers to utilize the solid waste disposal resources, but facility infrastructure that is aesthetically pleasing and user friendly such as the new CWCRC (discussed in **Section 4.3.1**) will ensure customers will return.

The County has used all forms of media exposure (television, internet, newspaper and radio, fact sheets, and brochures) to encourage the public and the business community to reduce, reuse and recycle. This same media has been used to identify improper and illegal disposal methods; and manage problem materials such as used oil and used oil filters; lead acid batteries, used tires, major appliance disposal, electronics, mattresses, and HHW. Educational brochures and flyers are published on the County's website at www.crowwing.gov/landfill. Other areas of educational activity include:

- Weekly advertising concerning HHW, recycling, and Landfill information through the Brainerd Dispatch, Echoland Shopper, NewsHopper, and the Crosby Ironton Courier newspaper.
- Lakeland News bits concerning various programs.
- Press releases concerning County programs.
- Partnership with the Department of Agriculture for their annual pesticide event.
- A booth at the Crow Wing County Fair.

- Billboard campaign concerning certain aspects of the Counties programs.
- Public speaking engagements and/or tours of the County disposal Site for Central Lakes Community College, area schools, professional service organizations, volunteer groups, and other organizations.
- The County web page.
- County information updated on Earth 911 database (www.Earth911.org).
- On-site education to residents and businesses experiencing illegal waste disposal problems.
- One-on-one educational opportunities for elected township officials.
- Distribution of a \$10 coupon for services provided at the County disposal Site.
- Distribution of brochures and fact sheets.

In 2001, a \$5 coupon for services provided at the Site was initiated. In 2019, the coupon was increased to a \$10 value. Labels are obtained for the households that paid the County solid waste assessment. The County has one of the largest nonresident ownership populations in Minnesota. About one third of the coupons mailed are to these seasonal recreational property owners. The goals of this program include:

- Reducing illegal dumping. With this coupon, residents can recycle or dispose of items for free at the Landfill, for example - five tires or one appliance. People typically have small garbage cans and larger bulky items (e.g., appliances, broken furniture, mattresses, etc.) typically do not get thrown away as part of their service. The coupons help to reduce illegal dumping of these materials.
- Providing monetary savings back to the residents.
- Incentivizing people to utilize the solid waste disposal services being provided by the County, preventing illegal burning and dumping.
- Providing an education opportunity/tool to provide information to all of the County's residents on the services the County is offering as part of its integrated solid waste management system. Part of the mailing includes information on the area recycling programs and problem material management.

Table 6-1 summarizes of the number of items brought in directly with a coupon.

Table 6-1: Crow Wing County Landfill Coupon Receipts

Year	Coupons Sent Out	Coupons Returned	Coupons Used for Appliances	Coupons Used for Mattresses	Coupons Used for Furniture	Coupons Used for Tires
2001	28,977	1,583	329	87	97	88
2002	27,675	2,290	486	128	195	188
2003	27,351	2,936	548	195	257	216
2004	29,909	3,597	1,061 ^a	206	218	188
2005	30,343	3,124	534	181	192	121
2006	31,200	3,757	603	251	255	185
2007	34,192	3,699	539	254	209	164
2008	34,454	4,009	606	307	239	161
2009	35,271	4,181	651	261	258	153
2010	34,811	4,260	695	279	222	140
2011	35,366	4,152	532	211	225	130
2012	35,345	4,123	535	269	254	130
2013	37,217	4,398	584	351	283	150
2014	37,774	4,108	571	259	304	150
2015	33,697	4,021	538	276	312	102
2016	36,287	4,315	561	290	264	145
2017	40,438	4,624	571	336	336	115
2018	41,527	4,712	597	359	349	141
2019 ^b	42,542	5,187	399	440	361	152
2020	36,010	5,894	367	489	293	163
2021	33,744	5,260	294	479	285	167
2022	33,744	5,627	293	440	328	166

Source: Crow Wing County.

(a) Includes electronics. The following year, electronics was listed separately.

(b) Coupons increased to \$10.

6.3 Programs to be Developed

Proposed educational programs are discussed in **Section 4.3.2**.

6.4 Publication of Information

Crow Wing County publishes weekly newspaper advertisements that rotate between recycling, HHW, and Landfill operation hours.

6.5 Budget

A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

6.6 Implementation Schedule

An implementation schedule is provided in **Table 6-2**.

Table 6-2: Solid Waste Education Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Increase advertising and outreach on digital platforms
	Promote the Habitat for Humanity deconstruction program and food waste recovery
	Create a full-time position for social media, outreach, and networking
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

7.0 RECYCLING

The County has adopted and endorses State recycling goals and policies and intends to exceed those goals in the future as has been done in the past. Since 1991, recycling has and continues to represent the County's primary resource recovery effort. In 2022, this comprehensive recycling program captured 27,498 tons of recyclables from residents, institutions, and businesses throughout the County. As a result of these efforts, Crow Wing County has exceeded the State's recycling goal of 35 percent. Recycling rates for the last five years are provided in **Table 7-1**. The County anticipates that it will maintain the present level of recycling throughout the planning period.

Table 7-1: Crow Wing County Annual Recycling Rates

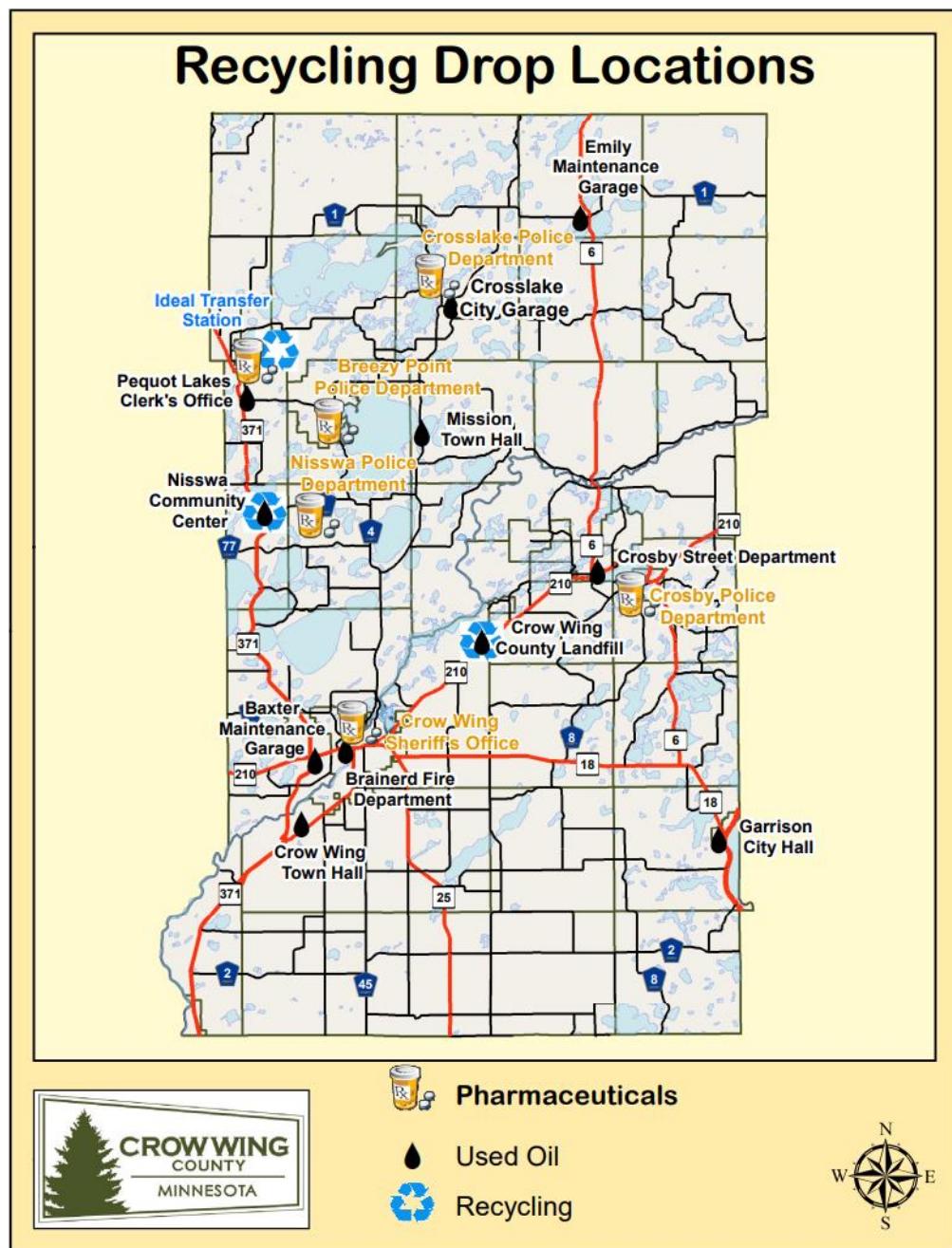
Year	Recycling Rate ¹
2018	44.8%
2019	47.2%
2020	58.4%
2021	52.0%
2022	37.5% ²

(1) Source: MPCA SCORE reports.

(2) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

The County intends to continue the recycling program established in 1991. This program includes six curbside recycling programs and three drop off recycling programs throughout the County. **Figure 7-1** illustrates the location of all recycling drop off sites in Crow Wing County.

Figure 7-1: Crow Wing County Recycling Drop Off Sites in 2023



Source: Crow Wing County.

7.1 Policy and Goals

It is the policy of the County to provide recycling opportunities to its residents and seasonal visitors. It is the goal of the County to meet or exceed the State mandated goal of 35 percent for recycling in Greater Minnesota as long as it is economically feasible.

The County has developed extensive curbside and drop-off recycling programs through its cities and townships. Additional programs may be developed if cost effective.

7.2 Existing Program

Historically, Crow Wing County has made and continues to make significant strides in the type and amounts of material recovered for recycling from residents, commercial businesses, and industry within its borders. Recyclables collected by haulers in the County are hauled out of County for processing.

7.2.1 Internal Programs

The County has recycling opportunities at all County buildings and garages. Recycled materials include paper (office paper, cardboard, shredding paper, and phone books), aluminum cans, batteries, used electronics, toner/ink jet cartridges, fluorescent lamps, used oil/filters, and antifreeze.

7.2.2 Commercial and Industrial Programs

Commercial and industrial activities represent the largest portion of the recycling effort within the County, accounting for 76 percent of all materials collected in 2022. In 2022, commercial/industrial documented recycling was 21,005 tons. Of that total, 17,285 tons were recycled using out-of-county recycling infrastructure.

The County provides information concerning waste prevention and recycling opportunities. The Landfill MMSW tipping fee increased from \$25 to \$45 per ton in mid-1991 and in 1996 the solid waste management tax for commercial/industrial waste going into a MMSW landfill was set at 17 percent. On April 1, 2016, the MMSW tipping fee was increased further to \$50 per ton (not including taxes), and in 2023 the MMSW tipping fee was increased to \$53 per ton (not including taxes). These actions increased the incentive for businesses to recycle. The full list of fees for materials managed at the Site is provided in **Appendix D**.

In late 1992 and early 1993, the Solid Waste Office sent a survey to most businesses to learn if there was unreported commercial recycling and to detect barriers to recycling. Almost 61 percent of the businesses did not respond to the survey. To ensure comprehensive data for business recycling, an annual mass mailing to local businesses was started in 1996 and continued through 2010. This provided an opportunity for business to request information from the County Solid Waste Office. Starting in 2011 this survey was only mailed to those businesses whose recyclables in previous years were not incorporated within the local haulers recycling reports. In the future, the County will readdress the need to do a mass mailing to all businesses. Lack of reporting from businesses remains a significant barrier.

Several haulers and recyclers offer cardboard and other paper recycling opportunities in the Brainerd/Baxter area as part of their service or for a fee. These haulers are:

- Waste Management
- Nisswa/Garrison Sanitation
- Blue Lakes Recycling
- Waste Partners

Many commercial establishments haul recyclables directly to the market. Materials recycled include:

- Corrugated cardboard
- Aluminum cans
- Mixed paper
- Tin cans
- Fluorescent and HID lamps
- Telephone books
- Sand molds
- Scrap metal
- Glass
- Newsprint
- Plastic
- Office paper
- Food waste
- Magazines

7.2.3 Institutional Programs

There are four school districts within the County. Each is required to recycle a minimum of three types of material: office paper, plastic, and tin. In addition to the school districts, there are five nursing homes, 13 post offices and three hospitals, all of which recycle the above materials.

7.2.4 Residential Programs

The following are the cities that offer curbside recycling at least monthly:

- Brainerd (Waste Management, Waste Partners, and Garrison Disposal)
- Baxter (Waste Management, Waste Partners, and Garrison Disposal)

- Breezy Point (Waste Partners & Pequot Lakes Sanitation) – started in 2006
- Pequot Lakes (Waste Partners, Garrison Disposal, and Pequot Lakes Sanitation) – started in 2014
- Ironton (Waste Management) – started in 2018
- Crosslake (Waste Partners, Waste Management, Pequot Lakes Sanitation) – started in 2021

The estimated population served by residential curbside recycling programs in 2020 is provided in **Table 7-2**. Approximately 46 percent of County households had access to the curbside programs in 2020.

Table 7-2: Population Served by Residential Curbside Recycling Programs within Crow Wing County (2020)

City	Population ¹	Households ²
Brainerd	14,395	6,086
Baxter	8,612	3,459
Breezy Point	2,346	1,026
Pequot Lakes	2,278	1,039
Ironton	544	271
Crosslake	2,591	1,169
Total	30,766	13,050

Sources:

- (1) U.S. Census Bureau. <https://www.census.gov/programs-surveys/decennial-census/decade/2020/2020-census-main.html>
- (2) Minnesota State Demographic Center. <https://mn.gov/admin/demography/>

The remaining County households have access to the drop-off programs. The three drop-off sites are at the following locations:

- Crow Wing County Landfill
- Nisswa Community Center
- Ideal Transfer Station

There are currently three recycling drop off sites in the County. The County previously managed nine additional sites that closed between October 2019 and December 2020. All of the drop off sites were unstaffed and had elevated levels of contamination, resulting in charges from the contracted hauler and reduced recycling. When the County reduced the number of drop off sites, the remaining three sites were staffed either by County or local personnel. Since staffing began at the drop off sites, the sites have become significantly less contaminated. The County intends to continue staffing the recycling drop off sites to increase recycling rates and reduce contamination and illegal dumping.

In 2022, the County's residential recycling programs accounted for 6,494 tons of recyclable material, and \$115,000 was expended by the County to fund the three County drop-off locations.

The following materials are recycled under the curbside programs and drop-off sites:

- Cardboard
- Telephone books
- Newsprint
- Aluminum cans
- Office paper
- Tin cans
- Magazines
- Mixed paper
- Glass
- Plastic

7.3 Quantities Collected

Table 7-3 summarizes the recycling tonnages reported to the State by the County as part of its annual SCORE Report.

Table 7-3: Crow Wing County Recycling Analysis

Year	Tons
2018	38,089
2019	42,456
2020	67,294
2021	50,192
2022	27,498 ¹

Source: MPCA SCORE Reports.

(1) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

Table 7-4 summarizes the recycling tonnage for the County funded residential programs.

Table 7-4: Crow Wing County Funded Residential Recycling Analysis

Year	Tons
2018	3,825
2019	3,792
2020	1,136
2021	971
2022	883 ¹

Source: MPCA SCORE Reports.

(1) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

Table 7-5 summarizes the composition of recycled materials for the County from the 2018 – 2022 MPCA SCORE Reports.

Table 7-5: Crow Wing County Recycling Composition Analysis 2018-2022

Material (Tons)	2018	%	2019	%	2020	%	2021	%	2022	%
Paper	12,634	33	17,371	41	34,432	51	28,471	57	7,760	28
Metal	13,781	36	13,871	33	13,799	21	13,837	28	13,580	49
Glass	1,208	3	1,235	3	1,154	2	1,283	3	1,206	4
Plastic	424	1	365	1	7,673	11	272	1	291	1
Organic (food and yard waste)	3,273	9	3,330	8	3,750	6	3,058	6	3,036	11
Textiles	273	1	233	1	233	0	0	0	0	0
Mattresses	150	0	133	0	110	0	64	0	29	0
Problem Materials	2,290	6	1,830	4	2,054	3	2,067	4	903	3
Other	4,056	11	4,088	10	4,089	6	1,140	2	693	2
Totals	38,089	100%	42,456	100%	67,294	100%	50,192	100%	27,498¹	100%

Source: MPCA SCORE Reports.

(1) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

Table 7-6 summarizes the composition of problem materials recycled from 2018 – 2022.

Table 7-6: Crow Wing County Problem Materials Recovery Analysis 2018-2022

Material (Tons)	2018	%	2019	%	2020	%	2021	%	2022	%
Antifreeze	253	11	254	14	265	13	0	0	0	0
Electronics	65	3	204	11	231	11	180	9	92	10
Fluorescent Lamps	21	1	12	1	16	1	8	0	5	1
Latex Paint	397	17	32	2	38	2	0	0	0	0
Major Appliances	705	31	677	37	791	39	560	27	422	47
Used Oil	79	3	52	3	52	3	611	30	59	6
Used Oil Filters	56	2	62	3	60	3	27	1	5	1
Vehicle Batteries	341	15	425	23	427	21	228	11	31	3
Waste Tires	373	16	114	6	174	8	452	12	291	32
Totals	2,290	100%	1,830	100%	2,054	100%	2,067	100%	903	100%

Source: MPCA SCORE Reports.

7.4 Local Market Conditions

The County currently contracts with Waste Partners to collect recyclables from the drop off sites. The drop sites are source separated to reduce contamination. Waste Partners then transports the recyclables to market. The largest negative impact on the County recycling programs has been the lack of expanding recycling markets, and a stabilized price paid for the materials collected. In Greater Minnesota, another large cost component is shipping and moving the materials to the market. Recyclables from the County are hauled to the Twin Cities.

7.5 Residential Opportunity to Recycle

Minnesota Statutes §115A.552 and §115A.555 requires that residents have access to a recycling center accepting at least four different materials, and open at least 12 hours each week. The County accepts recyclable materials at the Site behind the Landfill office during the hours of operation of the Landfill. Recycled materials include paper, plastic, aluminum cans, and cardboard.

7.6 Cities with Population Greater Than 5,000

Cities in the County with a population of 5,000 or more must have either curbside pickup once per month or a recycling center that accepts at least four materials. The Cities of Brainerd and Baxter are the only two cities in the County with a population greater than 5,000. Both the City of Brainerd and City of Baxter have curbside collection.

7.7 Cities with Population Greater Than 20,000

There are no cities in Crow Wing County with a population greater than 20,000.

7.8 Recycling in Government Facilities

The following materials are recycled in all local government facilities:

- Paper
- Plastic
- Glass
- Tin
- Aluminum
- Cardboard
- Tires
- Appliances
- Mattresses

7.9 Encouragement of Commercial, Industrial, and Institutional Recycling

The County will continue to encourage businesses to use the Minnesota Waste Wise Program and MnTAP/MATEX for technical assistance with source reduction, recycling, and pollution prevention programs.

7.10 Programs to be Developed

As of 2023 the County operates three recycling drop off centers. The County previously had over 10 recycling drop off centers but closed several in 2019 and 2020 as the centers were unstaffed, had high levels of contamination, and became fiscally unsustainable. Since reducing the number of drop off centers, staffing the three remaining centers, and making the drop sites source separated, contamination rates have decreased and participation has increased. The County will continue to encourage, receive, and review annual applications for grant funds for residential programs. Monitoring and guidance of and for these programs will continue.

The County sends out approximately 65 surveys per year to businesses to collect data on the quantities of materials recycled but has not received consistent participation and data from businesses. The County will continue to attempt to obtain data from businesses; however, a requirement from the MPCA to report recycling numbers to the County would be prudent for accurate reporting of the recycling amounts.

7.11 Budget

All SCORE funds are utilized for the residential recycling programs and any additional funding is through the County Solid Waste Budget through the Solid Waste Assessment Fee. Some of the cities and townships are also taking fiscal responsibility, and it is expected they will be taking an increased funding responsibility in the future. The County will try to maintain the existing funding level as long as possible. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

7.12 Implementation Schedule

An implementation schedule is provided in **Table 7-7**.

Table 7-7: Recycling Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Open new Crow Wing County Recycling Center for the collection of recyclable materials, HHW, e-waste, used oil and filters, and batteries.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

8.0 YARD WASTE MANAGEMENT

The County has a yard waste composting program in place. The County has banned yard waste from disposal in the MMSW Landfill and encourages on-site management of yard waste through educational materials. Additionally, the County provides a yard waste composting facility located at the Site.

8.1 Policy and Goals

It is the policy of the County to comply with statute and rules governing yard waste management resulting in proper management. It is the goal of the County to continue the programs which have resulted in the proper management of yard waste and consider the use of compostable materials for agricultural purposes.

8.2 Use in Agricultural Practices

Yard waste collected in Crow Wing County is not used in agricultural practices.

8.3 Prohibition on Disposal of Yard Waste

The State of Minnesota banned yard trimmings (Minnesota Statute §115A.931) from all landfills within the State in 1992.

8.4 Existing Program

The County's yard waste (leaves, grass clippings, pine needles, garden debris) management program includes a yard waste compost area at the Site and the prohibition of yard waste in the County's Landfill. Yard waste is taken from the residents for free at the Site. The following are the locations of the yard waste drop-off sites within the County:

- County Landfill Site
- Mission Township
- Ideal Transfer Station
- Roosevelt Township
- Northland Arboretum

A separate area is set aside at the Site for brush management. Open burning is prohibited at the Site, with the exception of brush and grass which is allowed by Minnesota Department of Natural Resources Burning Permit. This service is free to residents of the County, but there is a \$5 charge per cubic yard for commercial loads.

The Crow Wing Soil and Water Conservation District (SWCD) has partnered with the Crow Wing County Master Gardeners and the Northland Arboretum to host regional workshops on backyard composting, sell low-cost backyard compost bins, and test and turn the Northland Arboretum compost site. Compost bins and workshops have been available to County residents since spring 2011.

8.5 Backyard Composting

The estimated level of backyard composting in Crow Wing County is 5 percent, based on industry and area knowledge.

8.6 Yard Waste Collection System

Crow Wing County does not have a yard waste collection system. Yard waste in the County is managed at drop off sites or at the Landfill.

8.7 Municipal Composting Sites

Yard waste drop off sites in Crow Wing County are discussed in **Section 8.4**.

8.8 Quantities Collected

Table 8-1 summarizes the quantities of yard waste and brush managed in the last 5 years at the Landfill.

Table 8-1: Quantities of Yard Waste and Brush Managed, Crow Wing County Landfill

Year	Yard Waste (Cubic Yards)	Brush (Cubic Yards)
2018	12,351	19,154
2019	14,123	18,796
2020	16,516	27,110
2021	15,137	24,192
2022	14,698	32,707

Source: Crow Wing County.

8.9 Market Conditions

Yard waste collected at the Landfill is stockpiled on-site. The resulting compost is used to supplement topsoil on construction projects such as closures and for intermediate temporary cover at the Landfill. Yard waste dropped off at the Ideal Transfer Station and Roosevelt Township is composted on-site in piles. Yard waste dropped off at the Northland Arboretum is composted on-site in piles and is sold back to County residents.

8.10 Programs to be Developed and Implementation Schedule

The existing yard waste management program will continue as in the past.

8.11 Program Budget

A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

8.12 Implementation Schedule

An implementation schedule is provided in **Table 8-2**.

Table 8-2: Yard Waste Management Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Continue existing program.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

9.0 SOURCE-SEPARATED ORGANIC MATERIALS COMPOSTING

The County does not have a source-separated organic (SSO) material composting program and does not plan to implement one during the next 10-year planning cycle. It is the policy of the County to comply with statute and rules governing source-separated organic (SSO) material composting resulting in proper management. Residents are encouraged to practice backyard SSO composting.

10.0 MUNICIPAL SOLID WASTE COMPOSTING FACILITIES

The County does not have any MMSW composting facilities and does not plan to implement any MMSW composting facilities during the next 10-year planning cycle.

11.0 SOLID WASTE INCINERATION AND ENERGY RECOVERY

The County does not have any incineration/energy recovery facilities and does not plan to implement any incineration/energy recovery facilities during the next 10-year planning cycle.

12.0 MSW LAND DISPOSAL FACILITIES

12.1 Policy and Goals

It is the policy of the County to comply with statute and rules governing MMSW management and operations. It is the goal of the County to continue and expand, if necessary, the programs which have resulted in the proper management of MMSW. Also, the County's goal is to provide solid waste disposal service at the existing Site for the remaining ultimate operating life of the Site.

12.2 Closed Landfills

12.2.1 Industrial Landfill

There was one industrial landfill located at the County Site: Potlatch Brainerd Monofill Industrial Solid Waste Land Disposal Facility, SW-533 (Monofill). In 1989, Potlatch constructed the Monofill for disposal of paper mill wastewater sludge and coal ash from the Potlatch Corporation Minnesota Pulp and Paper Division mill in Brainerd. Disposal in the Monofill began on November 1, 1989, which covers approximately 13 acres next to and directly west of the old unlined County Landfill, SW-111. The Monofill was originally permitted as part of SW-111 and subsequently under SW-533. Due to the sale of Potlatch Mill in 2001, this facility was closed and received final cover in 2003. The landfill location is leased from the County by PotlatchDeltic.

The industrial landfill facility is lined with two feet of low permeability clay overlain by a 60-mil High Density Polyethylene (HDPE) geomembrane. When the Monofill was open, leachate generated within the facility was collected and conveyed to two 6,000-gallon leachate storage tanks, and then transported by tanker truck to Potlatch's paper mill waste treatment plant in Brainerd. Now during post-closure, Potlatch hauls generated leachate to the St. Cloud Wastewater Treatment Plant.

Under the SW-533 Permit issued in August 2001, Potlatch and the County are co-permittees for the Monofill per Minn. R. 7001.3060, which states, "The agency shall designate the landowner, facility owner, and facility operator as co-permittees when issuing a solid waste management facility permit." Under the permit, the Monofill is independent from the County's other waste management facilities on the property. The permit is for 7.8 acres of industrial land disposal, for a total ultimate capacity of 365,000 cubic yards of in-place industrial waste, exclusive of any cover material.

12.2.2 Landfill Closures

The 1994 Landfill Cleanup Act and 1998 amendments created Minnesota's CLP. The program is an alternative to Superfund for closed State permitted MMSW landfills. Two closed State permitted pre-

Subtitle D landfills located within the County were transferred to the MPCA under this program, the Crosby SW-181 and Fifty Lakes SW-243 landfills. Through this program, MPCA installed a new cover system and passive gas system for the Crosby landfill in 1998 and the Fifty Lakes landfill in 1999.

The former City of Brainerd dump was on the State's permanent list of priorities (PLP) with a score of 38. This landfill operated before the State issued permits and never received a State permit. Therefore, it was ineligible to be turned over to the CLP. In 1998, the MPCA, the City of Brainerd, and the County entered a memorandum of understanding to accomplish a limited remedial investigation (LRI) for the site. The required LRI was completed in December 1999. Some impacts were identified. Since this site poses a low potential risk to public health and the environment, the risks can be addressed utilizing deed restrictions and do not warrant additional County, City or MPCA action. In April 2010, the MPCA approved the Action Response Plan, closing out the County actions. The deed restriction was accomplished in 2011 by the Northland Arboretum, and this site was removed from the PLP in 2011.

The closed County Landfill SW-111 stopped accepting waste in October 1991, according to the July 25, 1989 Compliance Agreement with MPCA. Prior to the Monofill, PotlatchDeltic disposed of paper sludge in and adjacent to this closed Landfill. The closure was completed in 1992. Due to the construction of the Monofill by Potlatch and the closure of the old landfill by the County, the 1989 Compliance Agreement requirements were fulfilled. MPCA issued a Closure Order by Consent in February 1999. The facility was on the State PLP, with a low ranking (score of 14). After closure, the County continued to perform post-closure care with operation of an active LFG collection and control system (GCCS), and ongoing landfill gas and groundwater monitoring. The MPCA removed this landfill from the PLP in 2003. The GCCS was converted to a passive venting system in 1999. The 20-year post-closure care period for SW-111 expired in July 2013. The County continued to complete custodial care while a binding agreement was negotiated between the County and the MPCA to enter SW-111 into the CLP. The County continued limited maintenance (i.e., mowing, gas monitoring, and inspection) under existing County operating budgets until the landfill entered the CLP (i.e., signed Binding Landfill Cleanup Agreement) on June 30, 2023. For safety reasons, the County will continue monthly gas monitoring in the vicinity of the scalehouse and the Potlatch leachate while SW-111 is in the CLP.

In addition, there are numerous old non-permitted, municipal dumps located throughout the County. Most of these dumps are near towns and communities where people disposed of their garbage in the past by dumping it in pits, ravines, or wetlands. In 1999, the Minnesota Legislature authorized the MPCA to conduct environmental assessments at these old unpermitted dumps. The Dump Assessment Study, released in early February 2001, involved screening of 1,800 dumps in Minnesota. Based on this MPCA

Study, dumps identified within the County, under current land use conditions, pose a low potential risk to public health and the environment. These risks do not warrant additional MPCA action.

12.3 Description of MMSW Facilities

12.3.1 Cell 1

Cell 1 was constructed in 1991, began receiving waste in November 1991, and reached final capacity in September 1996. Cell closure action was completed October 21, 1996. The area of the footprint of Cell 1 is 6.4 acres with 2.29 acres covered through the closure action. The north slope is part of Cell 2.

The closure consisted of a passive gas extraction system and cover system. The gas extraction system included three, 8-inch diameter extraction wells within 15-feet of the bottom of the refuse. The cover system consists of 1 foot of on-site soil for intermediate cover, a 6-inch bedding layer of screened soil to protect the geomembrane, a 40-mil LLDPE (Linear Low-Density Polyethylene) geomembrane barrier layer, a 12-inch layer of drainage sand, a 12-inch layer of on-site soil, and a 6-inch topsoil layer. The gas system was designed to be able to be converted from passive to active. An active gas system was installed in 2008 for Cells 1, 2 and 3.

In May 1999, the County received verbal approval to reopen a portion of Cell 1 from the MPCA. The eastern portion of Cell 1 was reopened in October 2000 to reestablish final closure grades that had settled subsequently to closure in 1996. Reopening of this area removed 0.42 acres of final cover and recaptured permitted waste volume that would have otherwise been lost. About 5,200 cubic yards of additional airspace were utilized when Cell 1 was reopened. This is equivalent to between 1 and 2 months of compacted waste disposal volume. Removal of the final cover was justified since the east end of Cell 1 was showing significant settlement due to the leachate recirculation. If the cover was not removed, the greatest concern was the tie in between Cell 1 and Cell 2. Eventual closure of Cell 2 at the previous grade would have resulted in a discontinuity at the tie-in point. This would have resulted in grading difficulties, geomembrane seam stress, and surface water drainage concerns. Cells 1/2 were closed in 2019 and 2020.

12.3.2 Cell 2

Construction of the second cell was completed in 1995 with waste receipt beginning on April 23, 1996. The footprint of Cell 2 is 3.2 acres. Cell 2 reached its capacity in 2002. The initial recirculation system was constructed in 1997 in Cell 2, and operations started in 1998. As part of the RTE project, a yard waste composting area was established on the intermediate crown of Cells 1 and 2. Treated leachate was sprayed on the compost to promote nitrification of any remaining ammonia in the leachate. The yard waste provided an oxidation layer for landfill gas emissions. Mature compost was then used for erosion

stability and vegetative base on the intermediate and final cover slopes and was replaced with fresh yard waste to continue the program.

12.3.3 Cell 3

Additional hydrogeologic work (i.e., soil borings, additional wells, and baseline water quality monitoring) was accomplished in 1998 to incorporate the expanded compliance boundary required for Cells 3 and 4. Site preparation for Cell 3 involving excavation of excess dirt to proper elevations was accomplished in 1999. Construction was completed in 2001 and waste receipt began in January 2002. Cell 3 reached its capacity in 2008.

12.3.4 Cell 4

Final site preparation for Cell 4 involving excavation of excess dirt to proper elevations was accomplished in 2006. Construction of Cell 4 was completed in 2007, with utilization starting on August 4, 2008. The footprint of Cell 4 is 8.4 acres, not including the north slope of Cell 3. Additional hydrogeologic work (i.e., soil borings, additional wells, and baseline water quality monitoring) was accomplished in 2007 in conjunction with Cell 4 construction. Cell 4 is anticipated to reach capacity in 2023.

12.3.5 Cell 5

Additional hydrogeologic work (i.e., soil borings, additional wells, and baseline water quality monitoring) was accomplished in 2010 in preparation for Cell 5 through 13 development. Some initial site preparation involving excavation of excess dirt was accomplished in 2011. Construction of the fifth cell was completed in 2019 with waste receipt beginning in August 2021. The footprint of Cell 5 is 5.5 acres. Cell 5 is expected to reach its capacity in March 2026 based on the 2023 permit reissuance application, submitted concurrently with this Plan. Cells 5 and 6 will provide the County with MMSW disposal capacity to the next Plan update which will be in 2033.

12.4 Quantities Disposed

Table 12-1 summarizes the quantities of waste that have entered the MMSW Landfill in the last 5 years. The landfill also accepts certain industrial waste.

Table 12-1: Crow Wing County MMSW Landfill Quantities

Year	MMSW Tons Disposed in Landfill
2018	46,776
2019	47,291
2020	47,803
2021	46,095
2022	45,646

Source: MPCA SCORE Reports.

12.5 Operational History, Removal of Problem Wastes, and Facility Management

Operation of the Landfill is by contract. Operational procedures are outlined in the Permit Reissuance for the County MMSW Landfill SW-376, May 2023. A copy is on file at the Site and with the MPCA. This document outlines the removal of problem waste and facility management.

The County has submitted an annual report to MPCA for the Landfill SW-376 from 1992 through 2022. Annual reports are kept on file at the Site and with the MPCA.

An unloading dock had been provided at the Site to allow residents to unload their refuse without being exposed to the commercial refuse hauling vehicle traffic. In 1998, the layout for the unloading dock was changed to incorporate four 30-cubic yard roll-offs. This layout requires residents to place refuse into the roll-offs versus unloading directly onto the dock. This containerizes the refuse, reduces the potential for polluting stormwater, and provides better litter control. In 2004, this area was expanded to incorporate three additional roll-offs, for a total of seven roll-offs. An additional roll-off is staged on the deck and is utilized for scrap metal. In addition, lighting for this area was installed. This area has not been utilized for the past 10 years but could be put into use at any time.

12.6 Environmental and Public Health Impacts

Landfilling is designated by the Minnesota Waste Management Act as the least preferred waste management alternative. As with the Landfill, MMSW landfills that minimize methane emissions or utilize the energy potential of the methane are preferred by the waste management hierarchy.

The underlying assumption is that a 30-year post-closure period is the minimum necessary to effectively manage the very long-term environmental liabilities of the organic components, salts and heavy metal contained within a conventional “dry” Subtitle D landfill. The containment provided by these landfills offers environmental protection initially; however, at some point beyond the 30-year period, there may be partial failure(s) of the containment lining system (underlying and overlying the waste). The primary

environmental issue associated with partial containment system failure and moisture infiltration is the potential associated increase in gas and leachate production and the resulting impact of uncontrolled leachate and/or landfill gas releases to the environment. The nature and magnitude of the release exiting the landfill and their resulting impacts are directly related to the amount of organic waste not yet decomposed. Waste stabilization that occurs during the open period of the Landfill with leachate recirculation should reduce these potential impacts.

The County and the contracted operator are responsible for the management of waste at the Landfill. This includes mitigating potential environmental and public health impacts, inspections, operational safety, removal of problem wastes, monitoring of surface water and groundwater, and implementation of emergency and contingency plans. These activities are a requirement of the facility permit. More information regarding environmental and public health impacts can be found in **Section 26.0** of this Plan. The MPCA inspects the Site regularly, and any issues are addressed appropriately. Reports are submitted pursuant to the permit. Since operations began at the facility, there have been no reports or indications of environmental or health impacts.

12.6.1 Air Emissions

It is increasingly recognized that LFG presents potential for substantive negative environmental impacts. Landfill emissions contribute to the nation's methane emissions. LFG is comprised of 40-60 percent methane, 30-40 percent carbon dioxide plus trace gases including hydrocarbons, hydrogen, hydrogen sulfide, carbon monoxide and nitrogen. Methane and carbon dioxide are breakdown products of decaying organic materials under anaerobic conditions in a landfill cell.

At certain concentrations methane poses an explosion hazard. Of particular concern is the potential for methane to migrate to and collect in buildings on or off the Site. The explosion hazard is mitigated through active or passive venting of LFG. Lateral migration is limited by the Subtitle D liner and cover system.

Toxic and hazardous substances often included in MMSW may vaporize and escape into the atmosphere. LFG can also migrate underground and collect in structures located near a landfill. Specific compounds and levels of emissions are dependent upon actual waste composition.

The County operated an active landfill gas system for the old unlined landfill from 1993 through 1999. Starting in 1999, the gas venting system was drawing less than 300 cubic feet per minute of LFG from the 16 extraction wells throughout the landfill. This is a significant decrease from when the system was

initiated in 1993 and the rate was more than 600 cubic feet per minute. As a result, in 1999, the MPCA granted the County approval to operate the system passively.

Studies have shown that gas extraction systems can reduce ground water contamination, which was proven in the County's annual evaluations of the unlined landfill SW-111. In addition, the County has also determined a reduction in the concentration and rate of volatile organic compounds (VOCs) extraction. In the 1997 Annual Report, the County presented data that indicated an 84 percent reduction in the emissions of VOCs from the LFG system since December 1993. The emissions of detected VOCs were all below the MPCA emission screening rates for contaminants with chronic effects. The VOC sampling was repeated on April 8, 1999. The reduction in VOCs emissions was even more dramatic. The calculation indicates a reduction in total VOCs emissions greater than 98 percent had occurred during the 5.5-year period. The VOCs detected were all below the MPCA emission screening rates. Groundwater monitoring data from SW-111 indicate closure in 1992, including the active gas extraction system, has significantly reduced groundwater contamination supporting termination of the post-closure period.

In addition, as described in **Section 12.6.3** the County has operated a GCCS for the SW-376 Landfill since December 2008. Although a greenhouse gas, carbon dioxide by itself is not dangerous and does not cause an immediate problem. However, methane, also a greenhouse gas, can explode at the right mixture. A methane concentration between 5 and 15 percent methane, with adequate oxygen, will cause an explosion if ignited. Methane gas can accumulate, migrate laterally or horizontally, and become a fire or explosion hazard. Methane is also 25 times as potent as carbon dioxide as a greenhouse gas. Because of these concerns, an active landfill gas extraction system has been voluntarily designed and installed to vent methane gas from both the open and closed portions of a Landfill. Active gas systems significantly reduce landfill gas emissions. The GCCS proactively minimizes landfill surface emissions and prevents LFG migration outside the Landfill boundary.

A certain level of risk exists for fires at landfills. If the waste is ignited, it may be difficult to extinguish quickly. If a landfill fire occurs, it may result in a greater amount of harmful emissions during the course of the incident. In the event of a landfill fire, the fire is isolated from the rest of waste, and covered with dirt. In most cases landfill fires are extinguished within the same day.

12.6.2 Groundwater Contamination

Groundwater contamination was the primary environmental concern associated with landfilling prior to Subtitle D. Small amounts of toxic, carcinogenic, or other hazardous materials are found within municipal solid waste. The traditional concern with land disposal of waste is that contaminants will be leached out

as precipitation filters through the buried waste. This contaminated water can then migrate into surrounding groundwater or even surface water. Groundwater and surface water monitoring are performed in accordance with the permits for SW-376 and SW-440.

In the Subtitle D “dry tomb” approach, operators must minimize the amount of water reaching the waste that is landfilled. However, it is possible that landfill liners and systems may not maintain their integrity forever and at some time in the future, landfills may release leachate. This leachate could ultimately find its way into groundwater or surface water. If water supplies are contaminated, users of those water supplies will be subject to health risks. Risks to society may be amplified if the contaminants bioaccumulate and the water is used in livestock production and agriculture. This theory does not consider the possibility that the two major components for contamination, methane gas and leachate, may be completely removed from the waste entombed in the Landfill before liner failure occurs. There is not enough data from Subtitle D landfills in post-closure to make a definitive statement. However, information collected from landfills implementing leachate recirculation, including SW-376, indicates that such operations more quickly stabilize leachate and achieve waste stability. This stability may in fact occur shortly after closure, drastically reducing the liability during the post-closure period. The County has been innovative and proactive in its approach to leachate management and has also implemented an active landfill gas management in conjunction with recirculation. The availability of a recirculation option has eliminated off-site leachate disposal altogether and the active gas system reduces landfill gas emissions and VOC levels in the leachate.

The risk of groundwater contamination is substantially mitigated through design and operation of a landfill in accordance with current environmental regulations. Leachate will need to be removed and treated during the facility’s operating life and likely for 30 years after closure. During this time, leachate is removed and treated through an approved and permitted system. By the time post-closure care is complete, concentrations of hazardous contaminants in leachate will be greatly reduced. There are no receptors using drinking water downgradient of the Landfill.

12.6.3 Landfill Gas System

The County received approval from MPCA (2007 permit) for the design and construction of an active landfill GCCS. This system was installed in 2008.

The GCCS is designed to collect methane gas from both the open and closed portions of the Landfill. Besides the eight collection wells located in Cells 3 and 4, gas is also collected from the recirculation laterals (RLs) and leachate collection piping with Cells 1 through 5, and the gas laterals in Cell 5. Gas

collection from the RLs is limited to when they are not in use for leachate recirculation, typically during the winter months. A manifold is buried around the perimeter of the Landfill, connected to all collection points. The manifold is connected to a blower/flare system that provides a vacuum to the system and combusts the gas. The blow/flare skid is accessed via the perimeter access road and is located adjacent to the maintenance building southwest of Cell 1.

The purpose of the GCCS at the Landfill is to proactively minimize gas surface emissions including methane, a significant greenhouse gas, and to prevent LFG migration outside the Landfill boundary. The GCCS has been installed voluntarily by Crow Wing County and will be shut down if gas generation reaches a point where the system is no longer viable. The County is not required to implement the GCCS since they do not trigger the New Source Performance Standards (NSPS).

As part of the GCCS project in 2008, a new equipment storage building was constructed that included a LFG fueled boiler installation. The boiler operates seasonally, typically November through March. On a typical year with limited maintenance, the boiler combusts almost two to five percent of the LFG collected to provide a heat source for the hydronic in-floor heat system in the adjacent maintenance building and space heating for the equipment cold storage building at the Landfill, reducing reliance on natural gas. Between 2013 and 2022, an average of 307 mmBtu's per year from LFG were reused for heat.

12.7 Programs to be Developed and Implementation Schedule

The County intends to continue to use land disposal of MMSW at its facility to be the primary method for managing its solid waste. The goal to this end includes examining new technologies to maintain and improve land disposal without impacts to human health and the environment, to minimize long-term liability of the Landfill, and to maintain and expand when feasible; source reduction, reuse, recycling, problem materials management, and special waste management programs as described within this Plan. In this manner, the County will minimize the land disposal of solid waste, optimize the development of future landfill capacity, reduce toxicity, and maximize the recovery of waste generated. The County's long-term goal is to abate land disposal to the greatest degree possible within the framework of this Plan and statute requirement.

12.7.1 Remaining Permitted Capacity

The existing Landfill has a permitted footprint of 28.0 acres comprised of five cells with a permitted airspace of 2,459,749 cubic yards (ultimate capacity), inclusive of final cover. The current permit expires on April 1, 2025.

A survey of waste volume contained in Cells 1 through 5 was last completed in October 2022. Since operations began in 1991, 2,104,718 cubic yards of landfill airspace have been utilized in 31 years (November 1991 – October 2022). As a result, the airspace utilization rate during the operating period has been 1,004 pounds/cubic yard before the Landfill started leachate recirculation (1992-1998), and 1,350 pounds/cubic yard after the Landfill started leachate recirculation (1999-2022). As of October 2022, the remaining volume available for MMSW and cover soil is 280,455 cubic yards, not including final cover, per the 2022 Annual Report for SW-376. The remaining ultimate operating life of the current design up to Cell 5 is 3.4 years, which extends its use to March 2026.

12.7.2 New Capacity and Certificate of Need

A calculation of the remaining CON, as of December 2022, is provided in **Appendix C**, along with the 2014 CON approval letter from the MPCA. The GVT forces a waste compaction density of 1,900 pounds per cubic yard; however, the historic compaction rate at the Landfill is 1,350 pounds per cubic yard (based on compaction averages from 1998-2022). An additional tab was added to the GVT that includes a calculation for estimated CON required based on projected tonnages and a realistic waste compaction rate. Based on the revised calculation, the total estimated CON required is 706,301 cubic yards for the 2024-2033 planning period (not including industrial waste or daily, intermediate, or final cover soils). This MSW capacity should be used to determine permitted capacity in the upcoming SW-376 permit reissuance process. Additional discussion on the calculation of the estimated CON required is provided in **Section 23.0**, and the MSW capacity required for each year is provided on the last page of the GVT in **Appendix F**. The estimated CON required is greater than what was approved in 2014 (see **Appendix C**) due to population growth and the increasing MSW tonnages received from seasonal residents.

12.7.3 Permitting Schedule

A Permit Reissuance Application for SW-376 has been prepared for the permitting of the remainder of Cell 5, Cell 6, and Cell 7, submitted at the same time as this Plan with a requested capacity for Cells 1 through 7 of 3,837,000 cubic yards. An EAW for SW-376 has been prepared for the remainder of the life of the Site, submitted at the same time as this Plan. While the permit is for the remainder of Cell 5, 6, and 7, which provides the County with life through approximately 2039, the EAW is for the full site build out and an ultimate capacity of 37,275,000 cubic yards and estimated site life of over 100 years.

12.7.4 Schedule of Phase Development

A summary of phase development of the Landfill over the next 15 years is provided in **Table 12-2**.

Table 12-2: Schedule of Phase Development for Crow Wing County Landfill

Year	Event
2027	Construct Cell 6
2033	Construct Cell 7
2038	Construct Cell 8

Source: 2023 Permit Reissuance Application.

12.7.5 Status of Financial Assurance

Subtitle D landfills are required to complete 30-years of monitoring after final closure. The 30-year period mirrors the requirement under hazardous waste regulations. The primary rationale for this was that older landfills had less stringent design and siting criteria, and hazardous waste was disposed of in the older landfills at the time the rules were promulgated. Minnesota only requires financial assurance (FA) funds to be based on 20 years of post-closure care. The U.S. Environmental Protection Agency (EPA) allows Minnesota to use the contingency action aspect from Minnesota Rule to cover the extra 10 years of post-closure.

MPCA rules require landfills to set aside funds to provide for closure of the maximum open area of the landfill, post-closure care, and contingency actions. To meet this requirement, a dedicated long-term care trust fund was established by the County according to the rules. The cost estimates from which the payments are determined are adjusted by the County in August of each year. The funds generated at the landfill through the GMLCF are being used as the funding source for the FA account.

As reported in the 2022 annual report, the estimates for closure, post-closure, and contingency action present value worth costs are \$1,963,086.37; \$5,574,733.26; and \$663,320.62, respectively, for a total obligation of \$8,201,140.25. The solid waste trust fund for this facility had a year-end balance of \$6,303,063.21 at the end of 2022. The account balance is underfunded by \$1,898,077 utilizing the present worth values due to the high inflation rate of 7.626 percent in 2022. In accordance with Minnesota Statute §115A.929, the County has established an enterprise fund as an account for revenue and expenses for the Landfill. The fund has money in reserve for a 10-year budget for future permitting and construction activities, along with normal operation. If the Landfill closed today, the current enterprise fund balance would be more than enough to cover the closure costs. The financial assurance fund would then sufficiently cover the post-closure care and contingency action expenses. Therefore, the closure, post-closure, and contingency action plans are adequate, and the activities are sufficiently funded. The need for additional funding will be considered again during County budgeting in 2023.

12.7.6 Status of Leachate Treatment

The leachate management system for SW-376 consists of the following elements: leachate collection, leak detection, recirculation, treatment, and ultimate disposal. Beneath the Landfill is a system of HDPE lined leak detection basins. Perforated pipe in the leak detection basins collects any leakage through the liner system at the sumps. Any leakage flows by gravity to a standpipe located outside of the fill area. The landfill liner system, constructed over the leak detection system, consists of 2-feet of clay and a 60-mil HDPE liner. Perforated piping collects the leachate in the trenches. The collected leachate flows by gravity, or is pumped, into Pump Station No. 1 located outside the fill area. The leachate is then pumped through double containment piping to the leachate pretreatment ponds.

12.7.6.1 Leachate Pretreatment System

Leachate is pretreated in the five lined aeration ponds operated in series. Since the Landfill opened in November 1991, the facility has generated 1.6 million to 10.9 million gallons of leachate annually. The pretreatment system is designed to reduce biochemical oxygen demand (BOD) and chemical oxygen demand (COD) of the leachate by mechanical aeration. Aeration also promotes metals precipitation and volatilization of organic contaminants. The ponds provide leachate storage capacity during the winter months of November to April. Pond 1 has the capability to be aerated with an aspirating aerator and one fine bubble diffuser. Pond 2 has two aerators and one fine bubble diffuser. Pond 3 contains two propeller aspirating aerators and one fine bubble diffuser. Two aerators in Pond 4 are equipped with a mixing propeller and a separate air blower; Pond 4 also contains two fine bubble diffusers. Pond 5 has two aerators.

Ponds 1 and 2 were constructed in 1991 and began operating in May 1992. Each pond has a minimum and maximum operating capacity of 93,475 and 354,151 gallons, respectively. Pond 3 was constructed in 1995 and has a minimum and maximum operating capacity of 261,573 and 681,818 gallons, respectively. Pond 4 was constructed in 2007 and has a minimum and maximum operating capacity of 1,285,518 and 2,422,305 gallons, respectively. Pond 5 was constructed in 2019 and has a minimum and maximum operating capacity of 206,441 gallons and 1,201,385 gallons, respectively. The total pond storage capacity is 5,013,810 million gallons (not including freeboard). Freeboard in the five ponds provides an additional capacity of about 2,459,861 gallons that may be used when heavy rainfalls occur when the system is at maximum operating levels.

Leachate from Pump Station No. 1 is discharged into Pond 1. The County's chemical treatment process generally consists of:

- Pond 1 for initial storage and mixing. Air is not typically added to avoid initiation of bacterial action (i.e., avoid nitrification).
- Leachate is then moved to Ponds 3 and 4 where sulfuric acid is added to drop the pH to <4. This is done to reduce alkalinity concentration and the buffering capacity. When the pH goal is achieved, the air system is turned on to liberate the alkalinity as carbon dioxide gas. The leachate then remains in Pond 3 or is transferred to Pond 4 or 5.
- Sodium hydroxide is then added to Ponds 3, 4, or 5 to raise the pH to >10 in preparation for ammonia stripping. Ammonia stripping is then accomplished by aeration in the ponds with the existing equipment.
- After ammonia stripping is completed, treated leachate is stored in the ponds until land application can be completed.

Leachate recirculation can occur from Pump Station No. 1 or any pond. Leachate is discharged from Pond 2 either to the land application system, recirculated back into the Landfill, or to the leachate loadout for hauling when liquid levels are high and conditions do not allow land application or recirculation. This method of operation maximizes pond retention time, promotes solids settleability, and prevents mixing of primary and secondary leachate. By October or November of each year, the ponds are typically reduced to the minimum operating level. This provides the storage required to manage winter snow melt and spring rain. During the winter and spring, all raw leachate is then transferred from Pump Station No. 1 into Ponds 1 and 3. Pond transfers and leachate recirculation may occur during winter if warranted by liquid levels and if the temperature allows. Each late summer or fall, the County empties the ponds in sequence to inspect the liner and remove sludge, if necessary. Any observed leaks in the primary liner system are repaired. Cleaning occurs as needed based on the volume of accumulated sludge. Sludge is removed with a vacuum truck and placed in the active landfill cell. Sludge disposed in the Landfill is contained within a small rectangular berm or waste. The sludge is then allowed to air dry within the berm and drain into the waste. Past Toxic Characteristic Leaching Procedure (TCLP) testing has demonstrated that the treatment pond sludge is nonhazardous.

12.7.6.2 Leachate Recirculation System

Land applying treated leachate has proven successful and has allowed for disposal of the majority of the treated leachate. However, due to hydraulic loading restrictions associated with leachate treatment, land application usually cannot occur until June or July of a given year, potentially requiring off-site hauling of significant leachate volume during the spring to maintain the treatment pond levels. Due to continued use of Metropolitan Council-Environmental Services (MCES) once full-scale land application began in 1996,

additional alternative disposal options were investigated. Recirculation of the leachate was selected to provide a cost-effective management alternative to manage leachate and also stabilize waste. The primary goal of the recirculation program was to minimize the volume hauled off-site, thus reducing leachate treatment costs and keeping leachate management within the permitted boundary. The County entered into a Phase I pilot program for leachate recirculation to improve leachate management. Approval was obtained for a 3-year pilot program, and the initial recirculation system was constructed in 1997 in Cell 2. Operations started in 1998. During the 5 years (including two 1-year extensions) of the Phase I program (1998 - 2002), no leachate was hauled to MCES until May 2002, indicating that the demonstration successfully met its primary goal. Hauling was necessary in 2002 due to heavy precipitation in combination with the recent opening of Cell 3. During 2016, the County decided to implement leachate hauling due to excessive precipitation events in July and August resulting in excessive amounts of leachate generation that were unable to be fully managed on-site with leachate recirculation and land application. Since 2016, no additional leachate hauling to MCES, St. Cloud, or Brainerd has occurred as leachate has been managed on-site via land application and recirculation.

The leachate recirculation system is primarily used in the spring and early summer, before the application field dries, leachate treatment occurs, and application can begin. Recirculation also allows the County to take advantage of benefits such as an increased rate of waste stabilization, leachate storage and volume reduction within the waste, additional leachate treatment, accelerated landfill settlement before final closure, and reduced treatment costs. The recirculation system is designed with the flexibility to recirculate both raw and pretreated leachate. Leachate is injected back into the Landfill waste through a series of RLs which run east to west within the disposal cells, and via the spray application on the working face in Cell 5.

The weather may still be a deciding factor (heavy late fall rain, heavy snow cover, heavy early spring rain, or late frost from the ground) if any leachate will be shipped to an off-site treatment facility. With all five ponds down to a minimum in the fall, favorable weather, and recirculation, there should be enough storage capacity (with the freeboard) to hold leachate until it can be treated and land applied.

12.7.6.3 Ultimate Disposal

Ultimate disposal can include land application onto a 36-acre land application field or hauling to the Brainerd Public Utilities Commission (BPUC) Wastewater Treatment Plant (WWTP), the St. Cloud Wastewater Treatment Facility (St. Cloud WWTF), or to the Twin Cities for disposal at a MCES facility.

The land application system consists of pumps, forcemain piping, and a distribution system. The pumping system utilizes the existing Pump Station No. 2 between leachate Ponds 1 and 2 to allow discharge from either pond. The discharge piping from Pump Station No. 2 leads to the land application vault with valving to allow discharge to either the loadout pad or to the land treatment systems booster pump. The pump (PS#2) feeds the irrigation pump or transfers leachate. A basket strainer is also provided to prevent clogging of the irrigation system nozzles and piping. A pump-out connection is provided at the low point of the forcemain piping to allow the contents of the piping to be emptied into a tanker in the fall and returned to the ponds. The forcemain is 6-inch diameter fused HDPE.

The south land application distribution system utilizes 149 fixed position impact sprinklers divided into 12 different spray zones across a 36-acre area established in 2008. Pretreated leachate is supplied to the sprinkler head rated at 80 psi which provides an approximately 130-foot coverage diameter. Each zone is provided with a zone control valve and the system is operated via a programmable control panel. Land application of landfill leachate onto the south land application area was approved by the MPCA starting in 2009. Land application takes advantage of evapotranspiration of the cover vegetation and the moisture retention of the cover soil.

The quantities of leachate generated, land applied, and recirculated for the last 5 years are provided in **Table 12-3**.

Table 12-3: Crow Wing County Landfill Quantities of Leachate Generated

Year	Leachate Hauled (Gallons)	Leachate Land Applied (Gallons)	Total Leachate Generated (Gallons)	Leachate Recirculated (gallons)
2018	0	6,730,216	5,767,193	3,183,445
2019	0	8,363,640	8,540,611	4,320,057
2020	0	7,923,954	7,114,549	2,841,552
2021	0	6,261,452 ^(a)	6,768,786	2,132,439
2022	0	7,731,089 ^(b)	6,066,939	3,263,404

Source: Crow Wing County.

(a) The LA volume for 2021 excludes 396,140 gal of stormwater collected within empty ponds.

(b) The LA volume for 2022 excludes 212,991 gal of stormwater collected within empty ponds.

12.8 Costs and Budget

Landfill tipping fees fund the entire County's landfill permitting, development, and operation. The MMSW tipping fees are established by the County Board and can be found in **Table 2-9** and **Appendix D**. The tip fee is set to offset all present and future cost of the Landfill operations and development. The "profit" has ensured all construction at the facility is being accomplished without any bonding and has

enabled the County to be aggressive in its exploration of new technologies for waste management and leachate treatment to improve operations and to reduce any potential environmental impacts of the County's operations. The fees raised by the Solid Waste Management Tax (SWMT) are sent to the State, and the fees raised by the GMLCF will be used by the County as a funding source for the closure of future landfill cells. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

13.0 WASTE TIRE MANAGEMENT PROGRAM

13.1 Policy and Goals

It is the policy of the County to ensure compliance with Minnesota Statute §115A.914, subd. 3 and the County Solid Waste Ordinance with respect to waste tires storage, overall management, and disposal. Furthermore, the County will continue to educate its citizens and businesses about the proper management of waste tires. It is the goal of the County to ensure that waste tires are managed properly.

13.2 Existing Program

Local tire retailers process the majority of the used tires generated annually within the County. Since April 1, 1989 in Minnesota, retailers who sell tires have been required by statute (Minnesota Statute §325E.32) to take one waste tire for each new tire they sell. The local retailers charge a small fee for this disposal service.

To address the tires that are not returned by consumers to the retail locations across the County when worn out tires are replaced by new ones, there is a drop-off location for waste tires at the Landfill for residents. The Ideal Transfer Station also manages tires. In addition, another disposal option people utilize is the many area "Cleanup Days". These events offer residents convenient opportunities to bring waste tires to a central location for disposal at a minimum charge. The tires gathered at these events are brought either to the Site or to an area tire retailer.

The Site is permitted to store up to 10,000 tires. The County does not accept tires from the local tire retailers. The tire disposal area was upgraded in 2000 to provide improved access for the residents and maintenance by the operator, and the tire disposal area was expanded again in 2021. Waste tires are accepted at the Site for reuse/recycling for a fee. The fees for various tire sizes and types are provided in **Appendix D**. The Site receives mostly tires that have been on residential property.

13.3 Quantities Collected

Table 13-1 shows the quantities of tires managed at the Site in the last 5 years.

Table 13-1: Crow Wing County Quantities of Tires Generated and Received

Year	Amount Accepted at Landfill (Each)	Estimated ^a Generation in CWC	Percent Managed at Site	Tonnage Shipped
2018	6,996	64,794	10.8%	154
2019	6,901	65,055	10.6%	112
2020	9,995	66,123	15.1%	177
2021	9,605	66,485	14.4%	145
2022	7,028	66,847	10.5%	104

Source: Crow Wing County.

(a) Estimated generation is one tire/person/year.

13.4 Programs to be Developed

The existing tire management program will continue as in the past.

13.5 Solid Waste Tire Ordinance

Tires are discussed in Section 14 of the County's Solid Waste Ordinance. The entire ordinance is provided in **Appendix E**.

13.6 Location of Known Unpermitted Tire Dumps

To address the stockpile issue following the State's landfill ban on tires, the County worked closely with MPCA under a grant program to remediate inactive waste tire disposal sites within the County in 1991. Approximately 100,000 tires or 1,457 tons were collected from motor vehicle salvage yards and other stockpiles, of which, 423 tons were from the Landfill. Today, there are no longer any large stockpiles located within the State or any known tire dumps within the County.

13.7 Transportation and Disposal System

Waste tires collected by private retailers are disposed/recycled through arrangements between the retailer and a collection/recycling transporter. When sufficient tires have accumulated, they are sent to the facility with the lowest prices. The County has used Liberty Tire Recycling and First State Tire Recycling for tire processing.

13.8 End Uses

Since 1997, waste tire shreds have been used in the Landfill's leachate recirculation program, replacing recirculation lateral aggregate. Tire shreds have also been used during liner construction, placed to mark the top of the drainage sand around a cell perimeter. The tire shreds provide a warning indicator to Landfill equipment operators when excavating near the liner system.

The County's tire program has become self-sustaining with all tires collected reused on-site for recirculation lateral and liner construction, resulting in significant cost savings. Metal rims are recycled.

13.9 Responsible Staff

Staffing is discussed in **Section 20.1**.

13.10 Budget

The source of funding for this program is primarily through a tire tipping fee charged at the Landfill with a small amount coming from the County Solid Waste Assessment Fee. The County Board established the tire tip fees and can be found in **Table 2-9** and **Appendix D**. This fee is set at a level sufficient to cover most of the cost of tire disposal and low enough not to encourage illegal dumping. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

13.11 Implementation Schedule

An implementation schedule is provided in **Table 12-3**.

Table 13-2: Waste Tire Management Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Continue existing program.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

14.0 ELECTRONIC PRODUCTS

14.1 Policy and Goals

It is the policy of the County to educate citizens and businesses on the proper management of electronics and to ensure the disposal program for electronics is maintained and available to all residents.

14.2 Existing Program

To assist local government agencies in the proper management of these items, the County in 2001 coordinated a one-day drop-off event for all government/public entities in the County. Used electronics collected from the commercial program were processed through the State contract (Asset Recovery). The drop-off location was the County HHW facility. This program was expanded in 2002 to two events – spring and fall – and to include businesses. Under this program, the business only has to pay the disposal cost for their used electronics. The County pays for the transportation and to have the contractor at the Site.

A residential used electronics storage facility was built at the Site in 2003 and opened in May 2004. The County residential electronic waste program accepts computers/laptops and components, CPUs, monitors, keyboards, mouses, fax machines, copiers, printers, microwaves, VCR/DVD players, scanners, electric typewriter, and stereos. Fees for these and other items are provided in **Appendix D**. Other used electronic disposal options are provided at area “Cleanup Days” and the Ideal Transfer Station for a fee. County personnel make this program possible. As of July 2023, electronics are managed at the CWCRC (discussed in more detail in **Section 4.3.1**).

Starting in 2008 the County utilized low bidding for the disposal of residential electronics; previously the County was utilizing the state contract. Cass County received an electronic collection improvement project grant from MPCA to explore potential avenues for electronics within our region in 2011. Working with Crow Wing and Hubbard; Cass County received quotes from venders to provide this service starting July 2012. The low quote received will take electronics for no cost, plus no cost for transportation. This contract met the County’s goal of reducing the cost for this program, plus provided a partnership opportunity with surrounding counties. Electronic waste recycling is important to recover previous metals needed for the electric vehicle industry.

14.3 Quantities Collected

Table 14-1 summarizes the quantities of used residential electronics managed at the Site in the last 5 years.

Table 14-1: Quantities of Used Residential Electronics Received, Crow Wing County Landfill

Year	Amount Accepted at Landfill (Tons) ¹	Amount Accepted at Landfill (Each) ²
2018	65	7,778
2019	204	7,454
2020	231	8,711
2021	180	7,396
2022	92	5,780

Sources:

(1) MPCA SCORE Reports.

(2) Crow Wing County.

14.4 Public Education

The County advertises business electronics events with the local chamber and reaches out to all businesses on their contact list twice per year leading up to each event.

14.5 Collection Options

Collection options are discussed in **Section 14.2**.

14.6 Programs to be Developed

The new CWCRC opened on July 11, 2023, and accepts e-waste. Additional detail on the CWCRC is provided in **Section 4.3.1**.

14.7 Responsible Staff

Staffing is discussed in **Section 20.1**.

14.8 Budget

The source of funding for this program is primarily through an electronic tipping fee charged at the Site, with a small amount coming from the County Solid Waste Assessment Fee. The County Board established the electronic tip fees, which can be found in **Table 2-9**. The fees are set at a level sufficient to cover most of the cost of electronics disposal and are low enough not to encourage illegal dumping. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

14.9 Implementation Schedule

An implementation schedule is provided in **Table 14-2**.

Table 14-2: Electronic Products Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Open new Crow Wing County Recycling Center for the collection of recyclable materials, HHW, e-waste, used oil and filters, and batteries.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

15.0 MAJOR APPLIANCE MANAGEMENT

15.1 Policy and Goals

It is the policy of the County to educate citizens and businesses on the proper management of appliances and to ensure the disposal program for appliances is maintained and available to all residents.

15.2 Existing Program

Appliance disposal options are provided at the Site, area Cleanup Days, the Ideal Transfer Station, and an area private scrap metal dealer for a fee. The area at the Site was upgraded in 2000 to provide improved access for the residents and the contracted processor and was upgraded again in 2021 to expand the deck. Appliances collected from the Site are currently processed by Bass Brook Recycling and transported to a scrap yard. Site fees to accept appliances are provided in **Appendix D**.

The Site is accepting a significant number of used appliances generated within the County. In addition, a local scrap metal dealer (Crow Wing Recycling) accepts a large number of used appliances. With this in mind, the County is generating more than the State/national average. This may be due to non-residents who live on the lakes and people who are cleaning up their property. Nonresidents with summer lake homes bring old appliances from their permanent residence for use at their lake homes and dispose of them in Crow Wing County. This transient population may be adding a significant number of appliances to the solid waste system.

15.3 Quantities Collected

Table 15-1 summarizes the quantities of appliances managed at the Site in the last 5 years (note tonnage also includes scrap metal).

Table 15-1: Quantities of Appliances Managed, Crow Wing County Landfill

Year	Amount Accepted at Landfill (Each)	Estimated ^a Generation in CWC	Percent Managed at Site	Tonnage Shipped
2018	4,056	6,479	63%	443
2019	3,977	6,506	61%	414
2020	5,679	6,612	86%	529
2021	4,972	6,649	75%	545
2022	3,771	6,685	56%	422

Source: Crow Wing County.

(a) Estimated generation rate is 0.1 item/person/year.

15.4 Compliance with Regulations

The County has an agreement with the Landfill operator to remove Freon (Minnesota Statute §116A.731), polychlorinated biphenyls (PCB) contaminated capacitors and mercury switches (Minnesota Statute §115A.932). The Landfill operator is certified with all applicable local, state, and federal regulations for proper capture of hazardous products contained in the appliances. Disposal of the PCB capacitors and mercury switches is accomplished through the County HHW program.

15.5 Programs to be Developed

The existing appliance management program will continue as in the past.

15.6 Responsible Staff

Staffing is discussed in **Section 20.1**.

15.7 Program Budget

The source of funding for this program is primarily through an appliance tipping fee at the Landfill. The County Board established the appliance tip fees, which can be found in **Table 2-9**. This fee is set at a level sufficient to cover the cost of appliance disposal and is low enough not to encourage illegal dumping. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

15.8 Implementation Schedule

An implementation schedule is provided in **Table 15-2**.

Table 15-2: Appliance Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Continue existing program.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

16.0 MERCURY SWITCHES, USED OIL, AND BATTERIES

16.1 Policy and Goals

It is the goal of the County to ensure its citizens are educated about proper disposal of used oil/filters and that adequate opportunities exist for used oil/filter disposal. It is the policy of the County to encourage proper disposal of motor vehicle batteries and household batteries. It is the goal of the County to ensure its citizens are educated about proper disposal of motor vehicle batteries and rechargeable batteries.

The State of Minnesota has enacted a landfill ban for lead acid batteries (Minnesota Statute §115A.915). It has been illegal since January 1, 1988 to place these in the waste stream. Minnesota law (Minnesota Statute §325E1151, subd. 1) established a refundable surcharge when a motor vehicle battery is purchased. The law (Minnesota Statute §325E.1151, subd. 2) also requires motor vehicle battery retailers to accept up to five motor vehicle batteries free of charge, whether or not the consumer is making a purchase. When a new battery is purchased, the customer may avoid the surcharge by turning in a used motor vehicle battery.

16.2 Existing Programs

16.2.1 Used Oil and Used Oil Filters

The County informs residents through its public education program that disposal of motor oil in or on the land is banned and that improperly disposed waste oil impacts ground and surface water, human health, and the environment. All retailers of motor oil must either offer collection of used oil to the public or indicate the nearest collection site.

Area service stations or shops specializing in oil changes are processing the majority of the used oil/filters generated in the County. The sites outlined below are geared toward “do-it-yourselfers” (DIY) to utilize as their disposal system. In addition, residents that bring in used oil as part of HHW collection are informed of the used oil tanks and their availability.

Motor oil legislation (Minnesota Statute §325E112, subd. 1, (2)) was passed in Minnesota in 1997 specifically requiring the industry to ensure each county has at least one free site, in addition to any free government site. Currently, this site is Valvoline Oil in Baxter. Valvoline Oil will take up to 5 gallons of used oil and 10 oil filters. A local business (Waste Partners) provides residential/commercial used oil filters collection service in the County.

There are eleven used oil storage tanks within the County where residents can drop off used oil, placed such that each resident is within 10-miles of a tank. The tanks are located at the following locations:

- Emily Maintenance Garage
- Crosslake City Garage
- Pequot Lakes Clerk's Office
- Mission Town Hall
- Nisswa Community Center
- Crosby Street Department
- Crow Wing County Landfill
- Baxter Maintenance Garage
- Brainerd Fire Department
- Crow Wing Town Hall
- Garrison City Hall

The County has granted ownership to the host cities and townships and the sites have been a welcomed addition by the communities and residents. The host cities and township are responsible for inspection and maintenance of the tanks and sites. This used oil collection service is offered at no charge to County residents. Oil filters and antifreeze collection service is also offered at no charge to County residents.

East Side Oil of St. Cloud, a licensed used oil hauler, services these tanks. Used oil is a source of fuel for asphalt production. This alternative fuel option conserves other fuels such as natural gas, heating oil, and diesel fuel. The Solid Waste Office uses used oil collected from the County Highway Department vehicle maintenance shop to heat the old HHW Facility. Used oil filters are crushed and the metal is recycled. Antifreeze is shipped for refurbishing and reuse.

16.2.2 Batteries

The private sector provides the primary collection opportunities for lead-acid batteries. Battery disposal options are also provided at the Site, area Cleanup Days, the Nisswa Community Center, the Ideal Transfer Station, and a local private Recycling Facility. There is a receptacle for the lead-acid batteries at the Site. The lead-acid batteries are removed as required for recycling. Lead-acid battery recycling is a free service to County residents. The Site typically receives used batteries that have been stored at residential properties that are delivered when residents are utilizing the One-Stop-Service disposal system at the Site.

The private sector provides the primary collection opportunities for rechargeable batteries. The Rechargeable Battery Recycling Corporation (RBRC) has a national program that works with local interested retailers with a no-cost recycling service through its Call2Recycle initiative. The RBRC is a nonprofit group, funded by manufacturers and marketers of portable rechargeable batteries and products. North American retailers, businesses and communities serve as collection points. The County gives residents a disposal option for Ni-Cad and other rechargeable batteries through the HHW program. Batteries are subsequently disposed through the State contract for the HHW program. **Table 16-1** lists the local businesses that accept used Ni-Cd batteries. Conventional dry cell and alkaline batteries are disposed along with the MMSW.

Table 16-1: Crow Wing County Local Businesses Accepting Used Ni-Cd Batteries

City	Business
Brainerd	ACE Hardware
	Batteries Plus
Baxter	Home Depot
Nisswa	Carson Hardware

Source: Crow Wing County.

16.3 Quantities Collected

Table 16-2 summarizes the quantities of used oil collected at the Site in the last 5 years.

Table 16-2: Quantities of Used Oil Collected at Crow Wing County Landfill

Year	Amount Accepted at Landfill (Gallons)	Estimated ^a Generation in CWC (Gallons)	Percent Managed at Site
2018	2,913	259,176	1.12%
2019	2,969	260,220	1.14%
2020	2,364	264,492	0.89%
2021	1,743	265,940	0.66%
2022	6,025	267,388	2.25%

Source: Crow Wing County.

(a) Estimated generation rate is 4 gallons/person/year.

A summary of battery collection is provided in **Table 16-3**.

Table 16-3: Quantities of Batteries Collected at Crow Wing County Landfill

Year	Amount Accepted at Landfill (Each)	Estimated ^a Generation in CWC (Each)	Percent Managed at Site
2018	440	21,598	2.04%
2019	496	21,685	2.29%
2020	548	22,041	2.49%
2021	695	22,162	3.14%
2022	719	22,282	3.23%

Source: Crow Wing County.

(a) Estimated generation rate is 0.33 batteries/person/year.

16.4 Programs to be Developed

The program for mercury switches, used oil, and batteries will continue as in the past. Lithium-ion batteries are responsible for fires at many solid waste facilities including the Landfill working face. The County will consider an education program to promote proper disposal and recycling of lithium-ion batteries.

16.5 Responsible Staff

Staffing is discussed in **Section 20.1**.

16.6 Program Budget

A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

16.7 Implementation Schedule

An implementation schedule is provided in **Table 16-4**.

Table 16-4: Mercury Switches, Used Oil, and Batteries Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Continue existing program.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

17.0 HOUSEHOLD HAZARDOUS WASTE MANAGEMENT

The MPCA is required by Minnesota Statute §115A.96 to establish a statewide program to manage HHW. Minnesota Statute §115A.96, subd. 3, provides that the statewide HHW program may be provided directly by the State or by contract with public or private entities. State law requires counties to include a section on HHW management as part of their solid waste management plan (Minnesota Statute §115A.96 subd. 6).

17.1 Policy and Goals

It is the policy of the County to promote programs that reduce the level of HHW in the MMSW. Programs that deal with hazardous waste provide a benefit to the County by offering proper disposal actions for these items to the residents/businesses of Crow Wing County. In addition, this action greatly reduces the risk of illegal dumping or disposal into the Landfill. If placed in the Landfill, this quantity of chemicals would have a profound effect on the leachate quality. If disposed of inappropriately elsewhere, these chemicals could contaminate land, groundwater, or surface water. These programs are and will continue to be successful. It is the goal of the County to maximize the effectiveness and efficiency of its comprehensive and ongoing public education and collection program.

17.2 Existing Program

The County has established its own Regional HHW Program in conjunction with Morrison and Todd County. A drop off center with product exchange service is located at the Site. The County provides an extensive HHW waste education program.

The County HHW Facility was built as part of a Landfill Maintenance Building in 1992 and opened in August 1993. The HHW operation began to utilize the entire building in 2002, when the Landfill operator was moved to a new maintenance facility located at the Site. The HHW Facility has areas for storage, processing and bulking, product exchange, and administration. County personnel operate the Facility. The County's HHW Facility is open 8 am to 5 pm, Monday through Saturday from April to September, and 8 am to 5 pm, Monday through Friday from October to March. Additional detail on the new CWCRC is provided in **Section 4.3.1**.

In 2003, the County started its own Regional Program. Previously, the County was a member of the Tri-County (Stearns, Benton, and Sherburne) Regional HHW Program. Morrison and Todd County joined Crow Wing County's Regional Program in 2003. The program was created to provide local program managers with central fiscal disbursement, an ongoing technical education program for HHW management, processing, information, and a materials clearinghouse. Additional benefits include

recommendations about equipment, a conduit to MPCA's HHW Program staff, and a meeting location for local program managers.

All HHW is either reused in product exchange, recycled, fuel blended, or incinerated. The HHW vender (through the state contract) transports solvent-based and other flammable liquid waste (that does not contain unwanted constituent) to be used for fuel in high-temperature cement kilns. These kilns are EPA approved. Also, the HHW vender transports bulk latex paint to be used as a feedstock at cement kilns.

The County previously used a can crusher to help bulk oil-based cans, latex paint cans, and aerosol cans. The County now ships most of their latex and oil-based paint cans directly to PaintCare in their original container. This action has greatly reduced the time and volume that is bulked.

Some of the material coming in is being reused through the Product Exchange Program. This action has reduced the amount of material being disposed of as hazardous waste. The County will accept HHW for Product Exchange if a product is usable, stored in the original container, and is in good condition (i.e., latex/oil-based paint, automotive supplies, etc.). Any resident or organization of the County can utilize the product for free.

17.2.1 Pharmaceutical Waste

The County program to address the disposal of old residential pharmaceutical medications was initiated in 2012. The six Crow Wing County drop off sites are located at the following locations:

- Crow Wing Sheriff's Office
- Breezy Point Police Department
- Crosby Police Department
- Crosslake Police Department
- Nisswa Police Department
- Pequot Lakes Police Department

17.3 Public Education

Crow Wing County publishes weekly advertisements in three local newspapers to inform the public of the County's available HHW program.

17.4 Quantities Collected

The amount of HHW collected through the County's HHW program in the last 5 years is provided in **Table 17-1**.

Table 17-1: Crow Wing County HHW Collected

Year	HHW Collected (Tons)
2018	1,147
2019	836
2020	858
2021	1,408
2022	419 ¹

Source: MPCA SCORE Reports.

(1) During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. Data from businesses are inconsistent which cause fluctuations in reported data year to year.

17.5 Programs to be Developed

HHW is managed at the CWCRC, discussed in **Section 4.3.1**.

17.6 Responsible Staff

Staffing is discussed in **Section 20.1**.

17.7 Program Budget

The source of funding for this program is through an MPCA grant and via the County Solid Waste Budget through the County Solid Waste Assessment Fee. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

17.8 Implementation Schedule

An implementation schedule is provided in **Table 17-2**.

Table 17-2: HHW Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Open new Crow Wing County Recycling Center for the collection of recyclable materials, HHW, e-waste, used oil and filters, and batteries.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

18.0 CONSTRUCTION AND DEMOLITION DEBRIS

18.1 Policy and Goals

It is the policy of the County to promote the proper disposal of demolition debris. It is the goal of the County to ensure that proper and legal disposal opportunities exist within the County.

18.2 Existing Program

Demolition debris generated within the County is managed at five demolition debris land disposal facilities:

- Crow Wing County Demolition Landfill SW-440
- Crosslake Demolition Landfill SW-412 located in Crow Wing County
- Hengel Demolition Landfill SW-291 located in Cass County
- Grinning Bear Demolition Landfill SW-556 located in Cass County
- General Waste & Recycling, LLC Demolition Landfill SW-620 located in Itasca County

The County cooperates with the MPCA for any on-site demolition debris “Permit-By-Rule” applications submitted; however, no applications have been submitted in the past 10 years. Generally, the County discourages permit-by-rule sites since sufficient disposal facilities are available.

The County Demolition Debris Landfill SW-440 was constructed and began accepting waste in 1990 as a permit-by-rule landfill. The Demolition Debris Landfill was formally permitted by the MPCA as SW-440 in 1993 and utilized approximately 4.6 acres of disposal area. The permit was amended in 1997 by the MPCA to extend permitted disposal until January 2003. This date represented the estimated time to reach Phase I capacity. Letters from the County dated February 13, 1997 and March 7, 1997 requested an extension to this date. Phase I of the facility accepted waste until July 2003 and was closed in two parts during 2001 and 2004. Permit reissuance for SW-440 was issued by the MPCA on September 11, 2002 and on March 31, 2008, which allowed the County to dispose of C&D waste within Phase II. The Phase II expansion is located west of Phase I, incorporates approximately 4.71 acres and began accepting waste in August 2003. The Phase III expansion area was permitted with the May 15, 2015 Permit. The Phase III expansion excavation was completed in 2019 and incorporates 4.46 acres. The Phase II partial closure completed in 2020 closed 1.19 acres. Based on annual survey waste rates, Phase II is projected to reach capacity in 2026.

Table 18-1 below provides a summary of the volumes for Phases I-V of SW-440.

Table 18-1: Crow Wing County Demolition Debris Landfill, SW-440 Waste Volume

Phase	Volume with Final cover (Cubic Yards)	Waste Volume (Cubic Yards)^a	Monthly and Intermediate Cover (Cubic Yards)^a	Final Cover (Cubic Yards)
Phase I	98,204	66,741	16,685	14,778
Phase II	195,700	144,464	36,116	15,120
Phase III	145,000	104,500	26,125	14,375
Phase IV	92,000	66,239	16,560	9,201
Phase V	230,000	177,407	44,352	8,241
Total	760,904	559,351	139,838	61,715

Source: SW-440 Permit Reissuance July 2013.

(a) Volumes estimated using 80 percent air space for waste and 20 percent for monthly and intermediate cover.

The May 2015 permit provides the necessary information to support the Permit Reissuance of SW-440 as a Class II Demolition landfill, thereby projecting demolition debris disposal capacity (through Phase V) for County residents and businesses until approximately 2082. The actual projected site life may vary since demolition debris generation is variable and depends on several factors including, but not limited to:

- Increase in demolition construction projects throughout the County.
- Significant weather events causing structure damage (e.g., tornado east of Brainerd in June 2001).
- Large public or commercial buildings being demolished (e.g., County hospital in 2012).
- Closure of another available demolition landfill in the area (right now the demolition debris landfill only accepts 20 percent of the County construction and demolition waste).

The County is awaiting new draft rules regarding C&D landfills from the MPCA. Once draft rules have been released, the County will consider future C&D disposal. Potential options for SW-440 include lining the landfill or closing. If SW-440 is lined, there may be an opportunity for the County to generate revenue from taking out-of-County C&D waste if other C&D landfills in the region close. However, tax impacts and the tipping fees associated with this option as well as historic board decisions to only accept in County waste are potential constraints to making the economics of lining SW-440 work. The uncertainty of how much additional C&D the County would see also presents risk. For example, if SW-440 is lined but other C&D landfills in the region are also lined, the County may not see a large enough increase in incoming C&D waste to make lining SW-440 financially viable. If SW-440 were closed, C&D waste would be disposed of at the County's MSW landfill or another regional option determined by the waste generator. Disposal decisions by the customer will be impacted by tipping fees as well as associated solid waste taxes and fees.

The Lakes Area Habitat for Humanity ReStore is a retail store that accepts and sells donated building material supplies such as cabinets, appliances, furniture, flooring, doors, and windows. Since 2004, the ReStore has diverted over 9,000 tons of materials from the Landfill. All donated items help build Habitat homes in partnership with families in need in Cass, Crow Wing and Hubbard Counties.

Anderson Brothers, a local contractor, recycles asphalt and concrete. The Hengel Demolition Landfill, located just west of Brainerd, and their Westside Demolition Landfill recycle the concrete and asphalt taken in at the site. Hengel also recycles scrap metal (steel, copper, and aluminum) at both sites. A Permit-by-Rule was given to Knife River to recycle concrete at their operation located in the County starting in 2000.

Pursuant to conversations with Crosslake Demolition Landfill and Grinning Bear Demolition Landfill, the volume of asphalt and concrete is not large enough to incorporate a concrete crusher into their operations, but both do recycle metal.

18.3 Programs to be Developed

The County intends to maintain its current demolition debris management program.

18.4 Responsible Staff

Staffing is discussed in **Section 20.1**.

18.5 Program Budget

Demolition debris disposal for the County facility is fully funded through a tipping fee. The demolition debris tipping fee for the County facility is established by the County Board and can be found in **Table 2-9** and **Appendix D**. The tip fee is set to offset any present and future cost of landfill permitting, operations and development. A 10-year program budget is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

18.6 Implementation Schedule

An implementation schedule is provided in **Table 18-2**.

Table 18-2: C&D Program Implementation Schedule

Year	Proposed Implementation Plan ¹
2023	Continue existing program.
2024	Continue existing program.
2025	Continue existing program.
2026	Continue existing program.
2027	Continue existing program.
2028	Continue existing program.
2029	Continue existing program.
2030	Continue existing program.
2031	Continue existing program.
2032	Continue existing program.

(1) The County is committed to continuing its existing system and exploring the development of supplemental waste abatement programs that are long-term, comprehensive, and environmentally and economically sound.

19.0 SOLID WASTE ORDINANCE

19.1 Status of Ordinance

The County's solid waste ordinance was adopted in 1994. The ordinance identifies provisions consistent with MPCA Solid Waste Management Rules for the proper management and disposal of all solid waste within the County. The ordinance includes collection, transportation, and licensing requirements for haulers and other relevant information.

19.2 Implementation and Enforcement Issues

Implementation and enforcement of the solid waste ordinance have been problem-free. Previous limited staffing did result in limited enforcement in the past. The solid waste ticket writing authority given to MPCA has been very helpful in enforcement of solid waste complaints. The ticket writing authority given to DNR concerning illegal burning barrels has also been very helpful in enforcement of solid waste complaints.

19.3 Planned Amendments

The County's solid waste ordinance will be amended in the next 2-3 years. The solid waste ordinance amendment will include, but not be limited to, the following:

- Updating references to state statutes.
- Updating language regarding problem materials that have been banned from disposal since the last solid waste ordinance (e.g., electronics, lightbulbs, and mercury containing devices).
- Updating language to identify details on how hauler reporting will be enforced to address non-compliance among the haulers in the County.

20.0 SOLID WASTE STAFFING

20.1 Existing Staff

The Solid Waste staff is summarized in **Table 20-1**. Refuse collection is provided by private haulers, landfill operations are provided under contract, and recycling program management is provided by cities, townships, or volunteer committees.

Table 20-1: Crow Wing County Existing Solid Waste Staff

Program	Number of FTE
Solid Waste Reduction	0.52
Solid Waste Education	0.52
Recycling Programs	1
Yard Waste Management	0.52
Source-Separated Organic Materials Composting	0
MSW Land Disposal Facilities	0.56
Tire Management Programs	0
Electronic Products	1
Major Appliance Management	0
Automotive Mercury Switches, Motor Vehicle Fluids and Filters, and Lead-Acid and Dry Cell Batteries	1
HHW Management	1.45
Demolition Debris Management	0.52
Total	7.09

Source: Crow Wing County.

The primary staff individual responsible for solid waste management programs and facility development is the Environmental Services Operations Manager. The Environmental Services Technician position manages HHW, recycling (household materials, mattresses, and electronics), and problem materials. The Administrative staff support the Environmental Services Operations Manager, Environmental Services Technicians, and has taken on some of the job duties that were previously accomplished by the Solid Waste Coordinator: the public education program, communications, advertising, and reporting.

20.2 Staffing Needs

If required, the County will explore adding additional staff as the need arises. The Environmental Services Operations Manager will continue to evaluate staffing needs and make recommendations for changes in staffing to the Land Services Director.

20.3 Budget

Budget for staffing is included in the 10-year budget presented in **Appendix B**.

21.0 SOLID WASTE PROGRAM FUNDING

21.1 Policy and Goals

It is the policy of the County to financially support existing and proposed solid waste programs presented in this Plan. It is the goal of the County to maintain programs in the most cost-efficient manner.

21.2 Annual Program Budget

A 10-year program budget through 2032 is provided in **Appendix B**. Assumptions associated with the 10-year budget are discussed in **Section 24.2**.

21.3 Existing Funding Amounts and Sources

Four options for funding the County's solid waste program have been utilized: tipping fees, tax levies, the solid waste assessment fee, and state grants. Each option has advantages and drawbacks.

- Tipping fees at the Landfill. While the application of tipping fees seems the most equitable method by providing a charge in proportion to the quantity of waste delivered, it also provides a benefit to those that dispose of waste illegally by burning or dumping elsewhere. Due to current issues concerning flow control, the County will not attempt to fund all or any part of its solid waste program that is not in direct support of the landfill operation with funds raised through its landfill tipping fees. The greater issue is not to raise the tipping fee (to fund the other solid waste programs) to a level making transfer of garbage out-of-county a feasible option for haulers. Most of this risk can be avoided through other funding sources.
- Tax levies onto property. Tax levies do not address the quantity of waste generated and do not address tax exempt properties, some of which generate substantial quantities of waste. A tax levy was utilized from 1992 – 1994 to assist in paying a bond to construct Cell 1 and close the old landfill – these general revenue funds were reimbursed to the General Fund from the Solid Waste/Landfill funds from 2003 – 2007.
- Solid Waste Assessment Fee. The County will utilize the existing \$25 solid waste assessment to fund its solid waste program excluding the two Landfill operations. The solid waste service charge (Minnesota Statute §400.08, subd. 3) was established by County Board resolution in October 1991. This fee was set at \$20, was lowered to \$15 in 1993, and was increased to \$25 in 2022. Once this 2022 increase pays off the CWCRC, it can be used to support increased diversion.
- State grants. The County is currently receiving SCORE funds for its recycling program and MPCA funds for its HHW program to offset some of the related program costs. SCORE

legislation created a separate revenue mechanism for recycling programs (a statewide tax on the collection and disposal of solid waste). The SCORE tax was modified in 1996 to become the SWMT. The tax rate for municipal solid waste collection is 9.75 percent for residential customers and 17 percent for commercial customers.

Initially, half of the proceeds or \$22 million, whichever was greater, went into the Solid Waste Fund, used for MPCA landfill assessment and closure cost and appropriations for solid waste programs. The remainder went into the General Revenue Fund, but then a portion went to fund MPCA and SCORE grants to counties. Starting in 2006, this was changed to the Environmental Fund. Under this concept, 70 percent of the SWMT went into the Environmental Fund, which MPCA receives funds for SCORE, HHW, competitive grants, loans for waste abatement, and MPCA's operating budget. The remaining 30 percent remained in the General Fund and was spent on programs not related to solid waste or the environment.

SCORE authorizes grants to counties if they meet certain requirements, including providing matching funds and having an approved solid waste management plan. In addition, the MPCA also utilizes SWMT funds to help support the HHW program with an annual HHW stipend. This is usually set at \$600,000 annually and is then distributed to the participating counties.

The Solid Waste Assessment spreads the cost more widely than tax levies. The County intends to continue supporting its solid waste system through existing funding sources. This strategy was utilized to ensure those who dispose of their solid waste illegally and legally pay a portion of the total cost for solid waste management. The County will maintain the Solid Waste Assessment and use these funds as the designated revenue source for the solid waste related activities as outlined in this Plan.

Minnesota Statute §115A.929 requires any political subdivision that provides solid waste management shall account for all revenue collected, including interest, separately from other revenue collected and shall report it separately. The County has set up the following funds:

- Fund 18 – Solid Waste (non-landfill); special revenue governmental fund accounts are used when proceeds of a special revenue source are restricted to expenditures for specific purposes. The County tracks solid waste (non-landfill/SCORE) revenues and expenditures as a Special Revenue Fund to accurately track SCORE (Minnesota Statute §115A.557, subd. 3(1)) and solid waste program revenues/costs.

- Fund 50 – Landfill – Enterprise Fund; the County maintains one Proprietary Fund. This fund is used to present business-type of activities. The County tracks landfill revenues and expenditures as an Enterprise Fund.
 - Since the County operates a landfill, Minn. R. 7035.2695 requires that financial assurance for closure, post-closure care, and corrective action be established. Account 50550 (Demolition Landfill, SW-440), Account 50551 (Old Landfill, SW-111, fund closed in 2017), and Account 50552 (New Landfill, SW-376) have been established as separate accounts under Fund 50 as outlined in Minn. R. 7035.2705.

Under the current County funding structure, the landfill tipping fee accurately reflects the actual cost of the landfill operations versus the total integrated solid waste system cost. This has two advantages. First, keeping the tipping fee low at the Landfill can compete with alternative disposal options that are also priced to reflect the cost of disposal only. Also, Minnesota Statute §297H requires a political subdivision that subsidizes solid waste services below the cost of their market price to pay the SWMT on the difference between the subsidized price and the market price. As defined by Minnesota Statute §297H.01, Subd. 4, “Market price” means the lowest price available in the area, assuming transactions between separate parties that are willing buyers and willing sellers in a market. The intent of the statute is to provide equity in payment of the SWMT where a public subsidy for service is provided from local revenue sources. Second, dependency on landfill tipping fee revenues to support other Solid Waste/SCORE programs puts these programs in direct competition with their source of funding. When all aspects of an integrated solid waste program are incorporated into a single tip fee, it allows little flexibility for change.

The County Solid Waste Assessment is the primary fund revenue for Fund 18 – Solid Waste (non-landfill). The assessment covers the majority of the cost of the solid waste services such as recycling, yard waste, HHW, problem material management, education, illegal dumping, and the other non-landfill/SCORE related programs.

The GMLCF will be utilized as following to be in compliance with state statute:

- All ongoing operational/maintenance costs associated with post-closure care for the old unlined landfill SW-111 until transferred to the CLP, the closed portions of SW-440 and SW-376, and future closed phases of both the demolition and sanitary landfills.

- The entire cost to establish and maintain the financial assurance trust fund accounts within Fund 50; Account 50550 (Demolition Landfill, SW-440), Account 50551 (Old Landfill, SW-111, now closed), and Account 50552 (New Landfill, SW-376).
- Each Financial Assurance Fund is generating interest. Initially, interest was a critical factor in ensuring these Funds would be fully funded. Starting in 2006, the interest generated is being replaced by funds raised by GMLCF. This means all the funding within each Financial Assurance Fund is from GMLCF ensuring compliance on how these funds can be utilized. Interest from Fund 50 is kept within the Solid Waste General Revenue to fund Solid Waste Administrative support (i.e., Land Services support staff, County Attorney, etc.).
- Future cost of cell closures for either landfill.

Overall, the County source of funding for the integrated solid waste program has been stable and sustainable.

22.0 TEN-YEAR PLAN REVIEW

The planning process for the 2033 Solid Waste Management Plan will begin in 2032. A final draft of the plan will be submitted six months prior to the expiration of this Plan.

23.0 GOAL VOLUME TABLE

The completed GVT for Crow Wing County is provided in **Appendix F**. The key steps and assumptions used in developing the GVT are as follows:

- The 2020 population for the County was taken from the U.S. Census.
- 10-year population growth projections were taken from the county profile on the Minnesota Department of Employment and Economic Development (MN DEED) website.
- The U.S. Census and MN DEED sources were used to project the population change each year through 2033.
- Estimated quantities for landfill disposal and recycling were correlated with the projected change in population.
- During 2021 and 2022, only official reported recycling numbers were included in the SCORE report and the total recycled tonnage did not include estimates as was completed in prior years. This resulted in the 2022 recycling rate being 37.5 percent for the County, which is a known underreported number. Data reported businesses are inconsistent and incomplete (several did not report any recycling quantities despite numerous attempts to collect data). The County sends out approximately 65 surveys per year to businesses to collect this data but has not received consistent participation and data from businesses. The County will continue to attempt to obtain data from businesses; however, a requirement from the MPCA to report recycling numbers to the County would be prudent for accurate reporting of the recycling amounts. Due to the lack of reporting, the recycling rate goal set in the GVT for 2033 is 43 percent.
- The estimated increase in the recycling tonnage needed to achieve the recycling/waste diversion rate goal by 2033 was calculated.
- The increase in the recycling numbers were adjusted for the County based on the proposed program initiatives.
- The “Total Tons” numbers on the “Forecast and Sector Composition” tab includes numbers for recycling and amount landfilled. Onsite disposal numbers are not included in this total.
- The GVT forces a waste compaction density of 1,900 pounds per cubic yard; however, the historic compaction rate at the Landfill is 1,350 pounds/cubic yard (based on compaction averages from 199802022). An additional tab was added to the GVT that includes a calculation for MSW disposal capacity requested (i.e., CON) based on projected tonnages and a realistic waste compaction rate. Based on the revised calculation, the total MSW disposal capacity request is 706,301 cubic yards for the 2024-2033 planning period, not including industrial waste or daily,

intermediate, or final cover soils. This MSW disposal capacity should be used to determine permitted capacity in the upcoming SW-376 permit reissuance process. The MSW disposal capacity for each year is provided on the last page of the GVT in **Appendix F**. The cubic yards requested is greater than what was requested in 2013 (see **Appendix C**) due to population growth and increasing MSW tonnages received from seasonal residents.

24.0 SOLID WASTE PROGRAM BUDGET

24.1 Projected 10-Year Solid Waste Budget

Revenues for the County's Solid Waste Budget include SCORE grant funds, tipping fees, Solid Waste Assessment, GMLCF, fund interest, and MPCA HHW grant funds. The County has prepared a 10-year budget located in **Appendix B**.

24.2 Financial Assumptions

Financial assumptions used in the projected budget include:

- Existing SCORE and HHW funding levels will continue to be disbursed by the State.
- MPCA will allow the continuation of all the existing and proposed landfill operations.
- Future construction will be done without issuing further debt. This is consistent with the County's desire to continue with a pay-as-you-go strategy in relation to addressing future capital outlay needs. This would involve saving for capital outlays versus issuing debt for future capital. This strategy takes much organizational dedication to properly plan for and fund future capital projects.
- The GMLCF will continue to be disbursed back to the County.
- The existing County Solid Waste Assessment Fee will continue and go strictly toward solid waste (non-landfill/SCORE) related activities.
- The existing interest from the Financial Assurance funds will go strictly toward solid waste (non-landfill/SCORE) related activities.
- The landfill tipping fees will go strictly toward landfill related activities only.
- The Minnesota Department of Agriculture (MDA) will continue to bear the cost for the disposal of pesticides collected in the County.
- State will continue to bear the risks for the transportation, management, and disposal of HHW collected in the County.

25.0 ALTERNATIVES TO PROPOSED SYSTEM

The following is a list of available solid waste disposal systems that may be used if the County's Landfill becomes inoperable for any reason:

- Greater Morrison Sanitary Landfill (SW-15) located near Little Falls, MN
- Cass County Transfer Station located near Pine River, MN
- East Central Solid Waste Commission Sanitary Landfill (SW-17) located near Mora, MN
- Elk River Mixed Municipal Solid Waste Landfill (SW-74) located near Elk River, MN
- Perham Resource Recovery WTE Facility located near Perham, MN
- Western Lake Superior Sanitary District Transfer Station located in Duluth, MN
- St. Louis County Sanitary Landfill (SW-405) located near Virginia, MN

26.0 ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS

The County intends to continue the educational program on the hazards of on-site and illegal disposal, including use of burn barrels. The program will attempt to bring more rural residents and non-resident visitors to the County into the solid waste system. With continuing education targeting the environmental hazards of on-site and illegal disposal, and the increasing availability of rural collection service and enforcement activities, the County intends to reduce on-site disposal of solid waste. These actions will assist in the mitigation of impacts to air, surface water, groundwater, public health and will help to avoid nuisance conditions.

The County discourages and prevents illegal and on-site disposal of MMSW through promotion of proper alternatives, waste education, and enforcement of the solid waste ordinance and MPCA rules. The methodology generally used is:

- Receive notification of a potential ordinance violation
- Conduct initial on-site inspection
- Meet with property owners or responsible individual(s)
- Discuss rule and ordinance violation
- Issue a Cease and Desist Order or Citation, if necessary
- Send a letter to responsible party with copy to the County Attorney, MPCA, and District Commissioner, if appropriate
- DNR staff is notified for burn barrel violations
- Identify time line for cleanup
- Require receipts for proof of proper disposal
- Cleanup complete - close the file

The County also has a policy that outlines the procedures under which solid waste collected in a cleanup project may be disposed of at the landfill facilities at no cost to the organization doing the cleanup. The County Board addresses requests on a case-by-case basis. Additionally, there are programs within the County funding their own cleanups. The following are recent and previous cleanup projects held within the County:

- Fairfield Township Cleanup (May 15, 2021)
- Garrison Lions Cleanup (June 5, 2021)
- 2020 – COVID no cleanups held

- City of Pequot Lakes Cleanup by the Pequot Lakes Lions (April 27, 2019)
- City of Emily-Fifty Lakes Cleanup (September 17, 2016)
- City of Brainerd Cleanup (June 15, 2013)

These cleanup days provide homeowners with an option to properly dispose of larger items such as appliances, furniture, mattresses, etc. This is especially important for communities farther from the Landfill. Other programs include the MN Department of Natural Resources (DNR) Adopt-a-River Program and the MN Department of Transportation (MnDOT) Adopt-a-Highway Program.

Besides the MnDOT program, the County Highway Department also addresses litter along County roads. The County Highway Departments encourages public participation in the cleanup of roadsides by area groups, conservation clubs, service organizations and others who desire to perform a public service by litter pickup and general cleanup along public roads. The County Highway Department provides plastic bags and reflective vests, picks up the bags, hauls the trash to the Landfill at no charge, and pays for the tipping fee at the Landfill.

MnDOT is required by Minnesota Statute §161.242 to regulate the operation of junkyards on lands adjacent to Minnesota's Truck Highway System. Illegal or non-conforming junkyards must be removed, relocated on-site, or screened to become compliant with this statute. Furthermore, MPCA has a publication and education program for operators of junk/salvage facilities.

Civil citations can be and are issued by the MPCA to individuals for disposing of solid waste on someone else's property. The DNR can also issue citations for burning solid waste, i.e., burn barrels. Several property owners have voluntarily cleaned up their properties. The Land Services Department will continue to pursue enforcement against property owners as needed. The enforcement officer has the authority to issue civil citations regarding violations.

Effective September 2, 2008, Crow Wing County initiated a site-based model to help landowners comply with county zoning requirements. The model provides a high level of customer service by verifying permits and potential violations in the field which in turn protects our natural resources. The County is divided up into three zones geographically with each zone covered by a Land Service Specialist who is responsible for building permit approval, septic system inspection during installation and enforcement of the Land Use Ordinance. Land Service Specialists meet individual landowners and contractors on-site to discuss land use issues. Another improvement with the site-based model is enforcement. In the past there was one Enforcement Office, and now the County has three Land Service Specialists to handle enforcement. Landowners are made aware of land use violations and given solutions and options to bring

the property into compliance. It is always the goal of Environmental Services to obtain voluntary compliance with a landowner. When voluntary compliance cannot be obtained, a citation may be issued requiring an appearance in court.

The Land Services staff reviews annually the enforcement activities with the intent to develop the following recommendations that will improve this critical tool for waste management:

- Some sites may not be cleaned up without some assistance or administrative action by the County. Assistance may be in the form of a reduced tipping fee or a guaranteed loan. Flexibility may be warranted on a case-by-case basis. Notwithstanding, this action would not qualify under the County's current cleanup project tipping fee policy, if the party responsible for the solid waste is the property owner. A potential idea is to set up a revolving fund similar to upgrading sewers within the County.
- An additional recommendation is to continue to help townships/municipalities/counties with cleanup of sites on government property, including cleaning up abandoned dumpsites. Each government entity would be responsible for paying the tipping fee incurred.

27.0 SOLID WASTE FACILITY SITING PROGRAM

The County does not plan to develop and site a new solid waste facility (landfill, MMSW compost facility, or incineration facility) during the next 10-year planning period.

28.0 PUBLIC PARTICIPATION

Upon the MPCA's preliminary decision to approve this Plan, the MPCA shall provide public notice for public comment. The Plan will be placed on public notice by the MPCA and will be available for review and comment for 30 calendar days. The County will put the Plan on display based on its own policies at the Land Services office, the Landfill office, and the County Website. The Plan will also be available at MPCA designated locations.

After the 30-day public comment period, the MPCA, upon consultation with the County, will review the public input and provide direction on revisions (if necessary). The Plan will then be finalized, approved by the County, and made available to the public at designated locations.

**APPENDIX A – DETAILED MINNESOTA SOLID WASTE CHARACTERIZATION
RESULTS**

As discussed in Section 2.5.6, the most recent Minnesota statewide solid waste characterization study was completed in 2013. The 2013 statewide waste characterization study estimated the quantities and types of mixed municipal solid waste disposed. The methodology included sampling and sorting of materials per ASTM D 5231-92 (2016); Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste from a representative set of landfills, transfer stations, and energy-from-waste facilities throughout the state. A comprehensive set of material categories were included in the study and nearly 200 Municipal Solid Waste (MSW) samples of 200 to 300 pounds each sampled and sorted as part of the study.

A summary of the results of the 2013 statewide characterization study is provided in Figure 2-4 in Section 2.5.6. The detailed results for all of the material categories are provided in Table A-1 below.

Table A-1: 2013 Statewide Composition by Material Category (Mean Composition by Weight)

Material	Mean	Conf Int. (90%)		Material	Mean	Conf Int. (90%)	
		Lower	Upper			Lower	Upper
PAPER				METAL			
Old Newsprint (ONP)	1.4%	1.1%	1.7%	Aluminum Beverage Containers	0.4%	0.4%	0.5%
High Grade Office Paper	1.1%	0.7%	1.6%	Other Aluminum	0.7%	0.3%	1.0%
Magazines/Catalogs	0.7%	0.5%	1.0%	Steel/Tin (Ferrous) Containers	0.7%	0.4%	1.0%
Phone Books	0.1%	0.0%	0.3%	Other Metal	2.7%	1.8%	3.5%
Gable Top/Aseptic Containers/Cartons	0.3%	0.2%	0.4%	<i>Subtotal Metal</i>	4.5%	3.5%	5.4%
OCC and Kraft Bags	3.7%	3.1%	4.2%				
Boxboard	1.6%	1.4%	1.8%	GLASS			
Compostable Paper	9.8%	8.7%	10.8%	Beverage Container Glass	1.3%	0.9%	1.8%
Mixed Recyclable Paper	3.4%	2.8%	4.1%	Glass Containers	0.5%	0.2%	0.8%
Non-Recyclable Paper	2.3%	1.4%	3.2%	Other (Non-Container) Glass	0.4%	0.2%	0.6%
<i>Subtotal Paper</i>	24.5%	22.4%	26.5%	<i>Subtotal Glass</i>	2.2%	1.6%	2.9%
PLASTIC				ELECTRONICS			
#1 PET Beverage Containers	0.8%	0.7%	0.9%	Laptops	0.0%	0.0%	0.0%
Other PET (e.g. jars and clamshells)	0.5%	0.5%	0.6%	Computer Monitors		<i>not found</i>	
HDPE Bottles/Jars	0.5%	0.4%	0.6%	Televisions	0.0%	0.0%	0.1%
Other HDPE	0.6%	0.3%	0.8%	Printers	0.1%	0.0%	0.2%
PVC - #3	0.0%	0.0%	0.1%	All Other Electronic Items	1.1%	0.7%	1.4%
Polystyrene - #6	1.0%	0.8%	1.2%	<i>Subtotal Electronics</i>	1.2%	0.8%	1.6%
LDPE (Rrigids) - #4	0.1%	0.0%	0.1%				
Polypropylene - #5	0.6%	0.5%	0.7%	ORGANIC			
Other #7 Plastics	0.1%	0.0%	0.2%	Yard Waste	2.8%	1.6%	3.9%
PLA & Compostable Plastics	0.0%	0.0%	0.1%	Food Waste	17.8%	15.2%	20.3%
Bag and Film Film Plastic	6.6%	5.9%	7.3%	Wood	5.7%	4.3%	7.2%
Other Plastic (nonpackaging)	7.1%	5.6%	8.6%	Other Organic Material	4.7%	3.8%	5.6%
<i>Subtotal Plastic</i>	17.9%	16.3%	19.5%	<i>Subtotal Organic</i>	31.0%	28.4%	33.6%
HHW				OTHER WASTES			
Batteries	0.1%	0.0%	0.1%	Mattresses/Box Springs	0.4%	0.0%	0.8%
Mercury Containing Lamps	0.0%	0.0%	0.0%	Appliances & Furniture	3.0%	1.6%	4.3%
Paint Containers	0.2%	0.0%	0.5%	Textiles & Leather	4.7%	3.8%	5.5%
Oil Containers & Filters	0.0%	0.0%	0.0%	Carpet	2.3%	1.5%	3.1%
Smoke Detectors	0.0%	0.0%	0.0%	Sharps and Infectious Waste	0.0%	0.0%	0.0%
Other HHW	0.2%	0.0%	0.4%	Other Not Elsewhere Classified	8.0%	6.1%	9.8%
<i>Subtotal HHW</i>	0.4%	0.0%	0.8%	<i>Subtotal Other Wastes</i>	18.3%	15.3%	21.2%

Note: Subtotals for the mean percentages may not equal the sum of the mean percentages due to rounding. Confidence intervals for primary categories and subcategories are calculated independently.

APPENDIX B – 10-YEAR BUDGET

Crow Wing County 10-Year Projected Budget

Program	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Solid Waste Reduction^a	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Solid Waste Education	\$57,950	\$59,014	\$60,194	\$61,398	\$62,626	\$63,879	\$65,156	\$66,459	\$67,789	\$69,144
Recycling	\$129,000	\$131,580	\$134,212	\$136,896	\$139,634	\$142,426	\$145,275	\$148,180	\$151,144	\$154,167
Yard Waste	\$10,452	\$10,452	\$10,452	\$11,000	\$11,000	\$11,000	\$11,000	\$11,000	\$11,000	\$11,000
Source Separated Organics^b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MSW Land Disposal Facility	\$2,263,209	\$1,805,722	\$1,956,837	\$2,159,973	\$4,139,173	\$2,326,956	\$2,168,495	\$2,211,865	\$2,256,103	\$4,654,192
Tires	\$26,723	\$26,991	\$27,261	\$27,533	\$27,808	\$28,087	\$28,367	\$28,651	\$28,938	\$29,227
Electronics	\$63,736	\$64,374	\$65,018	\$65,668	\$66,324	\$66,988	\$67,658	\$68,334	\$69,017	\$69,708
Appliances^c	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Automotive	\$379	\$383	\$386	\$390	\$394	\$398	\$402	\$406	\$410	\$414
HHW^d	\$2,968,600	\$69,286	\$70,672	\$72,085	\$73,527	\$74,997	\$76,497	\$78,027	\$79,588	\$81,180
Demolition Debris Disposal Facility	\$46,000	\$246,920	\$112,858	\$102,896	\$219,953	\$424,353	\$432,840	\$441,496	\$450,326	\$459,333
Staffing	\$535,811	\$543,840	\$554,717	\$565,812	\$577,128	\$588,670	\$600,444	\$612,453	\$624,702	\$637,196
TOTAL	\$6,101,861	\$2,958,562	\$2,992,606	\$3,203,651	\$5,317,568	\$3,727,754	\$3,596,134	\$3,666,873	\$3,739,016	\$6,165,560

Source: Crow Wing County

^a County budget does not have a separate line item for solid waste reduction. Solid waste reduction is incorporated into other programs (e.g., recycling, HHW).

^b There are no expenses associated with management of source-separated organics.

^c There are no expenses associated with management of appliances.

^d Value in 2023 includes construction of new HHW facility, the Crow Wing County Recycling Center (CWCRC).

APPENDIX C – CERTIFICATE OF NEED

ATTACHMENT 1**SW-376****CALCULATION OF REMAINING CERTIFICATE OF NEED**

	MSW	
Approved CON exclusive of all cover soils and industrial waste	638,400 cy	Beginning February 7, 2014
Deduct MSW from February 7 thru December 2014	41,573 cy	10.79 months @ 5,222 cy/month based on 2014 annual survey of 63,701 cy consumed between October 22, 2013 and October 28, 2014 less 7.8% for industrial waste and 20% for cover soils
Deduct MSW from January thru December 2015	47,720 cy	12 months @ 5,442 cy/month based on 2015 annual survey of 65,303 cy consumed between October 28, 2014 and October 30, 2015 less 8.7% for industrial waste and 20% for cover soils
Deduct MSW from January thru December 2016	51,568 cy	12 months @ 5,835 cy/month based on 2016 annual survey of 68,483 cy consumed between October 30, 2015 and October 21, 2016 less 7.9% for industrial waste and 20% for cover soils
Deduct MSW from January thru December 2017	51,417 cy	12 months @ 5,727 cy/month based on 2017 annual survey of 70,611 cy consumed between October 21, 2016 and October 31, 2017 less 6.5% for industrial waste and 20% for cover soils
Deduct MSW from January thru December 2018	49,532 cy	12 months @ 5,641 cy/month based on 2018 annual survey of 67,692 cy consumed between October 31, 2017 and October 31, 2018 less 8.5% for industrial waste and 20% for cover soils
Deduct MSW from January thru December 2019	65,001 cy	12 months @ 7,445 cy/month based on 2019 annual survey of 89,337 cy consumed between October 31, 2018 and October 31, 2019 less 9.1% for industrial waste and 20% for cover soils
Deduct MSW from January thru December 2020	56,845 cy	12 months @ 6,672 cy/month based on 2020 annual survey of 80,069 cy consumed between October 31, 2019 and October 30, 2020 less 11.3% for industrial waste and Out of County waste and 20% for cover soils
Deduct MSW from January thru December 2021	47,410 cy	12 months @ 5,696 cy/month based on 2021 annual survey of 67,982 cy consumed between October 30, 2020 and October 28, 2021 less 13.3% for industrial waste and Out of County waste and 20% for cover soils
Deduct MSW from January thru December 2022	56,084 cy	12 months @ 7,012 cy/month based on 2022 annual survey of 83,910 cy consumed between October 28, 2021 and October 27, 2022 less 16.7% for industrial waste and Out of County waste and 20% for cover soils
Remaining CON	171,250 cy	

APPENDIX D – FEE SCHEDULE

2023 Crow Wing County Fee Schedule

Solid Waste	
Mixed Municipal Solid Waste (MMSW) Compacted Commercial Per Ton	+\$60.88
Mixed Municipal Solid Waste (MMSW) Compacted Commercial – Out of County Per Ton	+\$182.63
Industrial Solid Waste (ISW) Compacted Commercial Per ton	+\$66.73
Loose Garbage (Sanitary Landfill)	
Per Cubic Yard	+\$10.75
Furniture (Per Item)	+\$7.00
Sofa Sleeper	\$14.00
Per Bag of Garbage (Sanitary Landfill)	+\$4.25
Loose Industrial Solid Waste (ISW)	
Per Cubic Yard	+\$11.75
<i>ISW requires prior approval according to Industrial Solid Waste Management Plan (ISWMP)</i>	
Demolition Material (Demolition Landfill)	
Per Cubic Yard	+\$6.30
<i>To calculate cubic yards: length x width x height = Total Cubic Feet - Total Cubic Feet/27 = Cubic Yards</i>	
Asbestos	
Friable	+\$5.00 per bag
Non Friable	+\$11.00 cu. yd
<i>+ Includes all applicable taxes</i>	
Mattresses/Bed Springs (Sanitary Landfill or Recycled)	
Mattress Only	+\$30.00
Bedspring Only	+\$30.00
*Recycled Mattress Only - Twin/Full	\$30.00
*Recycled Bed Spring Only - Twin/Full	\$30.00
*Recycled Mattress Only - Queen (60x80) or larger	\$30.00
*Recycled Bed Spring Only - Queen (60x80) or larger	\$30.00
Metal mattress Springs	\$5.00
<i>*For mattress to be "recycled" they must be clean, dry and visible for inspection by the Landfill Office attendant.</i>	
Tires (Recycled)	
Tire no rim (15 inches or smaller)	\$2.00
Tire with rim (15 inches or smaller)	\$3.50
Tire no rim (16 inches or greater)	\$3.50
Tire with rim (16 inches or greater)	\$7.00
Semi-truck tire no rim	\$7.00
Semi-truck tire with rim	\$10.00
Tractor Tire no rim	\$10.00
Tractor Tire with rim	\$30.00
Equipment Tire	\$140.00
Oil/Antifreeze/Battery Disposal (Recycled)	
Oil	Free
Batteries (lead acid car and marine)	Free
Antifreeze	Free
Oil Filters	Free
There are 11 oil disposal sites for residents of Crow Wing County, including the County Landfill	
For locations visit www.crowwing.us/734/Recycling	
Miscellaneous Fees	
Scrap Metal (Recycled)	\$4.00/yd
Propane Tank small - up to 20 lb.	\$7.00
Propane Tank large 20-100 100 lb.	\$15.00
Electronics (Recycled) – Residential Only	
Examples are; but not limited to: Computer (monitor, tower, keyboard, mouse); Printer; Scanner; Desk top copier; Stereo Systems; DVD's; VCR's; Satellite receiver; Paper shredder	\$5.00/item
TV's 27" or smaller	\$10.00
TV's 28" or larger	\$15.00

All loads must be covered to ensure we keep our road ways clean! A fee will be charged for all uncovered loads.	
Residential uncovered loads	\$5.00
Commercial uncovered loads	\$10.00
Compost Disposal	
RESIDENTIAL - brush, leaves and garden waste	Free
COMMERCIAL - brush, leaves and garden waste	\$5.00/cubic yard
Stumps *determined by landfill operator based on size and cleanliness	\$5 - \$20
Household Hazardous Waste	
Examples are; but not limited to: varnish and paint remover, fuel additives, lighter fluid, lubricants, rust and tar removers, pool chemicals, fuel cylinders, gasoline contaminated with oil or water, and pesticides. For more information: https://crownwing.us/229/Hazardous-Waste	Free
Household Recycling Items	
Examples are; but not limited to: glass, plastics with a neck, paper (this includes glossy magazines, cereal and beverage boxes, phone books, newspapers, mixed papers), corrugated cardboard, aluminum cans, and tin cans. For more information: https://www.crownwing.us/734/Recycling	Free
Major Appliances (Recycled)	
Examples are; but not limited to: Washers, dryers, dishwashers, hot water heaters, microwaves, stoves/ovens, refrigerators, air conditioners, dehumidifiers.	\$5.00/item
Vehicle Weight	
Scale Use Fee	\$5.00
*The scale at the Crow Wing County Landfill is certified annually by the State of Minnesota.	
Effective Date: January 1, 2023	

Source: Crow Wing County <https://www.crownwing.gov/727/Fee-Schedule>

APPENDIX E – SOLID WASTE ORDINANCE

RESOLUTION

Commissioner Gelbmann offered the following resolution and moved its adoption:

WHEREAS, in accordance with Minnesota Statute 375.51, a Public Hearing was held at 9 a.m. on June 7, 1994, to consider adoption of a Solid Waste Management Ordinance for Crow Wing County, and

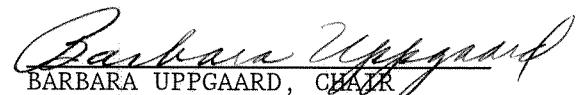
WHEREAS, testimony was heard from concerned citizens.

NOW, THEREFORE, BE IT RESOLVED the Board of Commissioners of Crow Wing County, Minnesota, pursuant to Minnesota Statutes 375.18, Subdivision 14; 400.04; 400.06; 400.08; 400.11; 400.16; 115A.553, Subdivision 2; and 115A.93, hereby adopts the Crow Wing County Solid Waste Management Ordinance, as on file in the Offices of the County Auditor and Solid Waste Coordinator.

BE IT FURTHER RESOLVED this Ordinance is to become effective upon publication and approval by the County Attorney.

BE IT FURTHER RESOLVED the Crow Wing County Refuse Disposal Ordinance dated June 7, 1976, and amendments thereto, and the Ordinance Creating a Service Area and Establishing Service Charges for Solid Waste Management Services in Crow Wing County dated October 29, 1991, and all amendments thereto, are hereby repealed in their entirety except that the provisions shall remain in effect up to the effective date of the Crow Wing County Solid Waste Management Ordinance.

Which resolution being seconded by Commissioner Koep was duly adopted, all members voted "AYE".

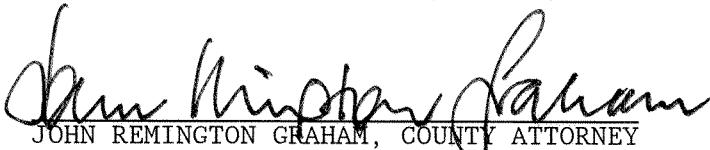

BARBARA UPPGAARD, CHAIR
BOARD OF COUNTY COMMISSIONERS
CROW WING COUNTY, MINNESOTA

ATTEST:


ROY A. LUUKONEN, COUNTY AUDITOR
CROW WING COUNTY, MINNESOTA

Dated at Brainerd, Minnesota, this 7th day of June, 1994.

APPROVED AS TO FORM AND LEGALITY:


JOHN REMINGTON GRAHAM, COUNTY ATTORNEY

DATED THIS 14TH DAY OF JUNE, 1994

THE SOLID WASTE MANAGEMENT ORDINANCE FOR CROW WING COUNTY

THE CROW WING COUNTY BOARD OF COMMISSIONERS DOES HEREBY ORDAIN pursuant to its powers under Sections 375.18, subd. 14; 400.04; 400.06; 400.08; 400.11; 400.16; 115A.553, subd. 2; and 115A.93 of Minnesota Statutes:

SECTION 1.00 - TITLE

This ordinance shall be known, cited and referred to as the Crow Wing County Solid Waste Management Ordinance.

SECTION 2.00 - PURPOSE, INTERPRETATION AND INTENT

2.01 - Purpose

The objectives of this ordinance are to protect natural resources and improve the environment including minimizing surface and ground water contamination; regulate the number, location and operation of solid waste facilities to protect the public's health and well being; prevent public nuisances; establish a solid waste management service area and create a system of service charges for solid waste management services provided by Crow Wing County which obligate certain owners, lessees and occupants of property located within Crow Wing County to pay service charges for solid waste management services; and assure that all persons are informed and responsible for their actions regarding solid waste management.

2.02 - Interpretation and Intent

This ordinance shall be fairly read so as to give effect to the plain meaning of words and the definitions hereinafter set forth, to accomplish the objectives comprehended in its purpose, and as far as possible to be in keeping with the constitutions of this State and the United States. It is not intended that this ordinance, or any article or section thereof, as applied to particular facts, should bring about a result which is clearly unreasonable or practically impossible to execute. Provisions dealing with the same subject matter shall be read together so as to avoid contradiction and redundancy. And where ambiguity persists, this ordinance shall be strictly construed out of the respect for private property.

SECTION 3.00 - DEFINITIONS

The following words and phrases, when used in this Ordinance, unless the context clearly indicates otherwise, shall have the meanings ascribed to them in this section.

3.01 - General

For the purposes of this Ordinance, certain terms or words used herein shall be interpreted as follows:

- 3.011 The word "shall" is mandatory, and not discretionary; the word "may" is permissive.
- 3.012 Words used in the present tense shall include the future; words used in the singular shall include the plural; and plural words shall include the singular.
- 3.013 Words shall be given their common usage if not defined.
- 3.014 The masculine gender shall include the feminine.

3.02 - Agency

The Minnesota Pollution Control Agency.

3.03 - Appliance

Washers, dryers, electric and gas ranges or stoves, refrigerators, freezers, dehumidifiers, water heaters, residential furnaces, dishwashers, garbage disposal trash compactors, microwave ovens, air conditioners and heat pumps.

3.04 - Appliance Storage Facility

A facility for the storage of three or more inoperable appliances.

3.05 - Backyard Composting

Composting of household vegetative kitchen waste and yard waste generated by a residential dwelling or adjoining property.

3.06 - Board

The Crow Wing County Board of Commissioners.

3.07 - Closure

The period after which solid wastes are no longer accepted during which time the permittee completes the required procedures as regulated by the Minnesota Pollution Control Agency.

3.08 - Collection

The aggregation of solid waste from the place at which is generated which includes all activities up to the time the waste is delivered to a waste facility.

3.09 - Commercial Brush and Tree Open Burning Site

A site operated for profit for the open burning of trees, tree trimmings or brush.

3.10 - Commercial Hauler

An individual, partnership or corporation that transports, for a fee, recyclable materials, mixed municipal solid waste or other waste. Also called a collector.

3.11 - Composting

The controlled microbial degradation of organic waste which includes food, yard and mixed municipal solid wastes to yield a humus-like product.

3.12 - County

Crow Wing County Minnesota.

3.13 - Cover Material

Material, as allowed by the agency, that is used to cover waste in a land disposal site.

3.14 - Daily Cover

Cover material that is spread on the top and side slopes of compacted solid waste at least at the end of each operating day in order to control vectors, fire, infiltration and erosion and to assure an aesthetic appearance.

3.15 - Demolition Waste

Solid waste resulting from the demolition of buildings, roads, and other man made structures. This is limited to concrete, brick, bituminous concrete, untreated wood, masonry, glass, trees, rock, plastic building parts, or such other materials approved by the Agency. Demolition waste does not include friable asbestos waste.

3.16 - Department

The Crow Wing County Solid Waste Department.

3.17 - Dump

An unpermitted land disposal site at which solid waste is disposed of in a manner that does not protect the environment, is susceptible to open burning and is exposed to the elements, files, rodents and scavengers.

3.18 - Facility

The land, structures, monitoring devices and other improvements on the land used for monitoring, treating, processing, storing or disposing of solid waste, leachate, or residuals from solid waste processing or the processing of compostables, recyclable materials or household hazard wastes.

3.19 - Garbage

Discarded material resulting from the handling, processing, storage, preparation, serving and consumption of food.

3.20 - Ground Water

The water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined or perched conditions in near surface unconsolidated sediment or regolith, or in rock formations deeper underground. The term ground water shall be synonymous with underground water.

3.21 - Hauler

Any person who owns, operates or leases vehicles for the purpose of collection and transportation of any type of solid waste.

3.22 - Hazardous Waste/Hazardous Substance

Hazardous waste or hazardous substance has the meaning given it in Minnesota Statutes, Section 3.2 115B.02, Subdivision 8 and 9.

3.23 - Industrial Waste

All Solid waste generated from an industrial or manufacturing process and solid waste generated from non-manufacturing such as service and commercial establishments. Industrial waste does not include office materials, restaurant and food preparation waste, discarded machinery, demolition debris or household refuse.

3.24 - Land Disposal Site

Any tract or parcel of land, including any construction facility, at which solid waste is disposed of in or on the land.

3.25 - Licensee

The person who has been given authority by the Board or the Department to carry out any of the activities for which a license is required under the provisions of this Ordinance.

3.26 - Mixed Municipal Solid Waste

Garbage, refuse and rubbish from residential, commercial, industrial and community activities which is generated and collected in aggregate, but does not include materials collected, processed and disposed of as a separate waste streams.

3.27 - Monitoring Point

Any installation or location used to determine the quality or physical characteristics of ground water, surface water or water in either the unsaturated or saturated zone.

3.28 - Open Burning

Burning any matter whereby the resultant combustion products are emitted directly to open atmosphere without passing through a stack, duct or chimney which meets Minnesota Pollution Control Agency standards.

3.29 - Operator

The person responsible for the overall operation of a facility.

3.30 - Owner

The person or persons who own a facility or part of a facility.

3.31 - Permittee

The person who has been given authority by the Board or the Department to carry out any of the activities for which a permit is required under the provisions of this Ordinance.

3.32 - Person

Any human being, municipality or other governmental or political subdivision or other public agency, any public or private corporation, any partnership, firm, association or other organization, any receiver, trustee, assignee, agent or other legal entity, but does not include the Minnesota Pollution Control Agency.

3.33 - Pollutant

Has the meaning given it in Minnesota Statutes, Chapter 115A.

3.34 - Post-Closure

The period after closure during which the long term care, maintenance and monitoring of a site or facility takes place.

3.35 - Processing

The treatment of solid waste, household hazardous and waste recyclables after collection and before disposal. Processing includes, but is not limited to, packaging, volume reduction, storage, separation, exchange, physical, chemical or biological modification and transfer from one waste facility to another.

3.36 - Putrescible

Solid waste which is capable of becoming rotten and which may reach a foul state of decay or decomposition.

3.37 - Recyclable Materials

Corrugated cardboard, glass bottles and jars, high grade ledger paper, newspaper, metal cans, #1 and #2 plastic bottles or other materials identified by resolution of the Board.

3.38 - Recycling Facility

A site used to separate, process, modify, convert or otherwise prepare solid wastes within six months so the component materials or substances may be beneficially used or reused as raw materials. This does not include facilities which process their own waste stream.

3.39 - Refuse

Putrescible and nonputrescible solid wastes, except for materials collected, processed or disposed of as separate waste streams.

3.40 - Rubbish

Nonputrescible solid wastes, except for materials collected, processed or disposed of a separate waste stream.

3.41 - Runoff

The portion of precipitation that drains from an area as surface flow.

3.42 - Shoreland

Land located within the following distances from the ordinary high water elevation of public waters.

3.421 Land within 1,000 feet from the normal high water mark of a lake, pond, reservoir, impoundment or flowage; and

3.422 Land within 300 feet of a river or stream or the landward side of flood plain delineated by Ordinance on such a river or stream, whichever is greater.

3.43 - Solid Waste Collection

The gathering of solid waste from public or private places.

3.44 - Solid Waste Management Services

The collection, processing, and disposal of solid waste; closure and post closure care of a solid waste facility; and response to releases from a solid waste facility or closed solid waste facility.

3.45 - Solid Waste Management Service Area

The entire County of Crow Wing.

3.46 - Solid Waste Storage

The holding of solid waste for more than forty-eight hours.

3.47 - Solid Waste Transportation

The conveying of solid waste from one place to another, by means of vehicle, rail, car, water vessel, conveyor or other means.

3.48 - Source Separated Materials

Materials that are separated from solid waste by the generator and recovered for reuse in their original form or for recycling.

3.49 - Special Wastes

Solid wastes requiring management other than normally used for mixed municipal solid waste.

3.50 - State

The State of Minnesota.

3.51 - Tipping Fees

The fees charged to commercial haulers and citizens for waste and other materials delivered to the facility.

3.52 - Unacceptable Waste

Solid waste which does not have collection, processing, or disposal capabilities within Crow Wing County. Such waste includes but is not limited to: explosives; hospital,

pathological and biological waste; commercial and industrial hazardous waste, as regulated by federal, state and local law; and chemicals and radioactive materials.

3.53 - Waste Tire

A pneumatic tire or solid tire that has been discarded or that can no longer be used for its original intended purpose because of wear, damage or defect. Tires which remain mounted on a vehicle are not considered waste tires for the purposes of this ordinance.

3.54 - Waste Tire Processing Facility

A licensed waste facility used for the shredding, slicing, processing or manufacturing of usable materials from waste tires, and many include the retreading of waste tires.

3.55 - Water Monitoring System

A system of wells, lysimeters or other mechanisms used to obtain representative samples of both underground water and surface water where required in the vicinity of a land disposal site.

3.56 - Water Table

The surface of the ground water at which the pressure is atmospheric. Generally, this is the top of the saturated zone.

3.57 - Motor Vehicle Battery

A lead acid battery.

3.58 - Wetland

A natural marsh where water stands near, at or above the soil surface during significant portion of years, and which is eligible for classification as an inland fresh water wetland type 3, 4, or 5 under U.S. Department of Interior Classifications.

3.59 - Yard Waste

Garden waste, leaves, lawn cuttings, prunings, weeds, shrubs and tree waste generated on residential or commercial properties.

SECTION 4.0 - GENERAL PROVISIONS

4.01 - Jurisdiction

The jurisdiction of this Ordinance shall apply to all areas of Crow Wing County outside the incorporated limits of municipalities and to all incorporated areas which either do not

have a solid waste management ordinance with provisions similar to this ordinance or whose governing body requests assistance from the County regarding matters addressed by this ordinance. Section 7.00 of this ordinance shall apply to the entire county including areas to which other provisions of this ordinance shall not apply, in as much as county facilities or land disposal sites shall serve or shall have served the entire county including such areas.

4.02 - Application

- 4.021 The provisions of this Ordinance shall be held to be the minimum requirements for the promotion of public health safety and welfare.
- 4.022 Where the conditions imposed by any provision of this Ordinance are either more restrictive or less restrictive than comparable conditions imposed by any other law, ordinance, statute, resolution, or regulation of any kind, the standards which are more restrictive or which impose higher requirements shall prevail.
- 4.023 In addition to the conditions set forth in this Ordinance, compliance with State and Federal standards are required.

4.03 - Solid Waste Department

The Crow Wing County Board of Commissioners hereby establishes the Solid Waste Department for which the Board may appoint a Solid Waste Coordinator with sufficient personnel to discharge the duties of this department. The Solid Waste Coordinator shall have all necessary authority to implement and carry out the provisions of this Ordinance including, but not limited to, the following:

- 4.031 To review and evaluate all applications and supporting materials referred to the Department for facilities and operations within the areas of the County to which this ordinance applies.
- 4.032 To inspect facilities and operations to determine compliance and investigate complaints about violations of this Ordinance.
- 4.033 To recommend to the County Attorney that legal proceedings be initiated against a person or group of persons to compel compliance with the provisions of this Ordinance or to terminate or control a facility or operation not in compliance with this Ordinance.

- 4.034 To conduct studies, investigations and research relating to solid waste management, including but not limited to methodology, chemical and physical considerations, and engineering.
- 4.035 To advise, consult and cooperate with the public and other governmental agencies in furtherance of the purpose of this Ordinance.
- 4.036 To enforce the provisions of this Ordinance.

SECTION 5.0 - LICENSES

5.01 - License Required

A collector or hauler operating in areas of the County to which this ordinance applies or depositing mixed municipal solid waste at the Crow Wing County Landfill or collecting and transporting recyclable materials in areas of the county to which this ordinance applies shall be licensed by the County through the Department.

5.02 - License Application

The application for license shall be accompanied by required fees and shall contain the following information:

- 5.021 The name and current business address of the refuse hauler/recyclable collector;
- 5.022 The type, number and capacity of the refuse hauling vehicles and other containers or collection equipment used for solid waste or recyclables;
- 5.023 Evidence that each motor vehicle to be used for hauling has been inspected in the last 12 months. Inspection shall be consistent with that required for commercial motor vehicles under the Federal Motor Carrier Safety Regulators of the United States Department of Transportation part 396 whether or not the vehicle requires such an inspection based on gross vehicle weight;
- 5.024 A general description of the service area, which need not include information about specific customers, and an annual report identifying tonnage for solid waste and recyclables;

5.025 Certification that the hauler will comply with the requirements of the Crow Wing County Industrial Waste Management Plan and will provide monthly reports to the Department indicating the type and quantity of recyclable materials collected in the County; and

5.026 Certificates of insurance issued by insurers duly licensed by the State of Minnesota covering public liability insurance, including general liability, automobile liability, and bodily injury liability in amounts to be set by the Board. In addition, the applicant shall provide evidence of workers compensation coverage in the required statutory amounts.

SECTION 6.00 - PERMITS

6.01 - Permit Required

6.011 Any person disposing of solid waste within areas of the county to which this ordinance applies shall deposit such waste at a permitted site or facility and with the approval of the owner/operator of the site or facility.

6.012 Any person allowing real or personal property under their control to be used for solid waste disposal purposes shall obtain a permit issued by the Department or Board, as well as any permits required by the Agency.

6.013 Permits will be issued for demolition debris land disposal facilities, permit-by-rule demolition debris land disposal facilities as defined in Minnesota Solid Waste Management Rules 7001.3050 Subpart 3B, Permit-by-rule transfer facilities as defined in Minnesota Solid Waste Management Rules 7001.3050 Subpart 3A, yard waste compost sites, appliance storage sites, and recycling facilities.

6.02 - Permit Application

6.0201 An applicant for a permit shall complete and submit to the Department an application. The application shall not be considered complete until the Department has received all applicable fees, materials required by this section, materials required by subsequent sections applying to the specific waste management activity for which a permit is sought or any other information requested by the Department.

6.0202 Unless otherwise indicated herein or provided by the Board, the applicant shall submit written proof that all municipal or township governing bodies located within two (2) miles of the affected property have been notified. Property owners of record within one-quarter (1/4) mile of the affected property shall be notified in writing of the proposed facility.

6.0203 All submittals to the State during the State permitting and/or licensing process for solid waste facilities and operations shall also be submitted to the Department.

6.0204 Applicants shall demonstrate compliance with all other Crow Wing County Ordinances and State and Federal regulations.

6.0205 Applicants for a permit shall not commence any construction activities or operation until the permit has been issued.

6.0206 The applicant shall submit additional information as requested by the Department.

6.0207 Unless otherwise provided by the Board, issuance of any permit pursuant to the provisions of this Ordinance shall be contingent upon the applicant furnishing to the County a performance bond, in an amount to be set by the Board, and naming the County as obligee with sufficient sureties duly licensed and authorized to transact corporate surety business in the State of Minnesota as sureties. The condition of the bond or other approved instruments shall be that if the principal fails to obey any of the requirements or do any of the acts required by this Ordinance in the operation of the waste facility or activity or if for any reason ceases to operate or abandons the waste facility or activity, and the County is required to expend any monies or expend any labor or material to restore the facility to the condition and requirements as provided by the Ordinance, the obligor and the sureties on its bond shall reimburse the County for any and all expenses incurred to remedy the failure of the principal to comply with the terms of the Ordinance, and the obligor and its sureties will indemnify and save the County harmless from all losses, costs and charges that may accrue to the County because of any default of the obligor under the terms of their license or permit to operate. The performance bond shall be subject to cancellation by the surety at any time only upon giving one hundred twenty (120) days prior written notice of cancellation to the County.

6.0208 Unless otherwise provided by the Board, the applicant shall furnish to the County certificates of insurance issued by insurers duly licensed by the State of Minnesota covering public liability insurance, including general liability, automobile liability, completed operations liability, and bodily injury liability in amounts to be set by the Board. In addition, the applicant shall provide evidence of workers compensation coverage in the required statutory amounts.

6.0209 The applicant shall also submit the proposed plan of operation, closure, financial assurance and post closure activity.

6.0210 After receiving a completed application, the Department shall have sixty (60) days to:

- 6.02101 approve or deny the application;
- 6.02102 request additional information; or
- 6.02103 if appropriate, forward the application to the Crow Wing County Board of Commissioners for further action.

6.0211 Submission of false information by the applicant shall constitute grounds for denying, suspending or revoking a permit or permit renewal.

6.03 - Permit Issuance

- 6.031 A permit issued pursuant to this Ordinance shall be for a maximum period of one (1) year. The Solid Waste Department may thereafter issue annual renewals.
- 6.032 Operational requirements must be met before a permit may be annually renewed.
- 6.033 Permits shall not be transferrable.
- 6.034 Unless otherwise provided by the Department, issuance or renewal of any permit shall be contingent upon the owner of the site or facility or the operator or both, providing financial assurance for the closure, post-closure maintenance and monitoring of the site or facility. Use of this financial assurance shall be limited to the site or facility for which it was provided. Documentation submitted with the application for Department approval shall include funding procedures, a description of the funding method, the value of the funding, and an inflation adjusted cost

estimate which assures that the closure and post-closure activities at the site or facility take place. The amount of the financial assurance shall be equal to or exceed the total estimated post-closure costs specified in the approved post-closure plan.

6.04 - Closure of an Unpermitted Site

No person shall operate a dump or any unpermitted solid waste disposal site. The owner of any site currently operating at the time of the enactment of this Ordinance shall cease operation and close such a site in accordance with applicable MPCA regulations and the following.

- 6.041 Access to the site shall be closed and signs erected indicating that dumping is not allowed.
- 6.042 No burning shall be allowed.
- 6.043 Chemical containers shall be removed.
- 6.044 Rodents shall be eradicated.
- 6.045 The owner of property in which the site is located shall place on record an instrument with the Crow Wing County Recorder in a form described by the Department placing the public on notice of the existence and location of the illegal site and of the obligations placed upon the parties holding interest in the property and the restrictions which may effect the use of the property.

SECTION 7.00 - FEES AND SERVICE CHARGES

7.01 - Funding

Environmental and operating costs resulting from the implementation of this Ordinance shall be funded through the fees and service charges imposed herein. Revenue for debt service for bonds issued prior to the adoption of this ordinance may be raised by property taxes at the discretion of the Board.

7.02 - Fee Schedule for Licenses and Permits

Fees for licenses and permits shall be set by resolution of the Crow Wing County Board of Commissioners.

7.03 - Investigation Fees

Fees for repeated visits or investigations of property to determine compliance with the Ordinance may be established and set by resolution of the Crow Wing County Board of Commissioners.

The fees established shall include the cost and amount of the service, including data accumulation, planning, depreciation and administration.

7.04 - Tipping Fees

The Board shall establish or amend the tipping fees by resolution. The fees shall be determined by:

- 7.041 The cost of acquisition, construction, operation, maintenance, closure and post closure care of county solid waste facilities;
- 7.042 The cost of the county waste management services including those provided by the facilities;
- 7.043 The anticipated cost of acquisition, construction, closure and post closure care of existing or anticipated facilities;
- 7.044 All other costs incurred in the operation of the county waste management program.

7.05 - License or Permit Exemption

Any solid waste facilities or vehicles owned and operated by Crow Wing County or any political subdivision thereof shall be exempt from payment of license or permit fees but shall be subject to the other requirements of this Ordinance and the fees established in Section 7.06 of this ordinance.

7.06 - Service Charges for Solid Waste Management Services

7.061 Rates and Charges

Rates and charges for solid waste management services are to be determined annually by the County Board of Commissioners and established in conjunction with the annual tax levy, budget, and landfill tipping fees.

7.062 Collection of Service Charges

The solid waste management service charge will be included on real estate, personal property and mobile home tax statements. The amount of the service charge will be provided to the County Auditor each year by November 30 for inclusion in the subsequent year's tax statement.

Charges included on real estate, personal property and mobile home tax statements will be due and payable to the Crow Wing County Treasurer in the same proportion

and on the same due dates as for payment of the taxes on the statement.

7.063 Collection of Unpaid Charges

For service charges billed pursuant to Section 7.062, on or before October 15 of each year, the County Board of Commissioners shall certify to the County Auditor all unpaid outstanding service charges and a statement of the description of lands against which the charges arose.

It shall be the duty of the County Auditor, upon order by the County Board of Commissioners, to extend the assessment, with interest at the same rate as that charged delinquent taxes, upon the tax rolls of the County for the taxes of the year in which the assessment is filed. For each year ending October 15, the assessment with interest shall be carried into the tax becoming due and payable in January of the following year, and shall be enforced and collected in the manner provided for the enforcement and collection of real property taxes in accordance with the laws of the state. The charges, if not paid, shall become delinquent and be subject to the same penalties and the same rate of interest as the taxes under the general laws of the state.

7.064 Appeals and Adjustments

Relief from the imposition of these charges may be made by the County Board of Commissioners in the following manner. A taxpayer or property owner may request an adjustment to the solid waste service charge by filing an application for adjustment by December 31 of the year in which the charge is due. This application shall be filed with the Crow Wing County Solid Waste Department. The Solid Waste Coordinator will review the application, make any necessary site inspection, review classification records, and make a recommendation to the County Board of Commissioners on the advisability of adjusting the solid waste service charge. An adjustment may be made to the solid waste service charge if the property was incorrectly classified or if the property is vacant or uninhabitable.

SECTION 8.00 – VIOLATIONS, ENFORCEMENT AND PENALTIES

8.01 – Violations

Any person who shall violate any of the provisions hereof or who shall fail to comply with the provisions hereof or who shall make any false statement in any document required to be submitted under the provisions hereof, or who shall fail to take action to abate the existence of the violation within the specified time, when ordered or notified to do so by the Department, shall be guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine, imprisonment or both. Unless otherwise provided, each act of violation and every day in which such violation occurs or continues, shall constitute a separate offense.

8.02 – Injunctive Relief and Other Remedies

In the event of a violation of this Ordinance, the County Board or the Department may institute appropriate action to enforce this Ordinance, including application for injunctive relief, action to compel performance, or other appropriate action in court, if necessary, to prevent, restrain, correct or abate such violations or threatened violations and it shall be the duty of the County Attorney to institute such action.

8.03 – Cost as Civil Action

If a person fails to comply with the provisions of this Ordinance, the County may recover the costs incurred for corrective action in a civil action in any court of competent jurisdiction.

8.04 – Administrative Remedies

The owners or occupants of property upon which solid waste has been deposited in violation of this ordinance shall be notified of the violation by the Department. Said notification shall require the owner or occupant to remove and properly dispose of the unauthorized deposit of solid waste within a specified period. Said specified period shall not be less than thirty days. Following notification and expiration of the specified removal period, the Board may take appropriate action to provide for the removal of the unauthorized deposit of solid waste at the owner's or occupant's expense. Action the Board may take includes but is not limited to contracting for services to remove the solid waste, utilizing County personnel to remove the solid waste, or utilizing other available resources to remove the solid waste. The cost of such remedial action may be certified to the County Auditor as a special assessment against the real property. Such removal of the unauthorized deposit of solid waste by the county and certification of special assessment shall be made only

after the property owner is duly notified and a public hearing is held before the Board.

SECTION 9.00 – COLLECTION AND TRANSPORTATION

All solid waste generated in the County shall be transported to a permitted facility.

9.01 – Collection Services Required

- 9.012 Every business in areas of the county to which this ordinance applies shall engage a hauler for mixed municipal solid waste collection service or otherwise deliver or cause to be delivered their waste to a permitted facility.
- 9.013 Every household in areas of the county to which this ordinance applies shall engage a hauler of mixed municipal solid waste collection service or otherwise deliver or cause to be delivered their waste to a permitted facility.

9.02 – Volume or Weight Based Fees

Collectors of solid waste shall charge for collection on the basis of the volume or weight of waste collected.

SECTION 10.00 – RESIDENTIAL DISPOSAL OF SOLID WASTE

10.01 – Garbage

Owners of residential dwellings are prohibited from disposal of garbage on their property unless a permit has been issued under this Ordinance. Owners of residential dwellings are prohibited from burning garbage.

10.02 – Nonputrescible Materials

- 10.021 In land zoned agricultural, all nonputrescible materials, except for farm implements which are substantially intact, must be consolidated to an area not to exceed one-half (1/2) acre or five percent (5%) of the parcel size, whichever is less.
- 10.022 Farm implements which are commingled with nonputrescible materials shall be limited to the area indicated in Section 10.021.
- 10.023 In all other zoning districts, all materials shall be consolidated to an area not to exceed one percent (1%) of the parcel size.

10.024 Materials shall be stored in a nuisance free and environmentally sound manner.

10.03 - Household Hazardous Waste

All residential hazardous waste must be disposed at an approved Hazardous Waste Facility.

SECTION 11.00 - DEMOLITION WASTE

11.01 - Permit Required

A permit must first be obtained from the Department before the disposal of demolition waste generated by construction or demolition of structures or the use of select demolition waste as fill for a specific land improvement project or the storage of demolition waste intended for recycling or beneficial reuse.

11.02 - Permit Application

In addition to the requirements set forth in SECTION 6.0, a permit application for a demolition debris land disposal facility shall contain the following. These requirements do not apply to permit-by-rule demolition debris land disposal facilities.

11.021 Detailed plans specifying proposed materials, site capacity and if appropriate, soil evaluation and hydrogeologic studies.

11.022 Description of procedures for dust, noise or traffic control.

11.023 Signed agreements or indication of ownership of the proposed site.

11.024 For commercial off-site use, an approved conditional use permit.

11.025 Estimated duration of site use.

11.026 MPCA permit.

11.027 Any other information required by the Department.

11.03 - Location Requirements

Demolition waste facilities, including permit-by-rule facilities, shall not be located on a site:

11.031 With karst features including sink holes, disappearing streams and caves.

- 11.032 Within wetland areas.
- 11.033 Within a flood plain.
- 11.034 Within a shoreland.
- 11.035 With a water table within five feet of the lowest fill elevation.

11.04 - Design Requirements

Demolition waste facilities, including permit-by-rule facilities, shall be designed consistent with the following:

- 11.041 Site preparation must allow for orderly development of the site. Initial site preparations must include clearing and grubbing, top soil stripping and stockpiling, fill excavation, if appropriate, drainage control structures and other design features necessary to construct and operate the facility.
- 11.042 The site must be developed in phases to achieve final fill elevations as rapidly as possible. The design of each phase must take into account weather conditions and site drainage and waste flow pattern into the site.
- 11.043 Surface water drainage must be diverted around and away from the fill areas.
- 11.044 Slopes and drainageways must be designed to prevent erosion.
- 11.045 Final slopes for the fill area must be a minimum two percent (2%) and a maximum twenty percent (20%).

11.05 - Operation Requirements

Demolition waste facilities, including permit-by-rule facilities, shall be operated consistent with the following:

- 11.051 A certified operator must be present at all times the facility is open to accept waste.
- 11.052 The waste must be spread and compacted to the extent possible.
- 11.053 The site must be covered at least monthly.
- 11.054 Suitable cover material must be maintained at the site.
- 11.055 Each phase must be staked for proper grading and filling.

- 11.056 A minimum separation distance of 50 feet must be maintained between the fill boundaries and the site property line.
- 11.057 Waste at the site intended for reuse must be stored in accordance with Minnesota Rule 7035.2855.

11.06 - Site Closure

Demolition waste facilities, including permit-by-rule facilities, must meet the following closure requirements:

- 11.061 The owner or operator must close each phase as it reaches final waste elevation.
- 11.062 Final cover must consist of at least two feet of soil capable of sustaining vegetative growth and minimizing erosion.
- 11.063 The site shall be inspected one year after closure to determine if settlement and erosion problems exist.
- 11.064 All problems at the site must be corrected within thirty (30) days of the inspection.
- 11.065 A notation must be placed on the property deed indicating the site use and location of the waste.

SECTION 12.00 - YARD WASTE COMPOSTING

12.01 - Permit Required

A permit shall first be obtained from the Department before constructing, establishing, maintaining or operating a yard waste composting facility. Backyard Composting sites are exempt from the provisions of this Section.

12.02 - Permit Application

In addition to the requirements set forth in SECTION 6.0, a permit application shall contain the following:

- 12.021 facility design capacity, type of waste received, and the intended distribution of the finished product;
- 12.022 identification of facility location;
- 12.023 name, phone number and address of the owner or operator;
- 12.024 MPCA permit; and

12.025 any other information required by the Department.

12.03 - Location Requirements

Yard waste composting facilities shall not be located on:

- 12.031 a site with karst features including sink holes, disappearing streams and caves.
- 12.032 Within wetland areas.
- 12.033 Within a flood plain.
- 12.034 Within a shoreland.
- 12.035 With a water table within five feet of the lowest fill elevation.

12.04 - Operation Requirements

Composted yard waste offered for use must be produced by a process that includes turning of the yard waste on a periodic basis to aerate the yard waste, maintain temperatures, and reduce pathogens.

SECTION 13.00 - COMMERCIAL SOLID WASTE STORAGE.

13.01 - State Rule Adopted

Solid waste shall be stored in accordance with Solid Waste Rule 7035.0700. Solid Waste Rule 7035.0700 is hereby adopted by reference as part of this Ordinance.

13.02 - Time Limit for Storage

Solid waste generated on site shall not be stored for more than two weeks without the written approval of the Department.

13.03 - Storing Recyclables

Commercial materials which have been separated for the purpose of recycling shall not be stored on land zoned commercial or industrial for more than six months without the written approval of the Department. No commercial materials which have been separated for the purposes of recycling shall be stored on land zoned agricultural or residential.

SECTION 14.00 - WASTE TIRES

14.01 - Permit Required

A permit shall first be obtained from the Department before the outside storage of waste tires in excess of five (5) waste tires within a parcel of ten (10) acres or less or twenty-five (25) waste tires within a parcel of more than ten (10) acres unless excluded as follows:

- 14.012 a retail tire seller with a maximum of five hundred (500) tires on site;
- 14.022 a tire retreading business of no more than three thousand (3,000) waste tires are on site;
- 14.023 other business which remove tires from motor vehicles if no more than five hundred (500) waste tires are on site;
- 14.024 a person using waste tires for agricultural use if kept on site; or
- 14.025 a permitted landfill operator with fewer than 10,000 tires stored above ground at the permitted site.

14.03 - Permit Application

In addition to the requirements set forth in SECTION 6.0, a permit application shall contain the following:

- 14.031 Detailed plans and specifications.
- 14.032 Fire prevention plans.
- 14.033 Vector Control Plans.
- 14.034 MPCA permit.
- 14.035 Any other information required by the Department.

14.04 - Location Requirements

- 14.041 Waste tires shall not be stored within a thousand (1,000) feet of intermittent or permanent wetlands, streams, ponds and lakes including shoreland and flood plain areas.

- 14.042 Waste tires shall not be stored within a thousand (1,000) feet of wooded acres and other areas in which trees, tree stumps and brush are located, which could harbor mosquito populations.
- 14.043 Waste tires shall not be stored within one-half (1/2) mile of a known or suspected endemic area of mosquito-born viral encephalitis or other diseases.
- 14.044 Waste tires shall be stored at a minimum of fifty (50) feet away from the adjacent property line.

14.05 - Operational Requirements

- 14.051 Waste tires shall be confined to as small an area as practicable, with individual piles not more than twenty-five hundred (2500) square feet in area and twenty (20) feet in height.
- 14.052 A minimum twelve (12) foot separation distance shall be provided between piles of waste tires to allow for truck and emergency vehicle access.
- 14.053 Adequate measures shall be provided to minimize the potential for tire fires.
- 14.054 Waste tires shall be piled as to minimize the accumulation of stagnant water.
- 14.055 Waste tires shall be stored a minimum of fifty (50) feet from the adjacent property line.
- 14.056 Surface water drainage shall be diverted around and away from waste tire storage area.
- 14.057 Adequate visual screening of waste tire storage areas from housing or public right-of-ways shall be provided by use of natural objects, such as trees, berms, fences or other means deemed acceptable by the Department.
- 14.058 Collected and stored waste tires shall be removed for processing, reuse and recycling, incineration or final disposal on a regular basis to insure the total waste tire volume does not exceed the designated capacity or become a public health and safety hazard or nuisance.
- 14.059 Complete and accurate records of waste tire management shall be maintained and submitted to the Department with the operational report.

14.06 - Site Closure Requirements

Upon closure of a waste tire storage operation the permittee shall be responsible for removal of all waste tires and tire products from the site as approved by the Department and processed by an MPCA approved processing facility.

14.07 - Burial Prohibited

14.071 Burial or surface disposal of waste tires is hereby prohibited.

14.072 Waste tire landfills shall be immediately closed. All waste tires shall be removed from the premises and processed by an MPCA approved processing facility for reuse, recycling, incineration or final disposal in compliance with this Ordinance.

SECTION 15.00 - APPLIANCES

15.01 - Permit Required

A permit shall first be obtained from the Department before constructing, establishing, maintaining or operating an appliance storage facility of three or more appliances.

15.02 - Permit Application

In addition to the requirements set forth in SECTION 6.0, a permit application shall contain the following:

15.021 Detailed disposal plan which does not include any on-site burial or burning, and provides for the recycling or reuse of the scrap metal.

15.022 Final disposal processing plans at an MPCA approved processing facility.

15.023 MPCA and U.S. Environmental Protection Agency permits.

15.024 Any other information required by the Department.

15.03 - Location Requirements

15.031 Appliances or their components shall not be located closer than seventy-five (75) feet from the ordinary high water mark of a wetland.

15.032 Appliances or their components shall not be stored within three hundred (300) feet of any streams, ponds and lakes including shoreland and flood plain areas.

15.04 Operation Requirements

- 15.041 Refrigerants shall be properly removed. Chlorofluorocarbon/freon gases or hazardous solutions or vapors must be recycled, destroyed or disposed of according to Minnesota Statutes.
- 15.042 Motors shall be properly removed upon arrival. Switches and temperature gauges containing mercury shall be removed and managed as a hazardous waste.
- 15.043 Capacitors shall be properly removed upon arrival and polychlorinated biphenyls shall be removed and managed as a hazardous waste.
- 15.044 A bond shall be required for storage facilities to guarantee any future environmental remediation costs.
- 15.045 Appliance storage shall not exceed one year at an appliance storage site.

15.05 - Burial prohibited

- 15.051 Burial or surface disposal of appliances is hereby prohibited.
- 15.052 Unpermitted appliances storage sites shall be immediately closed.

SECTION 16.00 - SPECIAL WASTES

16.01 - Motor Vehicle Batteries

- 16.011 Batteries shall be stored to ensure that leakage is contained.
- 16.012 Batteries shall be disposed at an approved processing facility that recycles all battery components.

16.02 - Used Motor Oil

- 16.021 Burial or surface disposal of used motor oil is hereby prohibited.
- 16.022 Used motor oil shall be disposed of at an approved facility.
- 16.023 Compliance with Minnesota Statutes for signage requirements shall be met.

16.03 - Hazardous Waste

- 16.031 Burial or surface disposal of all hazardous waste is hereby prohibited.
- 16.032 All hazardous waste shall be disposed of at a permitted hazardous waste facility.

16.04 - Other Special Waste

Additional special waste identified by State Statute or agency rules may be subject to further regulation by resolution of the Crow Wing County Board.

SECTION 17.00 - RECYCLING FACILITIES

17.01 - Permit Required

A permit shall first be obtained from the Board before constructing, operating or installing a recycling facility.

17.02 - Permit Application

In addition to the requirements set forth in SECTION 6.0, a permit application shall contain the following:

- 17.021 A current map or an aerial photograph of the area showing the land use and zoning within one-quarter (1/4) mile of the recycling facility.
- 17.022 A report shall accompany the plans indicating:
 - 17.0221 Area of the site in acres;
 - 17.0222 Owner of the site and proposed permittee;
 - 17.0223 Individuals responsible for actual operation and maintenance of the recycling facility;
 - 17.0224 An estimate of recyclable materials to be delivered to the recycling facility;
 - 17.0225 Proposed storage capacity on-site;
 - 17.0226 Local government approval of the facility site;
- 17.024 MPCA permit.
- 17.025 Any other information required by the Department.

17.03 - Operation Requirements

The following shall be established and maintained at the recycling facility site:

- 17.031 A sign, subject to the approval of the Department, shall be posted on the premises indicating the facility name, schedule of days and hours it is open to the public, and prices for use.
- 17.032 Reports approved by the Department shall be submitted to the department monthly indicating the type and quantity of recyclable materials passing through the recycling facility.
- 17.033 The recycling facility shall be so situated, equipped, operated and maintained so as to limit interference with other activities in the area.
- 17.034 The premises, entrances and exits shall be maintained in a clean, neat and orderly manner at all times.
- 17.035 All incoming and outgoing traffic shall be controlled by the permittee in such a manner as to provide orderly and safe ingress and egress.
- 17.036 All unloading of materials from contributing vehicles shall be conducted in such a manner as to eliminate litter outside of the facility.

SECTION 18.00 - SEVERABILITY

It is hereby declared to be the intention of the County Board that the provisions of this Ordinance be severable in accordance with the following:

If any court of competent jurisdiction shall adjudge any provision of this Ordinance to be invalid, such judgement shall not effect any other provisions of the Ordinance not specifically included in said judgement.

If any court of competent jurisdiction shall adjudge invalid the application of any provision of this Ordinance to a particular structure, site, facility or operation, such judgement shall not effect the application of said provision to any other structure, site facility or operation not specifically included in said judgement.

SECTION 19.00 - ORDINANCES REPEALED

The Crow Wing County Refuse Disposal Ordinance dated June 7, 1976, and amendments thereto; and the Ordinance Creating a

Service Area and Establishing Service Charges for Solid Waste Management Services in Crow Wing County dated October 29, 1991, and all amendments thereto are hereby repealed in their entirety except that the provisions shall remain in effect up to the effective date of this ordinance.

SECTION 20.00 - EFFECTIVE DATE

This Ordinance shall be in full force and effect on and after its adoption and publication pursuant to law.

Office of County Recorder
County of Crow Wing, Minn. } SS. MICROFILMED

I hereby certify that the within instrument was filed
in this office for record on the 14 day of June
A.D. 1994 at 4 o'clock P.M.
and was duly recorded as Doc. No. 468426

Kathy J. Lederia
County Recorder
By Vicki Strange
Deputy

N/C
City Work

APPENDIX F – GOAL VOLUME TABLE

Previous 5 Years Data

Management Method - Tons

	2017	2018	2019	2020	2021
Landfill	46776.00	46776.00	47291.00	47803.00	46095.00
Onsite	226.25	226.25	226.25	226.25	230.86
Organics	3355.15	3273.06	3329.86	3749.66	3057.67
Recycling	62005.00	34816.25	39126.17	63544.56	47133.87
WTE	0.00	0.00	0.00	0.00	0.00
Total MMSW	47002	47002	47517	48029	46326
Recycling+Organics	65360	38089	42456	67294	50192
Recycling Rate	58.2%	44.8%	47.2%	58.4%	52.0%
Total MSW	112362	85092	89973	115323	96517
Non-MSW	2017	2018	2019	2020	2021
Industrial	3246	6218	20493	48736	No data
Construction & Demo	11802	13231	11334	16231	No data

Tons Recycled By Material Category

	2017	2018	2019	2020	2021
Glass	998.85	1,208.29	1,235.22	1,153.93	1,282.63
Hazardous	842.44	1,147.24	836.09	857.50	1,408.45
Metal	17,202.51	13,780.77	13,870.69	13,799.44	13,837.02
Organic	3,355.15	3,273.06	3,329.86	3,749.66	3,057.67
Other	4,431.92	5,621.52	5,447.96	5,629.09	1,862.68
Paper	38,179.11	12,634.29	17,371.08	34,431.55	28,470.84
Plastic	350.17	424.14	365.13	7,673.05	272.25
Total	65360	38089	42456	67294	50192



520 Lafayette Road North
St. Paul, MN 55155-4194

County goal volume table template for solid waste planning

Instructions: Please copy and past the file sent to you by your MPCA Solid Waste Planner in the fields below. Only fill out the **yellow-highlighted fields**. Please email this completed form to your MPCA Solid Waste Planner.

If you have any questions please see the **Contact information** tab below for contact information.

Copy and paste the GVT file in the table below.

County	Crow Wing										
MSW Forecast	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Recycling	24696.8352	25725.43	26200.09	26674.75	27149.41	27624.07	28098.73	28573.4	29048.06	29522.72	
Organics	3320.8268	3340.735	3360.643	3380.551	3400.459	3420.367	3440.276	3460.184	3480.092	3500	
WTE	0	0	0	0	0	0	0	0	0	0	
Landfill	47170.73312	47282.87	47395	47507.13	47619.27	47731.4	47843.53	47955.67	48067.8	48179.93	
Total Tons	75188.39512	76349.03	76955.73	77562.43	78169.14	78775.84	79382.54	79989.25	80595.95	81202.65	
Total Population	66757.7808	66916.48	67075.17	67233.87	67392.56	67551.26	67709.95	67868.65	68027.34	68186.04	
Per Capita	1.13	1.14096	1.147306	1.153621	1.159907	1.166164	1.172391	1.178589	1.184758	1.190899	

Enter the percent of MSW by Sector - this must add to 100%

Residential	64%
C/I/I	36%

Onsite Disposal - Estimate of people underserved by garbage collection/drop-sites for use in calculating on-site disposal

Non-MMSW/Industrial Waste Projections (in Tons)



520 Lafayette Road North
St. Paul, MN 55155-4194

County goal volume table template for solid waste planning

Instructions: Please read "Overview and Instructions" tab prior to completing this form. Only fill out the yellow-highlighted fields. Please email this completed form to your MPCA Solid Waste Planner.

If you have any questions please see the Contact information tab below for contact information.

Solid Waste

Solid Waste Management Method	Year									
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Recycling	24,697	25,725	26,200	26,675	27,150	27,624	28,099	28,573	29,048	29,523
Organics	3,321	3,341	3,360	3,381	3,400	3,421	3,440	3,460	3,480	3,500
Combined Recycling Rate	37%	38%	38%	39%	39%	39%	40%	40%	40%	41%
Waste-to-Energy (minus recyclables and nonprocessibles)	0	0	0	0	0	0	0	0	0	0
Landfill	47,170	47,283	47,396	47,506	47,619	47,731	47,844	47,956	48,068	48,180
Crow Wing County MSW Landfill - SW-376	47,170	47,283	47,396	47,506	47,619	47,731	47,844	47,956	48,068	48,180
Capacity Used	49,653	49,772	49,890	50,007	50,125	50,243	50,362	50,480	50,598	50,715
On-site Disposal	231	231	231	231	231	231	231	231	231	231
Total MSW Generated	75,419	76,580	77,187	77,793	78,400	79,007	79,613	80,220	80,827	81,434

Recycling by sector (excluding WTE)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Residential	5,631	5,865	5,973	6,082	6,190	6,298	6,406	6,514	6,623	6,731
C/I/I	19.066	19.860	20.227	20.593	20.960	21.326	21.693	22.059	22.425	22.792

Organics by sector	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Residential	757	762	766	771	775	780	784	789	793	798
C/I/I	2,564	2,579	2,594	2,610	2,625	2,641	2,656	2,671	2,687	2,702

Landfilling

Select facility and enter **percentage** of landfilled material sent to the facility for each year



MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North
St. Paul, MN 55155-4194

County goal volume table template for solid waste planning

Instructions: Only fill out the yellow-highlighted fields. Please email this completed form to your MPCA Solid Waste Planner.

If you have any questions please see the Contact information tab below for contact information.

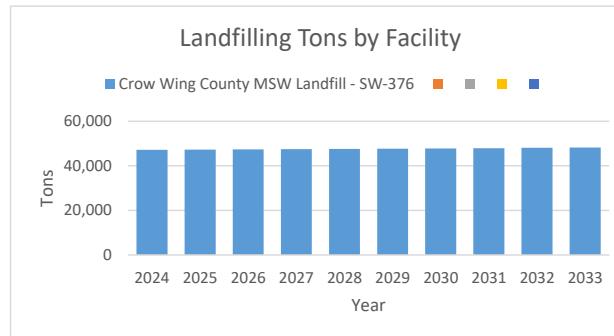
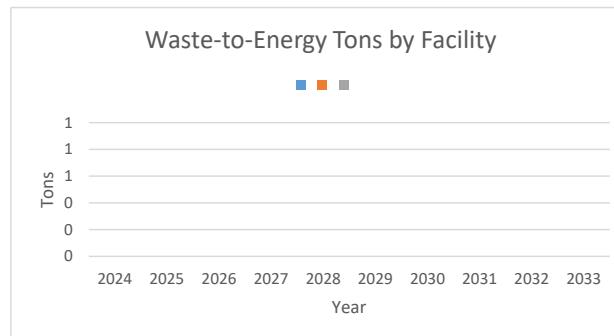
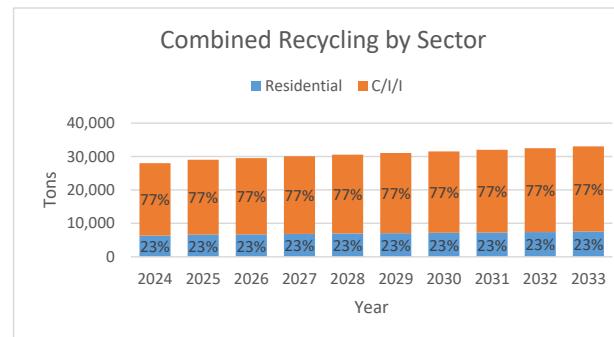
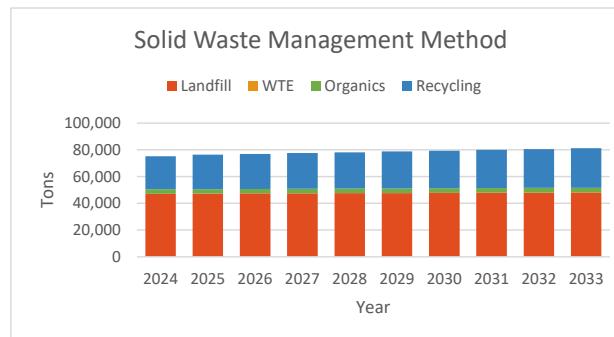
MSW Land Disposal Facilities in County (in Tons)

WTE Facilities in County (in Tons)

County goal volume table template for solid waste planning

Summary of Goal Volume Table for Crow Wing County

Solid Waste Planner: Danielle Drussell



Total land disposal capacity needed for waste generated in county

Waste Type	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
MSW	49,653	49,772	49,890	50,007	50,125	50,243	50,362	50,480	50,598	50,715	501,845
Industrial	6,771	6,787	6,803	6,819	6,835	6,851	6,867	6,884	6,900	6,916	68,433
Construction & Demolition	18,365	18,365	18,365	18,365	18,365	18,365	18,365	18,365	18,365	18,365	183,647
Total Capacity	74,789	74,923	75,058	75,191	75,325	75,459	75,594	75,729	75,862	75,996	753,925

The total land disposal capacity needed from the period of 2024 to 2033 is 753,925 cubic yards

Note: The GVT forces a waste compaction density of 1,900 pounds/cubic yard; however, the historic compaction rate at the Landfill is 1,350 pounds/cubic yard (based on compaction averages from 1998-2022). An additional tab has been added to this GVT (see next page) that includes a calculation for CON requested based on projected tonnages and a compaction rate of 1,350 pounds/cubic yard. Based on the revised calculation, the total CON request is 706,301 cubic yards for the 2024-2033 planning period.

Crow Wing County SW-376 Request for MSW CON

Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
MSW Tons Disposed	47,171	47,283	47,395	47,507	47,619	47,731	47,844	47,956	48,068	48,180	476,753
MSW Cubic Yards*	69,883	70,049	70,215	70,381	70,547	70,713	70,879	71,045	71,212	71,378	706,301

* Assumes compaction rate of 1,350 pounds/cubic yards, which represents the average compaction rate in SW-376 from 1998-2022.



CREATE AMAZING.

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