

# St. Louis County



## Comprehensive Solid Waste Management Plan Update

2003

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# St. Louis County Solid Waste Management Plan 2003

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## **I. Executive Summary**

### **A. Introduction**

Solid waste programs in St. Louis County are provided by two separate and distinct entities—the Western Lake Superior Sanitary District (WLSSD) and the St. Louis County Solid Waste Department. WLSSD provides waste disposal services for the City of Duluth (St. Louis County’s largest city) and surrounding communities, along with Lake and Carlton counties. The St. Louis County Solid Waste Department serves the remainder of the County, including portions of the Bois Forte and Fond du Lac Reservations and the northwest portion of Lake County. For the purposes of this solid waste management plan, only information pertinent to that portion of St. Louis County under the jurisdiction of the Solid Waste Department will be addressed.

St. Louis County, located in northeastern Minnesota, has developed this update to the 1999 St. Louis County Comprehensive Solid Waste Management Plan. This update contains the solid waste data analysis and solid waste policies which will guide the development of solid waste programs within the County. It also includes a description of the solid waste abatement programs commonly referred to as SCORE programs.

This update was developed and completed by St. Louis County with the assistance of the Office of Environmental Assistance. It was approved by the St. Louis County Solid Waste Subcommittee and the St. Louis County Board of Commissioners.

### **B. Overview**

The plan reviews the past and present solid waste management system, solid waste abatement programs and policies, and anticipated solid waste management activities. The plan considers various alternatives that can result in the most feasible and prudent reduction of land disposal of mixed municipal solid waste (MSW) for the County.

This update proposes continuation of the County's current solid waste programs, and expanding and improving certain programs with an emphasis on waste reduction, waste processing, recycling, and hazardous waste collection and disposal.

The County's existing management system is an integrated solid waste management system that includes:

- the St. Louis County Regional Landfill;
- five transfer stations;
- twenty solid waste canister sites;
- three “sit” sites (for collection of MSW);
- four demolition landfills;
- seven yard waste composting sites;
- waste reduction and education programs;
- six cities offering curbside recycling collection to residential and commercial sectors;
- forty-seven recycling drop-off (roll-off) container locations throughout St. Louis County and one located in an abutting community in Lake County;
- contracts with five cities for the collection and haulage of recyclables generated by the curbside recycling program;
- a contract with a private contractor to operate the St. Louis County Recycling Processing Facility and process and market recyclables generated by the curbside recycling program;
- a contract with the same private contractor for the haulage, processing and marketing of recyclables generated by the roll-off recycling program;
- several remote seasonal collections of household hazardous waste (HHW) each year held throughout the County;
- two permanent HHW collection facilities open year round; and
- Very Small Quantity Generator (VSQG) hazardous waste collections each year.

The plan proposes continuation and, in specific cases, expansion of the above-mentioned programs and facilities and considers them an integral part of a successful solid waste program. The County will continue to evaluate existing programs based on environmental, economic, legal, and geographic criteria.

The County is expanding its industrial waste program. It constructed a permanent household hazardous waste collection facility in 1999 in Virginia, and one at the Hibbing Transfer Station in 2002 for the collection of HHW and future VSQG hazardous wastes. The County also built a recycled materials processing facility in Virginia in 1999. This facility is used by a County contractor to process and market recyclables collected in the County's recycling system. The County will also continue to pursue the development or utilization of additional solid waste processing facilities for organics waste composting and commercial waste processing.

### **C. Goals for Solid Waste Abatement Programs**

The County has established solid waste abatement goals for a 10-year period. St. Louis County's 10-year goals are contained in the Goal-Volume Table, included as Appendix A. Table I-1 is a summary of the first five years of the table that shows the annual tonnages that must be recovered to achieve those goals. The budget for the programs necessary to achieve these goals are provided in Appendix B.

**Table 1**  
**St. Louis County Abatement Goals 2003 - 2007**  
**In Tons**

<b>Year</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Waste reduction credit	1,603	1,619	1,635	1,651	1,667
Recycling—Residential & Commercial/Industrial (does not include scrap metal recycled by the mining industry)	49,833	50,322	50,817	51,316	51,821
Appliances	1,827	1,845	1,863	1,881	1,899
Vehicle batteries	205	207	209	211	213
Waste tires	804	812	820	828	836
Waste oil	725	732	739	746	753
Oil filters	18	18	18	18	18
Fluorescent tubes	7	7	7	7	7
Antifreeze	40	40	40	40	40
Yard waste composting	2,672	2,699	2,725	2,751	2,778
<b>Total</b>	<b>57,734</b>	<b>58,301</b>	<b>58,873</b>	<b>59,449</b>	<b>60,032</b>
Annual Goal %	57.8%	57.8%	57.7%	57.7%	57.7%

## **D. Solid Waste Management Programs and Policies**

### **1. Existing System**

Municipal solid waste (MSW) generated in the St. Louis County service area is landfilled in the St. Louis County Regional Landfill located in Virginia, Minnesota. The landfill is owned and operated by St. Louis County. MSW is delivered to this facility from five transfer stations and twenty canister sites, along with deliveries from cities, private haulers and the public. The County will continue to review alternatives to landfilling for this waste stream.

The existing waste management system contains the following components: 1) landfilling at the St. Louis County Regional Landfill; 2) waste reduction; 3) recycling; 4) yard waste

composting; 5) HHW management; 6) special waste management; 7) demolition material landfilling; 8) industrial waste management; and 9) waste education.

St. Louis County intends to evaluate on a continual basis its MSW processing and disposal alternatives. During the interim period, the County will use its landfill as the highest volume facility. However, the County intends to pursue the development of organics composting for at least portions of the waste stream. At this time the County projects that for the first half of the planning period, approximately 98 percent of the waste remaining after reduction and recycling will be placed in the St. Louis County Regional Landfill, and two percent will be processed at existing or proposed organic waste compost facilities. The County plans to manage the remainder of its solid waste by developing, implementing, and maintaining solid waste abatement programs. St. Louis County has chosen the proposed system based on an analysis of alternatives. The analysis shows that the long-term environmental and economic costs and benefits of the County's proposed system make it the most prudent and feasible waste management system available at this time. In the interest of environmental protection, St. Louis County will continue to consider additional landfill abatement alternatives. The full analysis of the alternative solid waste management systems analyzed in this plan is presented in Chapter III.

Cost estimates of the County's proposed system for the next 10 years are detailed in Appendix B of this plan.

The Regional Landfill currently accepts mixed municipal solid waste (approximately 50,000 tons per year), coal ash (approximately 10,000 tons per year), and industrial wastes (approximately 10,000 to 12,000 tons per year). As of December 31, 2002, approximately 883,684 cubic yards of waste materials has been placed in the landfill.

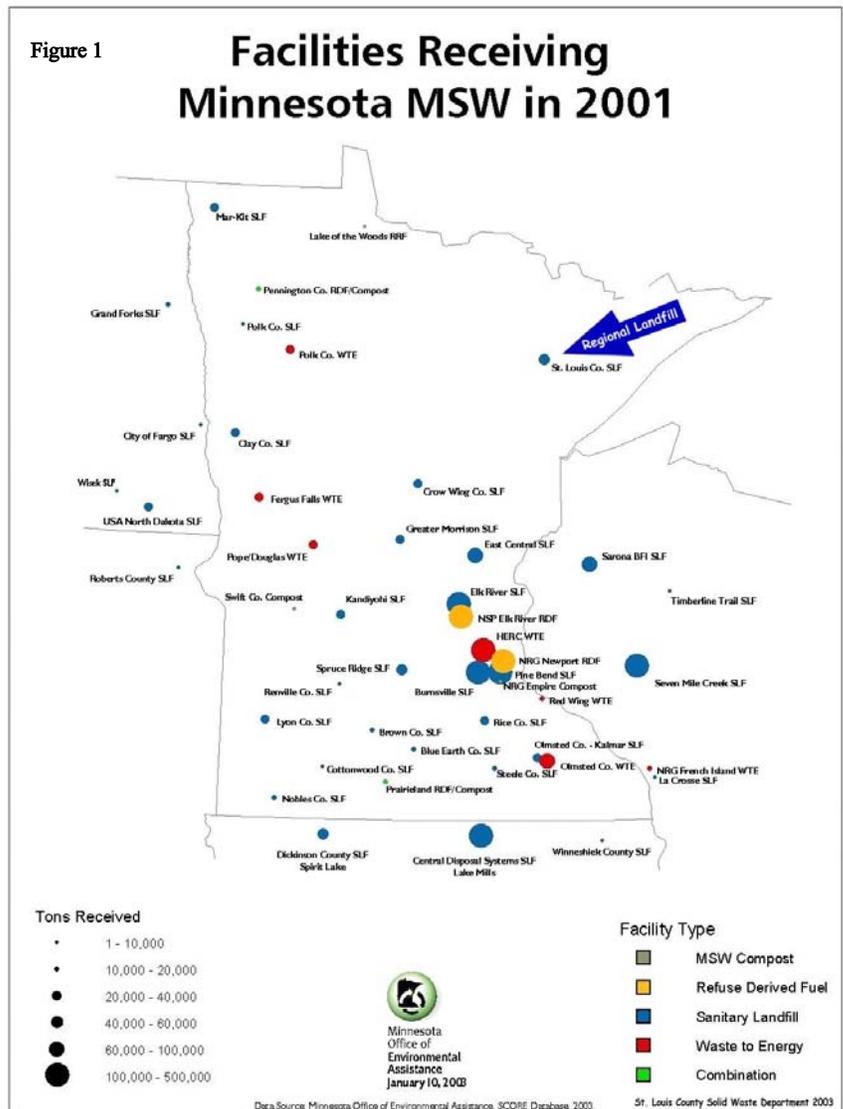
St. Louis County's goal-volume table estimates that the County will need 1,203,913 cubic yards of land disposal capacity at the Regional Landfill for the 10-year planning period, 2003 to 2012. 774,560 cubic yards is needed for MSW and the remaining 429,353 cubic yards for industrial waste, municipal utilities coal ash, and daily,

intermediate and final cover. This capacity will be provided at the St. Louis County Regional Landfill. Information on the permit status of the landfill is provided in Chapter IV of this plan.

This disposal need is based upon the assumption that the County will actively pursue the development of source separated organics composting capacity in the next several years. The County is also willing to continue to evaluate participation in possible regional or state solid waste processing initiatives. Regardless of the scenario, the County intends to continue with the development of the Regional Landfill. The St. Louis County Regional Landfill is the only MSW landfill in all of Northeast Minnesota. Keeping the landfill permitted and operating is in the County's, the region's, and the state's best interests.

## 2. Waste Reduction

St. Louis County regards source reduction as its first priority in solid waste management. The County intends to be a positive example to local municipalities, businesses, and residents by reducing waste generated from County sources. The County will also provide incentives to encourage waste reduction. The County believes that weight/volume-based tipping fees



and public education efforts are the most effective methods of reducing waste generation.

St. Louis County will expand three programs on waste reduction: 1) public education; 2) waste reduction in County facilities; and 3) waste reduction in schools. Specific information on St. Louis County's proposed waste reduction programs can be found in Chapter IV of this plan.

### **3. Waste Education**

The County considers public education a key component in its strategy to achieve waste abatement goals and is planning accordingly. Ongoing public education will be provided for all elements of the solid waste management program that can benefit from an informed public. Public education will have a prominent role in St. Louis County's waste reduction, recycling, yard waste composting, household hazardous waste, solid waste processing, and land disposal programs.

The County plans to utilize the local media, county-produced pamphlets, school presentations, public access television, and public awareness presentations by Solid Waste Department staff to continue and enhance its waste education programs.

Additional information on the County's waste education programs can be found in Chapter IV of this plan.

### **4. Recycling**

St. Louis County has adopted and endorses state recycling goals and policies, and intends to exceed those goals by at least 5 percent. The County has met and exceeded its ambitious recycling goal of 61.3% recycling levels by weight through the year 2000. The 2001 SCORE report show St. Louis County at a 58.6% recycling rate including the 3% source reduction and 5% yard waste credits.

The County intends to continue the recycling program begun in 1989. The County plans to continue the existing curbside collection programs, enhance and expand the roll-off collection program as needed, and evaluate the effectiveness of both programs on a continual basis. The County also intends to improve County office and local unit of government recycling activities, and will explore development of local markets for recycled materials. In 1999 the County built a recycled materials processing facility in Virginia to process recyclables collected in the County system. Additional information on the County's recycling programs can be found in Chapter IV of this plan.

## **5. Yard Waste Composting**

The County banned yard waste from MSW effective January 1, 1992. Seven County-owned composting drop-off sites are available to the public. The County plans to promote on-site management of yard waste in educational materials provided by the St. Louis County Extension Service and the Solid Waste Department, public access television announcements, and public awareness presentations by the St. Louis County Solid Waste Department staff.

Information on the County's yard waste programs can be found in Chapter IV of this plan.

## **6. Household Hazardous Waste**

The County will continue to participate in the regional household hazardous waste collection program under contract with WLSSD, and will continue to provide household hazardous waste education programs. In addition, the County has built two permanent HHW collection facilities at the Regional Landfill and the Hibbing Transfer Station, and in 1998 purchased a mobile HHW collection vehicle to service other communities.

A Very Small Quantity Generators (VSQG's) collection program is currently being operated in cooperation with appropriate state agencies and WLSSD which brings a

mobile collection to northern St. Louis County business hubs. Future plans are to accept Minimal Quantity Generator wastes at the Virginia HHW facility by 2004.

Additional information on the County's household hazardous waste and very small quantity generator programs can be found in Chapter IV of this plan.

## **7. Special Waste Programs**

Free Disposal - The County will maintain existing special waste programs. Part of our management of special wastes in St. Louis County includes a very unique program that is explained individually in each of the following sections. It is important that a separate section be devoted to each of the special wastes that St. Louis County accepts **at no charge**. Information on the County's tire, appliance, automobile battery, automobile oil filter, used oil, antifreeze, scrap metal, fluorescent tubes, and related special waste programs can be found in Chapter IV of this plan.

This free disposal program encourages the proper disposal of wastes. At most facilities, the only charge or tip fee items are MSW and demolition disposal, or other special wastes in excess of the limit for free disposal. St. Louis County accepts 2 appliances per visit for free. If there is more than 2 per load, an authorized St. Louis County voucher with a signature and address of where the appliance was generated may be completed to provide additional free disposal opportunities. Four tires (up to 24"), four oil filters, and four 4' fluorescent tubes are accepted for free from residential and non-commercial generators only. Unlimited quantities of yard waste, automobile batteries, used motor oil, antifreeze (four types) and scrap metal are accepted with no charge. This free disposal has vastly increased the number of special wastes collected at our various facilities.

## **8. Solid Waste Processing**

The County will consider and, where feasible and prudent, develop or make use of existing solid waste processing facilities or technologies to manage an appropriate

portion of the County's generated solid waste. Activities will include: ongoing discussions with neighboring counties through the Northeast Waste Advisory Council (NEWAC) process; exploration and implementation of additional waste assurance mechanisms; exploration of development of organics waste composting capacity at various locations around the county; consideration of participation at some level in the WLSSD source separated organics composting project; consideration of options for commercial waste processing; and review of other alternatives. St. Louis County will utilize solid waste planning as a tool to ensure that the County considers a reasonable range of resource recovery options before selecting a proposed system.

## **9. Landfilling**

St. Louis County opened the Regional Landfill in 1993 as a multi-purpose landfill accepting MSW, public utilities coal (PUC) ash, asbestos, and industrial waste. The landfill is protected by a composite liner consisting of two (2) feet of clay and a high density polyethylene liner, a leachate collection and treatment system, and upgradient and downgradient groundwater monitoring wells. The County will continue to operate the landfill during the entire planning period, and will expand the landfill as projected in the landfill permit. Additional information on the County's landfill program can be found in Chapter IV of this plan.

## **10. Solid Waste Ordinance**

The St. Louis County Solid Waste Ordinance No. 45 was amended in 2001 and 2002 to reflect and incorporate state rules. The amendments addressed updated enforcement provisions, and garbage hauler and facility licensing requirements. Further amendments will be made on an on-going basis with the next planned for 2003 to include collection tools for past due tipping fee accounts and interest charges.

The Ordinance also address the issue of burning waste and illegal on-site disposal of waste.

Solid Waste Facility licensing language includes implementation of a waste disposal surcharge approval by the St. Louis County Board. A portion of this surcharge can be credited if the facility has a County approved waste abatement plan.

## **E. Contingency System and Resource Recovery Analysis**

### **1. Contingency System**

In the event of a short-term emergency that requires bypassing the St. Louis County Regional Landfill, the first course of action that the County plans to take is to contact other facilities within a reasonable distance, including but not limited to the WLSSD transfer station, the Superior, Wisconsin Landfill and other regional landfills to determine the best disposal option for the county based on available capacity, transportation factors, long-term liability, and cost.

In the event that the current primary management system fails, St. Louis County would most likely deliver waste to one of the facilities listed above until the St. Louis County Regional Landfill is back in operation or an alternative system shall be implemented. The County would seek the assistance of the OEA in the alternative system analysis.

### **2. Alternate System Analysis**

The County intends to develop or make use of existing solid waste processing and disposal capacity during the 10-year planning period.

## **F. Local and Regional Management and Planning**

### **1. Regional Planning**

The County believes that over the long term it will be in the County's best economic and environmental interests to participate in regional solid waste management programs to

the maximum extent possible. The County is exploring regional options with neighboring counties and intends to continue to do so.

St. Louis County recognizes the need to evaluate and consider solid waste management alternatives, including regional solutions for landfill abatement. The County is concerned about the rising cost of waste management, the environmental impacts of land disposal, long-term waste abatement solutions, and achieving waste reduction. Currently, the County is participating in a regional task force Northeast Waste Advisory Council(NEWAC) made up of representatives from WLSSD and Aitkin, Carlton, Cook, Itasca, Koochiching, and Lake counties. These counties are each represented by solid waste officers, staff, a commissioner and an alternate who sit on the governing board of NEWAC and who actively assess the prospect of developing a regional solid waste management system for the area. The County intends to continue to participate actively in the process. County representatives currently chair and staff the group.

The NEWAC member counties worked cooperatively on a Regional Solid Waste Management Plan for northeastern Minnesota<sup>1</sup>. A State of Minnesota Government Innovation and Cooperation Grant was secured for the process. This regional plan looked at the possibility of a new regional landfill in the seven county area and the possibility of processing of waste (composting, RDF, mass burn or source separated organic composting) at a regional processing facility.

The County will also continue other contacts with neighboring counties such as the Solid Waste Officers of the Northeast Region (SWONERs).

## **2. Local Planning**

St. Louis County believes that the proposed waste management system described in this plan is the most feasible and prudent system available to the County at this time. The County intends to continue its solid waste management planning. Within four and one-half years, St. Louis County will submit a draft of an update to this plan to address

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<sup>1</sup> North East Minnesota Regional Solid Waste Plan. Prepared for the North East Waste Advisory Council by the Arrowhead Regional Development Commission. May 1996.

changes and improvements to the overall proposed system, including regional planning, greater resource recovery, problem material management, and landfill abatement.

## **G. Cooperative Ventures**

### Tower and Soudan Dumps and the Northwoods Landfill Project

The County has worked on a cooperative effort with the MPCA's closed landfill program to accept old dump material as fill during upgrade work on the closed landfills in Ely, Soudan and Cotton. St. Louis County, in cooperation with the MPCA, MPCA Voluntary Investigation and Cleanup Unit, Department of Trade and Economic Development and the local units of government on these projects. In all, materials from 4 old dumps and 2 closed landfills have been excavated and hauled to area closed landfills to augment the slopes and help with the new closure plans and clean up existing brownfields. The closed landfill legislation was amended to allow this type of dump material to enter into a closed landfill in many of the facilities in the state. It is a win-win situation for all parties involved.

The County is working closely with the Closed Landfill program staff to map out ground water systems that could potentially be affected, as well as to identify current land use zoning and development surrounding those sites.

Before the adoption of strict design and permitting requirements for landfills, most cities and townships within St. Louis County operated their own "town dump". Most of these were burn dumps in which accumulated waste materials were set on fire on a regular basis to reduce the volume of the waste and to discourage vermin. When "full", these dumps were usually covered with varying depths of soil and abandoned.

Over the years, County staff have compiled a comprehensive list of these dumps. This 8-page list of dumps was sent to the Minnesota Pollution Control Agency in 1997 for their Closed Landfill Program. To supplement the MPCA Program, the Solid Waste Department discussed this matter and decided to hire a Summer Intern to find and inspect as many of these old dumps as possible. One hundred forty old dumps were located and inspected during June, July, and August of 1998. For each site, the location was documented by Range and Township, the size and depth of waste materials was estimated, the site was

photographed, and any major problems at the site were documented. It is the Department's intent to continue to locate and inspect the remaining old dumps in the future.

These types of cooperative efforts between numerous governmental agencies are all benefits to the State of Minnesota and all parties involved.

#### Lakehead Environmental Petroleum Contaminated Soil Remediation

In late 1996, St. Louis County and Lakehead Environmental entered into an agreement where the County leased 20 acres adjacent to the Regional Landfill to Lakehead Environmental to construct a petroleum contaminated soil composting facility. At this facility, petroleum contaminated soil is composted utilizing manure and a bulking agent (hay or wood chips). Air is injected into a static pile to compost the soil. Lakehead Environmental originally built six Quonset buildings which each hold approximately 2000 yards. Since then, two more buildings and two more open pads have been completed for composting. This facility has cleaned thousands of yards of petroleum contaminated soil for the region. The Solid Waste Department receives revenue from Lakehead Environmental for all of the soil that is composted at the facility. In addition, once the soil has been completely treated, the Solid Waste Department has the right of first refusal on the treated soil. The County has used some of this treated material for daily landfill cover, and some of the more organic material has been spread on our future leachate spray irrigation site for cultivation of grasses on the site. Some of the treated soil will be used to augment the cover on old mine dumps to enhance vegetation growth.

This public/private venture is a positive option for treatment of petroleum contaminated soil. Years ago, there were disputes in townships and cities concerning static piles that were left and never attended. This facility is filling a need for a void that existed for petroleum contaminated soil remediation.

#### Glass Aggregate for County Projects

Because of its low value and the County's distance from glass markets, the County is diverting recycled glass out of its recycling program to use it as aggregate in various County projects. Source separated glass collected in the County recycling programs, in addition to glass separated at the County Recycling Processing Facility, is unloaded and stockpiled at

the Regional Landfill or the Hibbing Transfer Station. In addition, at sites which produced large volumes of recyclable materials, 20-cubic-yard green bins were placed to collect glass separately from other recyclable commodities. The glass is then screened for use in various County projects including base material for a County Public Works road project, base material for the County Recycling Processing Facility parking lot, drainage medium for the recycling facility water and fire system vault, base material for the Hibbing Transfer Station parking lot, and bridging material for the working face access road at the Regional Landfill. This glass diversion program has proven to be very successful. St. Louis County has used over 1000 tons of glass annually for various County projects and saved the recycling program over \$50,000 in processing fees per year.

#### Electronics Disposal

The County is tracking state initiatives and legislation and will comply with all requirements.

### **H. Waste Stream Flow and Budget Tables**

**1. Waste Stream Flow.** In 2001, St. Louis County generated approximately 104,194 tons of solid waste or approximately 282 tons of solid waste per day (365 days). This includes 52,689 tons of recyclables, 50,200 tons of MSW, 977 tons of problem materials not recycled, and 328 tons of on-site land disposal waste. This does not include an additional 8,302 tons of industrial waste; 5,506 tons of public utilities coal ash; 43,217 tons of demolition waste; and .10 tons of asbestos. Over the 10-year planning period, approximately 42 percent of the waste will be land disposed and 58 percent will be abated through alternative management. The table presented below shows the waste system components and the percent to be managed through abatement and land disposal for a five-year period. The goal-volume table found in Appendix A provides a 10-year estimate of St. Louis County's waste system flow.

**Table 2**  
**Five-Year Waste Management Projections**

<b>System Flow</b>	2003	2004	2005	2006	2007
Total Waste Generation in Tons Per Year <sup>2</sup>	106,254	107,298	108,352	109,417	110,492
<b>Management Method (%)</b>					
Waste reduction	3.00%	3.00%	3.00%	3.00%	3.00%
Recycling—Residential	9.90%	9.90%	9.90%	9.90%	9.90%
Recycling—Commercial/Industrial Doc.	37.00%	37.00%	37.00%	37.00%	37.00%
Yard waste composting	5.00%	5.00%	5.00%	5.00%	5.00%
Waste tires	0.40%	0.40%	0.40%	0.40%	0.40%
Appliances	1.20%	1.20%	1.20%	1.20%	1.20%
Vehicle batteries	1.10%	1.10%	1.10%	1.10%	1.10%
Resource recovery	1.00%	1.00%	1.00%	1.00%	1.00%
On-site disposal	0.30%	0.30%	0.30%	0.30%	0.30%
Land disposal	48.90%	48.80%	48.50%	48.80%	48.80%
Fluorescent Tubes	0.01%	0.01%	0.01%	0.01%	0.01%
Used Oil	0.14%	0.14%	0.14%	0.14%	0.14%
Used Oil Filters	0.05%	0.05%	0.05%	0.05%	0.05%

## 2. Waste System Budget

A detailed estimate of County solid waste costs and revenues for the extended 10-year planning period can be found in the St. Louis County Solid Waste Management Budget Plan, Appendix B of this document.

The County's revenue sources include the following: tip fees; household and business service fees; SCORE and HHW funds; surcharges on landfilled wastes; licensing fees; recycling and special wastes revenue; and interest income. Anticipated capital

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<sup>2</sup>The OEA's Goal-Volume Table does not include industrial waste and demolition waste when calculating St. Louis County's Total Waste Generation quantity.

expenditures will be incurred in the year 2004 for construction and equipment for a source separated organic composting project and for Phase IV construction of the St. Louis County Regional Landfill.

## II. Background Information

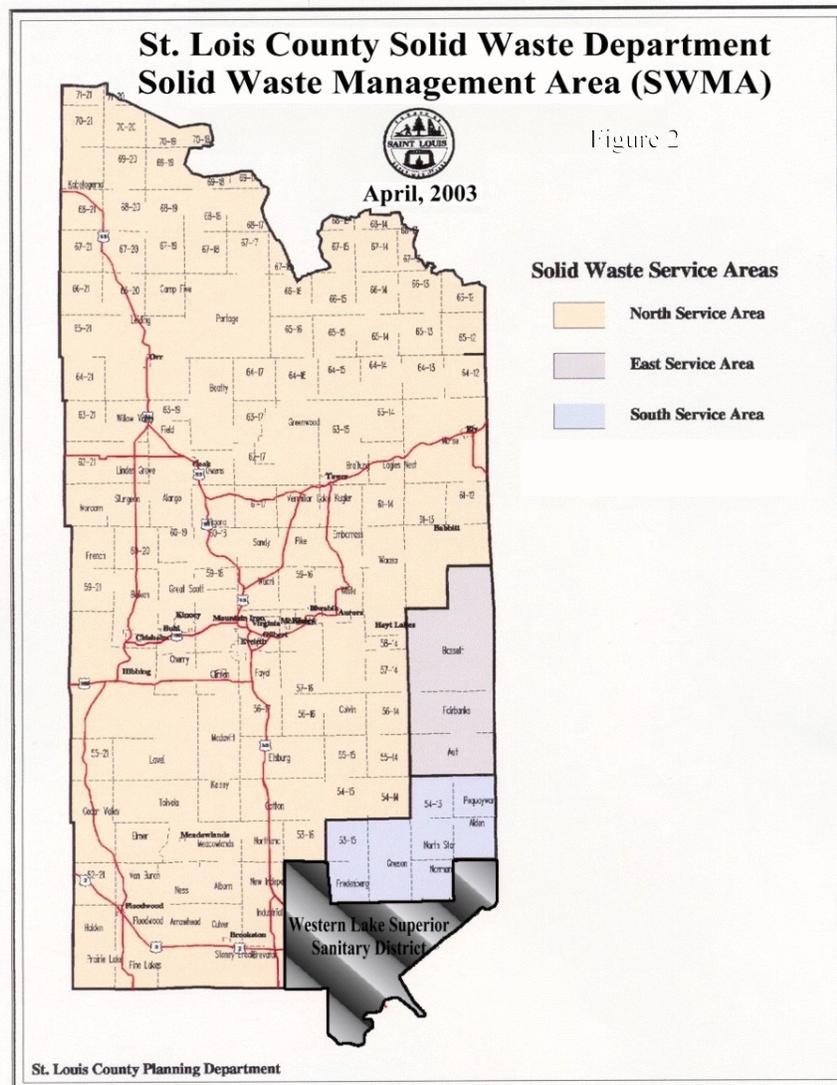
### A. Population

#### 1. Population Distribution

Solid Waste programs throughout St. Louis County are managed by two separate and distinct entities. The St. Louis County Solid Waste Department (Department) provides an integrated program for residents and businesses throughout the majority of the geographic area of the county. The St. Louis County Solid Waste Management Area (SWMA) includes regions designated as the North Service Area, the East Service Area and the South Service Area. The Western Lake Superior Sanitary District (WLSSD) manages a relatively small geographic area of the county which includes the Cities of

Duluth, Hermantown and Proctor and surrounding townships. In 2001 the Department developed a formalized agreement for solid waste services for six townships within the SWMA which lie north of Duluth. The Department has a contract in which WLSSD provides services to, and is paid from service fee revenues for these townships. For the purpose of this Solid Waste Management Plan, when the terms "County" or "SWMA" are used only information

pertinent to that portion of St. Louis County under the jurisdiction of the



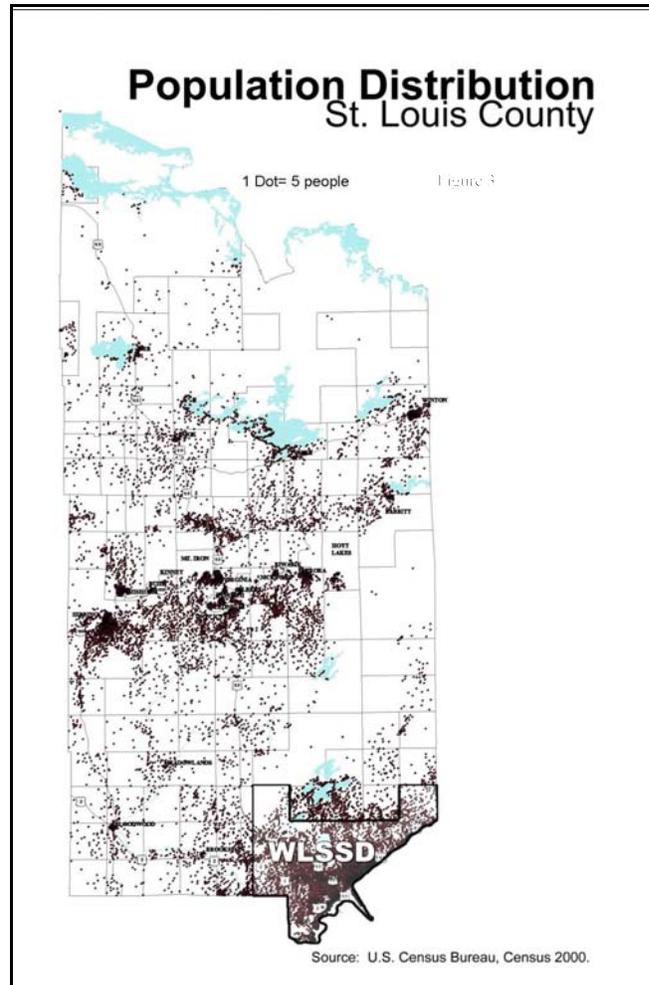
Solid Waste Department, including these six townships, will be addressed unless otherwise noted.

The population of St. Louis County SWMA in 1990 was 85,733. Census 2000, shows the population for cities and townships served by the Department as 89,550. Between 1990 and 2000, the area population increased by 4 percent or 3,817 persons despite lay-offs and cutbacks in the taconite industry and supporting services. The number of households in 2000 was 38,375. Census 2000 information indicates that the average household size was 2.3 persons.

The majority of the County is very lightly populated. The SWMA's 2000 population density is estimated to be approximately 13.8 persons per square mile. This compares to a density of 28.3 for the County as a whole, and to 180.3 for the area of the County served by WLSSD. The average population density for the State of Minnesota is 61.8 persons per square mile. Special consideration must be given to the low

population density when evaluating and developing County solid waste management programs for the large geographic area of St. Louis County.

St. Louis County also hosts a large number of visitors throughout the year. The permanent SWMA population of approximately 90,000 increases to an estimated 125,000 persons during peak tourism periods. This necessitates the expansion of recycling and waste management programs focused on the tourism industry within the county.



## 2. Population Projections

Table 3 presents St. Louis County SWMA 1970, 1980, 1990 and 2000 populations, and the percentage change that occurred during each census period. The SWMA population has fluctuated over the past 30 years, increasing 6.66 percent from 1970 to 1980 and decreasing 16.72 percent between 1980 and 1990, then increasing again by 4.66 percent to 2000.

<b>Census Year</b>	<b>1970</b>	<b>1980</b>	<b>% Change</b>	<b>1990</b>	<b>% Change</b>	<b>2000</b>	<b>% Change</b>
<b>County Total</b>	95,959	102,947	+ 7.28	85,733	-16.72	89,550	+ 4.45

The permanent population of the SWMA is projected in this plan to remain relatively constant over the next 10 years. It appears that for the near future there is a slight shift from the cities to the lake area townships such as Greenwood and Beatty, and to the southwest rural townships. This will increase the usage of the canister sites and transfer stations in these areas.

In addition, St. Louis County is expecting to see an increase in the average age of its population in the SWMA. In 1990, the average age of residents in St. Louis County was 34.5 years. In 1995, the average age was 37 years; in 2000 it was 42.2 years. Special consideration must be given to the needs of an aging population when planning future County solid waste programs.

St. Louis County expects the employment outlook in the SWMA to remain relatively constant over the next 10 years. Population is also projected to remain steady over the same period. Table 4, located below, presents the St. Louis County SWMA's population projections for the ten year period of 2001 to 2011.

**Table 4**

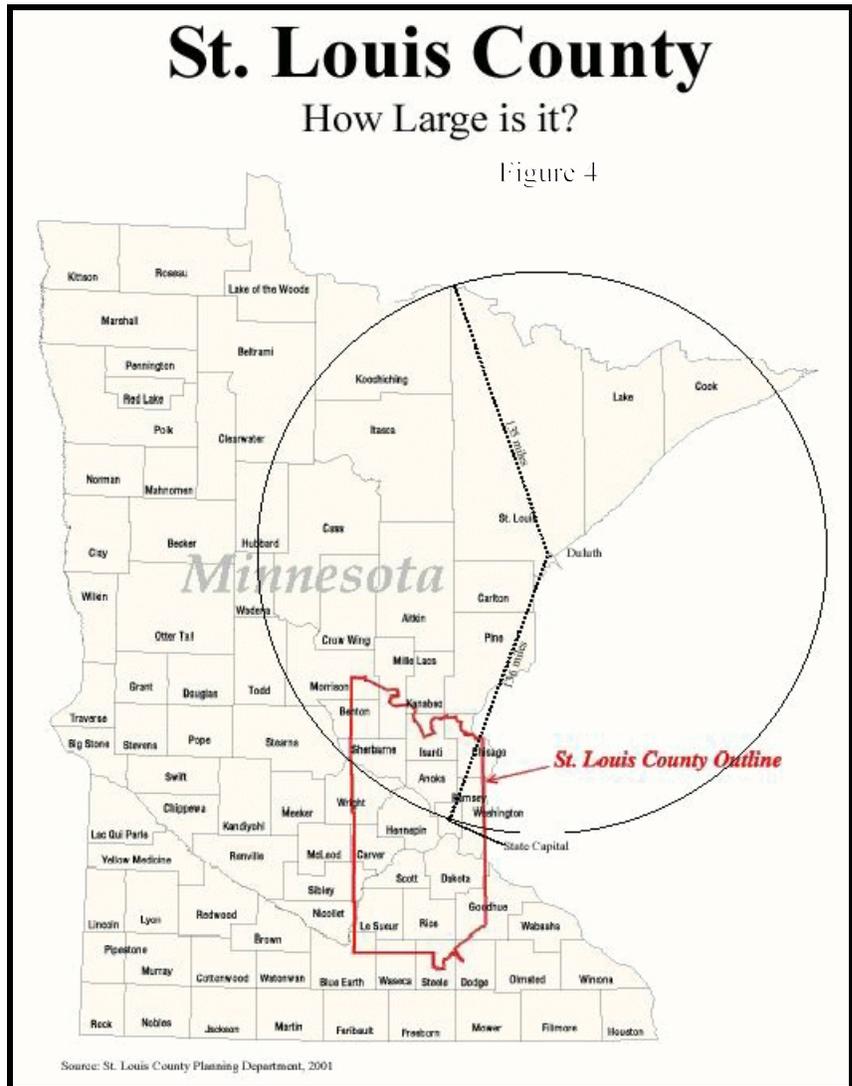
**St. Louis County SWMA Population and Households Projections**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Pop.</b>	89,998	90,214	90,431	90,648	90,865	91,083	91,302	91,521	91,741	91,961	92,181
<b>Hhds</b>	39,130	38,718	38,812	38,905	38,998	39,091	39,185	39,279	39,374	39,468	39,563

**B. Land Use**

**1. Planning Area**

St. Louis County is located in the Northeast area of the state. The following map shows the County's location in Minnesota as well as its size compared to other Minnesota counties. The County SWMA is 6,476 square miles in area and includes 20 cities, 78 organized townships and 44 unorganized townships. The largest population settlements are the Hibbing-Chisholm area, with a population of approximately 22,031, and the Quad Cities



(Eveleth, Gilbert, Mt. Iron, and Virginia) with a population of approximately 17,868. These settlements are located approximately 200 miles north of the Twin Cities Metropolitan Area.

## 2. Land Use

Land use in the SWMA is zoned predominantly Forest Agricultural Management District (FAM). Zoning classifications and acreage for the St. Louis County SWMA are shown in Table 5.

<b>Table 5</b>			
<b>St. Louis County Solid Waste Management Area</b>			
<b>Total Acres and Percentages of Each Zone</b>			
<b>Zone</b>	<b>Description</b>	<b>Acres</b>	<b>Percent</b>
COM	Non-Shoreland Commercial	1,872	.05
FAM	Forest Agricultural Management District	2,465,545	71.39
IND	Industrial	82,568	2.39
LIU	Limited Industrial	669	.02
MUNS	Multiple Use Non-Shoreland	425,022	12.31
RES	Residential	145,419	4.21
SENS	Sensitive Areas	164,372	4.76
SMU	Shoreland Mixed Use	168,092	4.87
	Total	3,453,559	100.00

The St. Louis County Planning Department has experienced an overall increase in land-use permits from 980 during 1997 to 1,315 during 2000<sup>3</sup> indicating an increase in construction and demolition activities.

## C. Employment and Wages

Employment data for the County SWMA is presented in Table 6. The SWMA's population increased by 4.45% from 1990 to 2000. The number of wage and salary jobs (excluding the

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<sup>3</sup> Land Use Annual Report, St. Louis County, 2001. St. Louis County Planning Department.

City of Duluth) averaged 56,537<sup>4</sup> during 2001. The following is a breakdown of the 2000 employment numbers and income for the SWMA.

<b>Table 6</b>				
<b>Employment Breakdown for the St. Louis County Solid Waste Management Area - 2000</b>				
<i>(Data from Minnesota Work Force Center web site <a href="http://www.mnwfc.org">www.mnwfc.org</a>)</i>				
	No. of Establishments	No. of Jobs	% of All Jobs	Total Wages
<b>Federal Government</b>	<b>35</b>	<b>792</b>	<b>2</b>	<b>\$16,528,311</b>
<b>State Government</b>	<b>48</b>	<b>958</b>	<b>3</b>	<b>\$36,768,528</b>
<b>Local Government</b>	<b>150</b>	<b>4688</b>	<b>12</b>	<b>\$134,125,866</b>
<b>Private Sector</b>	<b>2526</b>	<b>31045</b>	<b>83</b>	<b>\$816,948,354</b>
Natural Resources and Mining	76	4833	13	
Construction	528	3810	10	
Manufacturing	140	2969	8	
Trade, Transportation and Utilities	736	8020	22	
Financial Services	218	524	1	
Professional and Business Services	215	1526	4	
Education and Health Services	202	4650	13	
Leisure and Hospitality	384	4213	11	
Other	27	500	1	
<b>Total</b>	<b>2759</b>	<b>37183</b>	<b>100</b>	<b>\$1,004,371,032</b>

The Department's business and industrial waste reduction and recycling efforts will focus much of its attention on the local government, service, trade, education and mining sectors, which comprise 65% of the employment within the County SWMA. Staff will provide technical assistance, in addition to waste reduction and education information.

The Solid Waste staff must also take into consideration the special needs of proposed businesses and industries which may chose to locate within the County when formulating or expanding its solid waste programs.

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<sup>4</sup> Minnesota Workforce Center ([www.mnwfc.org](http://www.mnwfc.org)) unemployment statistics for St. Louis County and the City of Duluth.

## **D. Local Economic Conditions**

### 1. Median Household Income

The Census 2000 estimated the median household income in St. Louis County SWMA to be \$38,057. This compares with the 2000 median household income in the State of Minnesota of \$47,111, and the federal median of \$41,994.

### 2. Current Economic Conditions

The number of jobs in the SWMA has steadily increased since 1992 from 33,156 to 37,183 in 2000. The County Planning Department indicates in the 2000 State of the County Report that declines in mining and related industries are being off-set by increases in service sector jobs. Greater diversity of job opportunities has resulted in somewhat improved economic conditions in the County since 1990. Emerging employers in social and health services and in business services have helped to stabilize the County's economy and employment.

The unemployment rate for the County SWMA in 1996 was 5.9%. The rate dropped to a low of 3.3% by October, 2000, but had risen to 9.0% by May, 2001 due to closure of some major mining and industrial employers. The Minnesota Job Service considers unemployment rates for St. Louis County normal between 3.0 percent and 6.0 percent. As the laid-off industrial employees reenter the workforce and as new service-related employers move to the area, the Department projects unemployment rates to stay within the normal range during the next ten years.

## **E. Waste Generated**

In 2001, the St. Louis County SWMA generated approximately 104,194 tons of solid waste, or approximately 282 tons of solid waste per day (365 days). This includes 52,689 tons of recyclables and 50,200 tons of MSW. This does not include the additional 8,302 tons of industrial waste and asbestos materials; 5,506 tons of public utilities coal ash; and 6,240 tons

of demolition waste managed through County programs. Future Department abatement goals and projected solid waste generation rates are a part of the Goal-Volume Table (GVT). The GVT located in Appendix A of the plan estimates a 2001 per-capita solid waste generation rate for the SWMA of 6.3 pounds per person per day. The estimated residential solid waste generation rate was 3.7 pounds per person per day as based on the GVT.

The solid waste stream in the SWMA consists primarily of household and commercial waste although a significant amount of industrial waste is also present. The estimated percentage of each is 47 percent residential waste, 41 percent commercial waste, 7 percent industrial waste, and 5 percent demolition waste.

The average St. Louis County SWMA household generated 3,106 pounds of non-recycled MSW and spent approximately \$130 for County solid waste services (recycling, special wastes and MSW disposal costs) in 2001. Municipal or private hauler fees would add to this amount. Tipping fees for in-SWMA generated MSW are based on \$45.63 per ton including the Solid Waste Management Tax. Residents of the SWMA North Service Area also pay a service fee of \$58 per year for a year-round property parcel.

MSW generated outside the SWMA and brought into the County program is assessed a higher tipping fee of \$106.99 per ton including taxes and surcharges. This higher fee allows the County to recoup program and facility costs which in-SWMA waste generators cover via the service fee.

Table 7 shows 2001-2011 waste generation estimates from the Goal-Volume table.

**Table 7**

**St. Louis County SWMA Waste Generation Estimates\***

<b>Solid waste generation</b>	<b>2002 Tons</b>	<b>2003 Tons</b>	<b>2004 Tons</b>	<b>2005 Tons</b>	<b>2006 Tons</b>	<b>2007 Tons</b>	<b>2008 Tons</b>	<b>2009 Tons</b>	<b>2010 Tons</b>	<b>2011 Tons</b>
Total Recycling	52,424	52,970	53,522	54,081	54,646	55,216	55,794	56,377	56,967	57,564
MSW to Landfill	51,486	51,971	52,458	52,951	53,448	53,949	54,455	54,965	55,479	55,997
On-site MSW disposal	331	331	332	333	334	335	335	336	337	338
Problem materials not recycled	980	982	985	987	989	992	994	997	999	1,001
<b>Total waste generated</b>	<b>105,220</b>	<b>106,254</b>	<b>107,298</b>	<b>108,352</b>	<b>109,417</b>	<b>110,492</b>	<b>111,578</b>	<b>112,675</b>	<b>113,782</b>	<b>114,900</b>

\* Excludes demolition materials and industrial wastes.

## 1. Large Waste Collectors

St. Louis County SWMA's six largest waste collectors and the volumes and types of waste they transport are presented in the table below.

<p align="center"><b>Table 8</b> <b>Large Waste Collectors - 2001</b></p>		
<b>Collector Name</b>	<b>Annual tonnage of waste Collected</b>	<b>Types of Waste Collected</b>
City of Hibbing	10,059 tons	Private & Commercial MSW
City of Virginia	5,467 tons	Private & Commercial MSW
City of Eveleth	1,910 tons	Private & Commercial MSW
Waste Management	4,490 tons	MSW
Al James Garbage Service	2,466 tons	MSW
Udovich Sanitation	1,804 tons	MSW

## 2. Large Waste Generators

The SWMA's largest waste generators and the volumes and types of waste they produce are presented in the table below.

<p align="center"><b>Table 9</b> <b>Large Waste Generators - 2001</b></p>		
<b>Generator Name</b>	<b>Volume or Weight of Waste Generated Per Year</b>	<b>Types of Waste Generated</b>
Virginia Public Utilities	5,478 tons/year	Public Utility Coal Ash
Northern Castings, Inc.	6,578 tons/ year	Spent Foundry Sand
Staver Foundry	337 tons/year	Industrial Waste
Inland Steel	200 tons/year	MSW
Range Regional Health Services	233 tons/year	MSW

### 3. Demolition Debris

Demolition debris generation and disposal varies dependent upon seasonal fluctuations and construction and demolition activity. In 2001, a total of approximately 6,240 tons of demolition material was placed in County-owned demolition landfills. This includes 345 tons in the Brookston Demolition Landfill, 1,958 tons at the Northwoods Demolition Landfill, and 3,937 tons in the Hibbing Demolition Landfill. The in-SWMA tipping fee for demolition material is \$27.00 per ton and the out-of-SWMA tipping fee is \$39.00 per ton.

It should be noted that the 3,937 tons in the demolition landfill at Hibbing included 1,318 tons received directly at the landfill, and 2,619 tons delivered from the following roll-off collection locations: Regional Landfill, Hudson Transfer Station, Cook Transfer Station, and the Portage, Soudan and Highway 77 canister sites.

There are three privately-owned permitted demolition and/or industrial waste landfills located in the County. During 2001 these sites landfilled an estimated 164,000 tons of materials. Of this amount it is estimated that approximately 77.5% is generated outside the SWMA. Demolition and other solid waste management facilities are required to have an annual license by County Ordinance 45.

Demolition volume estimates for the next ten years are listed below in Table 10.

**Table 10**

**St. Louis County SWMA Demolition Waste Disposal Estimates (from GVT)**

<b>Demolition waste generation</b>	<b>2001 Yds<sup>3</sup></b>	<b>2002 Yds<sup>3</sup></b>	<b>2003 Yds<sup>3</sup></b>	<b>2004 Yds<sup>3</sup></b>	<b>2005 Yds<sup>3</sup></b>	<b>2006 Yds<sup>3</sup></b>	<b>2007 Yds<sup>3</sup></b>	<b>2008 Yds<sup>3</sup></b>	<b>2009 Yds<sup>3</sup></b>	<b>2010 Yds<sup>3</sup></b>	<b>2011 Yds<sup>3</sup></b>
Demolition waste to County-owned landfills	12,412	12,412	12,412	12,412	12,412	12,412	12,412	12,412	12,412	12,412	12,412
Demolition waste to private landfills	117,240	117,240	117,240	117,240	117,240	117,240	117,240	117,240	117,240	117,240	117,240

**4. Seasonal Variation**

Since St. Louis County is a major tourism area, significant seasonal increases in solid waste generation occur. Table 11 (2001 St. Louis County Landfill Monthly Disposal) shows the seasonal variation in waste stream. [Note: Table 11 includes solid waste, industrial waste, ash, and beneficial waste tonnages.] Recycling activity shows similar seasonal variations.

**Table 11**

**2001 St. Louis County Regional Landfill Monthly Disposal**

<b>Month</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>
<b>Total Tons</b>	5103	4211	4998	6247	6898	6421	6230	6882	5730	6073	4943	5431

Total = 69,165 tons in 2001.

**F. Waste Composition** The St. Louis County Regional Landfill participated as a study site for the R. W. Beck MSW Composition Study for the Solid Waste Management Coordinating Board. Using waste composition information from that study, the following table demonstrates the composition of MSW and recycled/recovered materials in the County solid waste system. It does not include industrial or demolition materials.

Table 12

## St. Louis County SWMA Waste Stream Characteristics - 2000

Material	2000 Amount Available (TPY)	% of Waste Landfilled (2)	% of Total Waste Stream
Paper - Recyclable	9,359	19.10%	8.95%
Paper - Non-Recyclable	4,802	9.80%	4.59%
Plastic - Recyclable	588	1.20%	0.56%
Plastic - Non-Recyclable	5,047	10.30%	4.83%
Non-recycled Ferrous Metals	2,940	6.00%	2.81%
Non-recycled Aluminum	686	1.40%	0.66%
Non-recycled other metals	98	0.20%	0.09%
Glass - Recyclable	1,078	2.20%	1.03%
Glass - Non-recyclable	245	0.50%	0.23%
Organic Materials (food, textiles, wood)	8,722	17.80%	8.34%
Electronics and batteries	1,617	3.30%	1.55%
Treated wood	1,127	2.30%	1.08%
HHW in landfilled waste	539	1.10%	0.52%
Other wastes landfilled	12,152	24.80%	11.62%
<b>Waste to Landfill Subtotal</b>	<b>49,000</b>	<b>100.00%</b>	<b>46.86%</b>
Recycled Paper - mixed (1)	4,342	0.00%	4.15%
Recycled OCC(1)	6,118	0.00%	5.85%
Recycled Aluminum(1)	178	0.00%	0.17%
Recycled Ferrous(1)	860	0.00%	0.82%
Recycled Other mixed metals(1)	38,796	0.00%	37.09%
Recycled Glass(1)	1,305	0.00%	1.25%
Recycled Plastics - containers (1)	251	0.00%	0.24%
Recycled Plastics - other(1)	4	0.00%	0.00%
Recycled Organics (carpet)(1)	29	0.00%	0.03%
Recycled HHW(1)	778	0.00%	0.74%
Recycled Electronics and Batteries(1)	539	0.00%	0.52%
Recycled Appliances (1)	1631	0.00%	1.56%
Recycled Tires (1)	763	0.00%	0.73%
<b>Waste Recovered Subtotal</b>	<b>55,594</b>	<b>0.00%</b>	<b>53.14%</b>
<b>Total</b>	<b>104,594</b>		<b>100.00%</b>

(1) Volumes as reported in 2000 SCORE report.

(2) Source: MSW Waste Composition Study for the Solid Waste Management Coordinating Board, R.W. Beck 2000.

## G. Solid Waste Collection

### 1. Solid Waste Collection

Most solid and industrial waste collected in the St. Louis County SWMA (50,200 tons MSW and 8,302 ISW in 2001) is disposed of at the St. Louis County Regional Landfill. Approximately 1,350 tons of MSW from the six townships north of Duluth is hauled by private collectors to WLSSD and transferred to Sorona, Wisconsin. A very small quantity of waste collected from the Brimson area located in the east-central part of the County is delivered to WLSSD via Lake County. This quantity is estimated at about 83 tons per year.

There are currently 24 County-licensed haulers serving the SWMA. These include 17 private and seven municipal haulers. The type of accounts they serve and the areas they serve are listed in Table II-12.

<b>Table 13</b>			
<b>St. Louis County-Licensed Waste Collectors - 2002</b>			
<b>Hauler Name</b>	<b>Account Types Served</b> (residential, commercial and/or industrial)	<b>Areas Served</b> (by township or municipality)	<b>Collection Offered</b> (MSW, recycling, yard waste, appliance, demo debris, etc.)
City of Chisholm	residential, commercial	City of Chisholm	MSW, yard waste*, appliances*
City of Eveleth	residential, commercial	City of Eveleth	MSW, recycling, appliances*, demo*, yard waste*
City of Gilbert	residential, commercial	City of Gilbert	MSW, recycling, appliances, yard waste
City of Hibbing	residential, commercial	City of Hibbing (except rural portion)	MSW, recycling, appliances*
City of Mt. Iron	residential, commercial	City of Mt. Iron	MSW, recycling, appliances*
City of McKinley	residential, commercial	City of McKinley	MSW, appliances, yard waste
City of Virginia	residential, commercial	City of Virginia	MSW, recycling, appliances*
James G Men, Inc.	residential, commercial	Northwoods Service Area	MSW, appliances**
Crist Garbage Service	residential, commercial	Brookston Service Area	MSW
East Mesabi Sanitation	residential, commercial	Hudson (Aurora) Service Area	MSW

**Table 13**

**St. Louis County-Licensed Waste Collectors - 2002**

<b>Hauler Name</b>	<b>Account Types Served</b> (residential, commercial and/or industrial)	<b>Areas Served</b> (by township or municipality)	<b>Collection Offered</b> (MSW, recycling, yard waste, appliance, demo debris, etc.)
Hiti Sanitation	residential, commercial	East Mesabi Service Area	MSW, demolition**
Leete, John	residential, commercial	West Mesabi Service Area	MSW
Norland Sanitary Service	residential, commercial	Brookston Service Area	MSW
North Country Waste & Recycling	residential, commercial	Brookston Service Area	MSW
Northern Sanitation	residential	Hibbing/East Mesaba Service Area	MSW
Waste Management	residential, commercial	Hibbing/East Mesaba Service Area	MSW, recycling, demolition, appliances**, yard waste**
Udovich Garbage Service	residential, commercial	Cook Service Area	MSW, recycling
B/B Construction	litter clean-up	Sentence-to-serve projects	MSW
Countryside Sanitation	residential, commercial	Silica and other areas S. of Hibbing	MSW
Paul Johnson	residential, commercial	Southeast service area	MSW, recycling
Northshore Sanitation	residential, commercial	Southeast service area	MSW, recycling
Veit	demolition rejects	Hibbing	MSW
Vermilion Trail Sanitation	residential, commercial	Northwoods (Ely) Service Area	MSW
A-1 Disposal	residential, commercial	Floodwood/ Brookston area	MSW, recycling

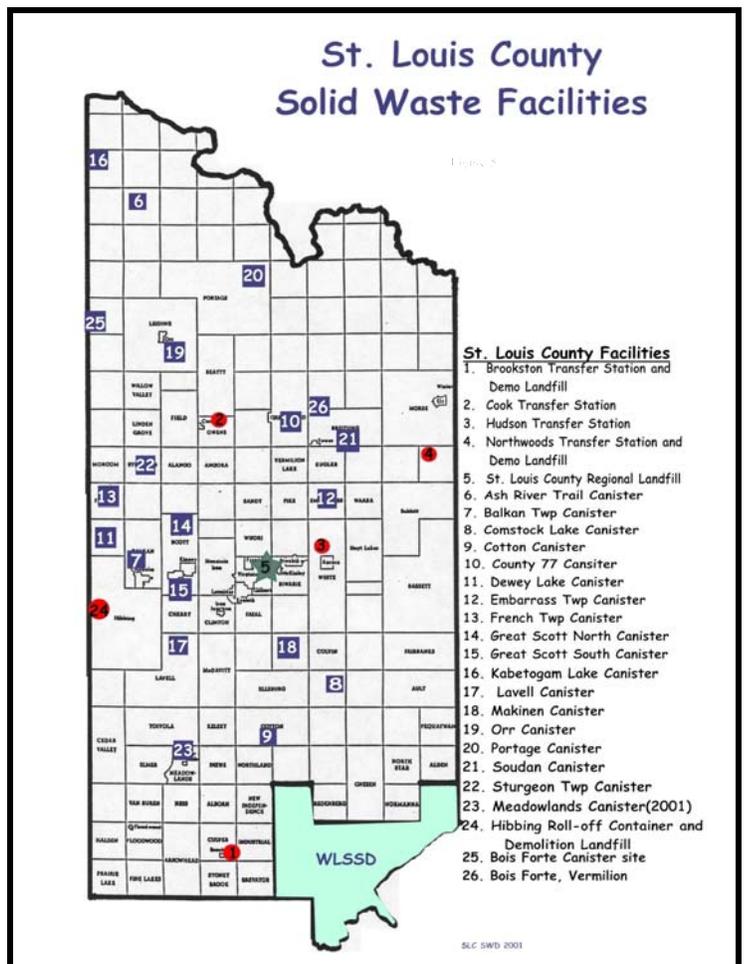
\* Spring and fall city cleanup

\*\* Infrequent pickup

Solid waste collectors are required to have a Solid Waste Collection and Transportation license. The license fee must be submitted to St. Louis County annually. This license is administered through the Solid Waste Department. A fee of \$25 per business plus \$25 per

vehicle used by the business for collection and/or haulage is charged for the license. As a provision of licensure, all licensed solid waste haulers employ volume-based pricing.

Waste collection in the SWMA is not mandatory. County staff estimate that roughly 96 percent of permanent city residents and 50 percent of the permanent rural residents use haulers. In addition to traditional route collection, the Solid Waste Department contracts with local licensed waste haulers in south St. Louis County to “sit” at designated locations allowing residents to deliver their MSW to the hauler. These “sit site” collections occur weekly in Prairie Lake, Floodwood Lake, and Floodwood. Users of the “sit sites” are charged a per bag disposal fee for the service. In total, it is estimated that the entire SWMA population is served by a hauler or has reasonable access to self haul their waste to a County landfill, transfer station, “sit” site, or canister site.



## 2. Percentages Collected/Uncollected

Nearly all citizens of the North and East Service Areas of the SWMA have access to the Regional Landfill, the three “sit” sites<sup>5</sup>, the five transfer stations, the 20 canister sites, or the 44 recycling roll-off (drop-off) sites through self-hauling. Considering the sparsely populated, rural nature of large areas of the SWMA, all residents have reasonably convenient access to solid waste disposal and recycling facilities. The sites listed above are

<sup>5</sup> A “sit” site is a site where the County pays a hauler to sit in a specified location for specified hours and accept garbage (for a bag fee) from the public.

well maintained and have been selected to provide convenient disposal locations. SWMA residents are given the opportunity to provide input into site locations and the days and hours of site operation. All MSW sites have attendants to collect tipping fees and assist customers. The Solid Waste Department works to provide clean, convenient disposal sites, and customer service oriented attendants to encourage proper disposal and minimize illegal disposal activities. In addition to the self-haul options listed above, most residents have collection services available to them provided by licensed garbage haulers.

To further encourage proper disposal, the County also allows for the free disposal of major appliances (2 per load), automobile and small truck tires (4 per load), used automobile oil filters (4 per load), four foot fluorescent tubes (4 per load), scrap metal, automobile batteries, antifreeze, waste oil, and yard waste. These free disposal items are accepted at all sites equipped to accept these waste types (see Appendix C - Solid Waste Facilities Services/ Hours of Operation).

In spite of the above disposal options and reasonable tipping fees, some illegal disposal of solid waste still occurs. The remote location of large areas of the County, forested lands, large tracts of public property, and abundant road network make it relatively easy to dispose of solid waste illegally.

During 2001 it is estimated that approximately 328 tons of MSW was either burned, buried, or otherwise illegally dumped on private or public property. This calculation is found in the GVT located in Appendix A and is based on a generation rate of approximately 0.3% of the total MSW generation.

### **3. Collection Rates – Existing Rate Structure (2002)**

Residential and commercial solid waste is collected by both private and municipal haulers. The rates haulers charge varies depending upon the location in the County and other factors. Haulers are not required to submit their rates as a condition of licensure, however, a competitive atmosphere exists due to the large number of haulers within the County.

Solid waste haulers are required to base their rates on weight or volume of waste collected, regardless whether the waste is collected from residences, businesses or industries.

A 1995 survey of municipalities in St. Louis County SWMA showed that rates municipalities charge their residents for the collection and haulage of MSW ranges from \$3 to \$15 per month. These rates have not changed. Rates municipalities charge for commercial collection vary based on the business's location, size, volume of waste generated, and number of collections per week. Because these rates not only vary substantially from municipality to municipality but also from within each municipality, the County has elected not to list them in this plan. Rates from private haulers were not available due to a reluctance by the haulers to provide that information.

The County allows all SWMA generators to self-haul their own waste. Most cities have mandatory residential and commercial garbage pickup. As a result, residents and businesses in the cities typically do not self haul.

St. Louis County's current in-service area and out-of service are tipping fee rates for various materials, based on weight or volume in cubic yards, can be found in Appendix D.

The primary financial incentive for waste reduction and recycling is the tipping fee. Residents, businesses, and industries are aware that they can avoid tipping fees by reducing the amount of waste they generate and by reusing or recycling as much of their waste stream as possible. The County is permitted to reuse certain industrial wastes as alternative daily and intermediate cover material in the landfill. This includes approximately 6,500 tons per year of spent foundry sand which the County utilizes as non-waste cover material.

## **H. Review of Planning History**

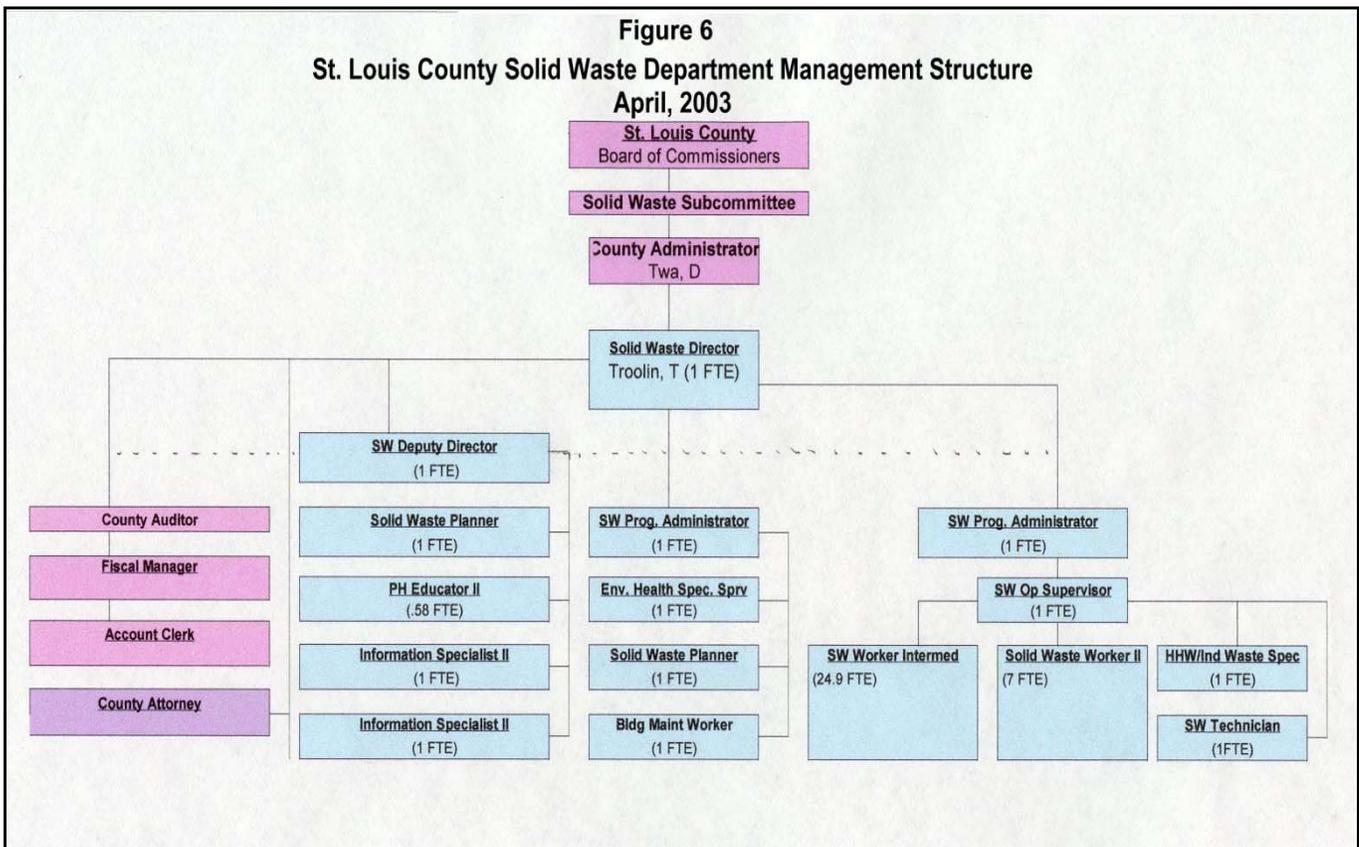
### **1. Past Solid Waste Planning Activities**

In 1992, St. Louis County entered into an agreement with the MPCA and WLSSD establishing a household hazardous waste collection program. On December 8, 1992, the OEA approved the St. Louis County Solid Waste Management Plan. The MPCA approved a permit for a new landfill on April 30, 1993. In July of 1996, and December of 2002, the County submitted a re-permit application for the landfill to MPCA and associated Solid Waste Management Plan updates to the OEA. A detailed discussion of past solid waste planning activities is located in Chapter III of this Plan. In August, 1996, the Office of Environmental Assistance approved a County Solid Waste Management Plan for St. Louis County. This document is a revision and update of that plan.

### **2. Existing Management Structure**

The County solid waste management program is administered by the Solid Waste Director. Specific program functions are overseen by the Solid Waste Deputy Director, two Solid Waste Program Administrators and the Field Staff Supervisor. Current staff positions include two Solid Waste Planners, two administrative support staff, one Household Hazardous Waste/Industrial Waste Specialist, one Maintenance Worker, and Regional Landfill, transfer station, and canister site personnel.

The Solid Waste Director oversees all solid waste programs, facilities and employees. The Director reports on solid waste programs to the County Administrator, the Solid Waste Subcommittee (SWSC), and the County Board. The Solid Waste Deputy Director develops program budgets, oversees the Regional Landfill and transfer station activities, and administers the solid waste service fee program. One Solid Waste Program Administrator is responsible for recycling programs and landfill development. The other Solid Waste Program Administrator and the Field Staff Supervisor are responsible for the daily operation of the landfill, five transfer stations and 19 canister sites and the demolition landfills. The Planners plan for and coordinate waste reduction, reuse and recycling programs and public education programs, and updating planning, ordinance and annual reporting documents. The Household Hazardous Waste/Industrial Waste Specialist is responsible for the HHW and Industrial waste planning and activities.



In the past, St. Louis County established four waste advisory groups, representing various portions of the County SWMA. The responsibility of the waste advisory groups is to

communicate current activities and seek grass roots input from representatives of the residents receiving County solid waste services. After several years of regular quarterly meetings these groups and the Department made the decision to convene only at times when emerging issues or new programs provide an opportunity for local input.

In September 1994, the St. Louis County Solid Waste Subcommittee (SWSC) was established. The SWSC consists of the four commissioners that have constituents served by the County solid waste program. The primary function of the SWSC is to act as a clearinghouse for solid waste issues that affect the portions of the County they represent. This subcommittee provides a forum for the exclusive purpose of discussing solid waste issues. The SWSC makes formal recommendations to the St. Louis County Board of Commissioners.

Decisions requiring County Board action are typically presented to the Board by the Director after informing the County Administrator and the SWSC.

### **3. Current Local and Regional Planning**

St. Louis County has determined that the proposed solid waste management system described in this plan is the most feasible and prudent system available to the County at this time. The County intends to continue its local and regional solid waste management planning efforts. In 1990, all solid waste officers in the region began meeting to discuss ways to improve local programs and work together where appropriate. At regular intervals, St. Louis County will submit an update to this plan to address changes and improvements to the overall system, including regional planning and initiation of greater resource recovery and landfill abatement.

St. Louis County recognizes the need to evaluate and consider solid waste management alternatives, including regional solutions for landfill abatement. The County is concerned about the rising cost of solid waste management, the environmental impacts of land disposal, long-term waste abatement solutions, and achieving waste reduction and recycling goals set by the state.

Currently, the County is participating in a regional task force made up of County Commissioners and Solid Waste Officers from counties in the Northeast region (NEWAC).

The task force is assessing the prospect of developing a regional solid waste management system and public education for the area. The County intends to continue to participate actively in the process.

#### **4. Impediments or Barriers to Development of Regional Projects**

The primary impediments to developing regional projects are the lack of waste assurance, low waste volumes, the geographic distances to existing or proposed facilities in the region, and lack of assurance that state and federal assistance will continue. Existing commitments by adjacent counties also limit St. Louis County's regional options. WLSSD and neighboring counties have developed long-term arrangements for land disposal of their waste outside of the region.

#### **5. Resolution of Conflicting or Overlapping Local Waste Management Efforts**

The County has not experienced conflicting or overlapping management efforts. This can be attributed to the manner in which the County manages its overall system.

### **III. ALTERNATIVE RESOURCE RECOVERY ANALYSIS**

#### **A. Introduction**

State law dictates that counties developing integrated solid waste management systems consider and, where feasible and prudent, develop or make use of solid waste processing capacity. St. Louis County has devoted extensive time and effort to developing processing capacity for its wastes. The County has until recently sent a portion of its waste to the Western Lake Superior Sanitary District processing facility in Duluth, and the County continues to pursue the utilization of processing capacity. The following chapter addresses the current status of the County's solid waste resource recovery analysis/development activities. This chapter:

- identifies County policies and goals with respect to resource recovery;
- provides historical background of County resource recovery and disposal analyses to date and identifies the current status of those analyses;
- identifies resource recovery and disposal options currently under consideration;
- conducts a comparative analysis of several potential management approaches for St. Louis County's SWMA wastes;
- recommends a course of action for the County to follow in the future to increase usage of resource recovery alternatives; and
- addresses the County's need for land disposal capacity for the next ten-year period.

#### **B. County Resource Recovery Policies and Goals**

St. Louis County is committed to the overall goals of Minnesota state law requiring that counties develop integrated solid waste management systems, expressing a clear preference for resource recovery over land disposal. The County will consider and, where feasible and prudent, develop or make use of existing solid waste processing facilities or technologies to manage an appropriate portion of the County's generated solid waste. Economic considerations alone will not justify the rejection of processing alternatives. St. Louis County will utilize solid waste planning as a tool to ensure that the County considers a reasonable range of resource recovery options before selecting a proposed system, including making use of processing if possible.

In choosing a solid waste processing or disposal system, a county is making long-term environmental and financial decisions and commitments that can have significant economic and

environmental impacts on present and future citizens. St. Louis County will demonstrate in this solid waste management plan that the management system evaluation process is designed to choose the best available system for the County.

St. Louis County has proposed and is implementing programs to satisfy State law and the County's statutes for waste reduction, recycling, yard waste management, special wastes and household hazardous waste programs. St. Louis County has also developed a state-of-the-art regional landfill which manages the majority of the County's SWMA MSW. A portion of the County's waste was sent to the WLSSD resource recovery facility for processing as long as it was in operation.

In addition, St. Louis County has previously considered programs to process mixed municipal solid waste by solid waste composting, incineration, or other mixed waste processing techniques. In 1999, the County assembled an evaluation team comprised of staff and stakeholders which reviewed past processing research as well as current status of processing programs throughout Minnesota. The Department has also recently conducted general and organics specific waste composition studies and has proceeded with plans for a source separated organics pilot composting project and a demolition waste recovery pilot project in the Ely area.

In developing the St. Louis County solid waste management plan the County has:

- (1) reviewed the status of waste management in the SWMA, and considered the extent to which the County has developed landfill abatement alternatives;
- (2) reviewed and analyzed processing and disposal options available; and
- (3) taken steps to propose a solid waste management system for the future that abates landfilling and promotes resource recovery as much as possible.

The plan includes an environmental, financial, and technical analysis of:

- (1) existing facilities available for use;
- (2) technologies available for use including mixed MSW composting, co-composting, refuse-derived fuel processing, and incineration; and
- (3) low-tech source separation programs currently used by other agencies to recover previously landfilled materials.

### C. Background History and Recent Activities: Resource Recovery/Disposal Analyses

St. Louis County has conducted various analyses of resource recovery and disposal alternatives in the past fifteen years. These include:

- 1988 waste-to-energy facility studies;
- 1990 mixed MSW composting studies;
- ongoing consideration of increased usage of the WLSSD RDF facility until the closure of that facility;
- the Northeast Waste Advisory Commission (NEWAC) and other regional efforts;
- various cooperative public/private ventures;
- 1995 Strategic Planning;
- 1995 - 1998 processing facility analyses;
- the Northeast Minnesota Compost Market Feasibility Study;
- analysis of participation in a Regional Landfill outside of St. Louis County;
- using existing resource recovery facilities located outside the area;
- the 1999 County Solid Waste Department Processing Evaluation Team;
- current evaluation of source separated organics composting alternatives; and
- current evaluation of source separated demolition waste recovery alternatives.

1988 Waste-to-Energy Initiative. In 1988, the County adopted a plan proposing development of a solid waste processing facility. At that time, the County was giving strong consideration to developing a waste-to-energy facility. As an outcome of the 1988 plan, in 1989 the County contracted for the development of a *Technical and Financial Assessment of Solid Waste Management Alternatives for St. Louis County* (see Appendix O of the 1996 St. Louis County Solid Waste Management Plan for document). That assessment provided a detailed technical and financial assessment of five alternatives: 1) developing a new mass burn facility; 2) developing a new refuse derived fuel (RDF) facility; 3) delivery of waste to the existing WLSSD RDF processing facility; 4) developing an MSW composting facility; and 5) land disposal.

The 1989 assessment considered a number of factors for each alternative, including availability of markets, siting issues, facility and site layouts, capital cost estimates, financing, operating costs, transportation network analysis, overall economic analysis, environmental review, and procurement options and implementation strategies. The report recommended that waste-to-energy options be pursued.

Following subsequent review, the County decided not to develop a waste-to-energy facility. Concerns leading to this decision included potential new state and federal air pollution control regulations, permitting and environmental review issues, lack of energy markets, public opposition, facility costs, and other issues.

St. Louis County does not intend to further analyze the development of a waste-to-energy facility at this time. This does not mean that the County views mass burn waste-to-energy as an unacceptable option in all situations. Given the right circumstances, such facilities can be developed and operated to acceptably manage solid waste in an environmentally protective fashion. However, those circumstances are not in place in the County at this time.

1990 Mixed MSW Composting. In 1990, a private consulting firm was hired to update the County's alternatives analyses. The product of this evaluation was a report titled *Solid Waste Management Alternatives for St. Louis County* (see Appendix P of the 1996 St. Louis County Solid Waste Management Plan). That report eliminated waste-to-energy options from further consideration because of regulatory concerns and permitting issues, public perceptions of waste-to-energy, lack of readily available energy markets, and financial viability. After elimination of waste-to-energy options, the 1990 update evaluated the remaining alternatives of landfilling and composting. Composting was found to be a feasible and prudent alternative to landfilling because: 1) it was a proven technology; 2) the costs associated with composting were not that much greater than landfilling; 3) composting fit well with recycling efforts; 4) composting adapted well to seasonal waste fluctuations; and 5) composting provided the path of least resistance to implement. In January 1991 a private consulting firm produced a report titled *St. Louis County/Western Lake Superior Sanitary District Solid Waste Management Options* (Appendix Q of the 1996 St. Louis County Solid Waste Management Plan). That report found some benefits to a joint St. Louis County/WLSSD system but also found that St. Louis County would need to increase its system size from 250 tons/day to 400 tons/day and the tipping fee for a joint

facility would be \$15 higher. In part due to this finding, that portion of the County outside of the District proceeded with planning a compost facility to handle only northern St. Louis County waste.

In 1992 the County's solid waste management plan was amended to propose development of a compost facility, and during late 1991 and early 1992 the County pursued development of such a facility. The County retained consultant assistance and developed a request for qualifications to develop a compost facility. Two vendors responded to the request for qualifications—Minnesota Power/Synertec and Daneco. However, after the County issued a request for proposals only one firm (Daneco) responded. Minnesota Power/Synertec did not respond due to concerns about the process and facility design requirements.

The County evaluated the Daneco proposal for a time. Ultimately, however, the proposal was not accepted. There were several reasons for this, including:

- legal concerns associated with the fact that there was only one proposal;
- flow control issues;
- technical concerns about problems being experienced at other MSW composting facilities; and
- an April 3, 1992, request from the Commissioner of the Minnesota Pollution Control Agency and the Director of the Minnesota Office of Waste Management requesting that the County “consider delaying any commitments to a particular process or vendor until we’ve had a chance to discuss the district concept more thoroughly with you.”

Subsequent to this, no further consideration was given to the Daneco proposal.

Increased usage of WLSSD. St. Louis County made use of one solid waste processing facility - the WLSSD facility in Duluth - until the closure of that facility in 1999 . Approximately 1,500+ tons per year of MSW from the Brookston area were transferred to WLSSD for processing. The combustible portion of the waste was used to incinerate sewage sludge. The WLSSD facility also accepts waste from the Duluth area, Lake County, and portions of Carlton County. Operating capacity of the facility was 75,000 tons per year. [Note: The facility had a capacity of processing in excess of 300 tons of solid waste per day. The limiting factor in capacity was the

amount of fuel needed to incinerate the sludge.] St. Louis County utilized approximately 1,500 tons per year of that capacity.

Since St. Louis County started considering resource recovery alternatives discussion and review of the potential use of the WLSSD waste processing facility in Duluth was on-going. The relative proximity to the range cities, the positive track record of the facility, and the fact that the facility was within the County (albeit outside of the County's SWMA) all led to review of the option. The 1988 plan, 1989 and 1990 feasibility studies, and 1992 plan all considered the option. From 1990 to 1999, a portion of the waste from Southern St. Louis County was managed by the WLSSD.

Consideration since 1992 included:

- development of a *“Cooperative Solid Waste Processing and Disposal Options Report”* in December of 1993 (Appendix R of the 1996 St. Louis County Solid Waste Management Plan);
- test burns of WLSSD-prepared pellets during 1994 to determine the potential for pelletizing a portion of the County waste stream and selling it to existing markets;
- review of expansion of WLSSD during the NEWAC process; and
- joint discussions between the County and WLSSD with Synertec during 1995 aimed at identifying potential options for cooperative action.

None of these led to viable alternatives. The 1993 Report did lead to ongoing discussions during 1994, and to the 1994 test burns. The test burns were only marginally successful, and related problems with equipment and markets caused that option to be abandoned. WLSSD informed the NEWAC group in the fall of 1995 that expansion of their facility was not viable at that time. Synertec informed the County and WLSSD in the fall of 1995 that current economic and legal conditions led to their decision not to pursue joint project analysis at this time.

WLSSD is no longer a processing option. A number of issues (facility costs and non-competitive tipping fees, air quality considerations, Lake Superior Basin considerations, operational problems) led WLSSD to make the decision to discontinue incineration of MSW as

of June 30, 1999. WLSSD now land applies its sewage sludge. WLSSD has built a transfer station that transfers wastes to a Wisconsin Landfill for land disposal. Waste from the Brookston Transfer Station is now taken to the Regional Landfill in Virginia. No further consideration will be given to processing waste at the WLSSD RDF facility.

NEWAC and Regional Activities. State law promotes regional waste management where possible, and encourages counties to work together to develop joint waste management systems and address waste management problems. St. Louis County has participated in joint inter-county discussions for a number of years through the Solid Waste Officers of the North East Region (SWONER) group.

In 1992, a group of Northeastern Minnesota counties in cooperation with the Minnesota Office of Waste Management and the Minnesota Pollution Control Agency created the North East Waste Advisory Commission (NEWAC). These counties were St. Louis, Itasca, Carlton, Cook, Koochiching, Cass, Aitkin, Lake, and the Western Lake Superior Sanitary District. Since the summer of 1992, the group has met to discuss regional management options. With respect to joint processing activities, potential options have decreased over the past several years. WLSSD closed its processing facility in June of 1999 and opened a transfer station for shipping waste to Sorona, Wisconsin. Itasca County is now in its 5<sup>th</sup> year of a 10 year agreement to have its waste disposed of at the Waste Management landfill in Elk River, Minnesota. Cook County has closed its landfill. Cook County has left the disposition of MSW generated in the County to private haulers that now transport waste either to the WLSSD transfer station or haul directly to Sorona, Wisconsin. Koochiching County is in the sixth year of a 15 year contract with the Mar-Kit landfill in Kittson County to process recyclables and landfill residuals. Aitkin County waste is transferred to the Twin Cities for disposal. Lake and Carlton Counties are utilizing the WLSSD transfer station in Duluth.

In June of 1995 the Arrowhead Regional Development Commission (the staffing entity for NEWAC at that time) presented background materials for discussion with County Boards that contained analysis of six basic options (see Appendix S of the 1996 St. Louis County Solid Waste Management Plan). Participant counties were to rank the options. Three of the options included expansion of the WLSSD facility. One included an Itasca County Materials Recovery and Processing Facility. One included a St. Louis County Materials Recovery and Processing

Facility. One envisioned a regional landfill. Shortly after this, WLSSD told the NEWAC group that expansion of their facility was not viable. Neither Itasca nor St. Louis Counties were currently ready to develop a facility, and most of the other counties had already entered into long term processing or disposal facility contracts elsewhere. As a result, discussion of the six options was indefinitely tabled while St. Louis, Itasca, and WLSSD agreed to discuss facility development separately.

With respect to potential future processing partners, the only viable partner adjacent to St. Louis County at this time is WLSSD. WLSSD has indicated that market considerations have led to a reluctance to significantly subsidize waste processing at this time. Because of this, WLSSD is not viewed as a potential partner for a large scale waste processing system at this time. St. Louis County intends to continue discussions with WLSSD in the future with the goal of developing or participating in some regional processing option.

The County believes that over the long term it will be in the County's best economic and environmental interests to participate in regional solid waste management programs to the maximum extent possible. However, the County does not believe that current circumstances are conducive to the development of a multi-county system at this time.

The County will also participate in processing analyses such as the NE Mattress Recycling/Disposal Workgroup and regional electronics management efforts geared towards developing management alternatives for specific waste stream components.

Cooperative Public/Private Ventures. As was discussed above, St. Louis County has considered various public/private ventures in the past, most recently through discussions in 1995 between the County, WLSSD, and Synertec/Minnesota Power. On a small scale, discussions have been initiated with Good Will Industries to form a partnership to recover textiles and household items at various SWMA solid waste sites. The County will continue to explore these options.

The County intends to initiate discussions with other potential partners to examine potential future processing partners.

1995 Strategic Planning. In late 1994 the St. Louis County Board of Commissioners Solid Waste Subcommittee embarked on a strategic planning process addressing and updating County solid waste management goals and objectives. Appendix U of the 1996 St. Louis County Solid Waste Management Plan is a *“Report on Transitional Planning for the Solid Waste Department”*. That report reaffirmed the County’s desire to develop feasible and prudent solid waste management systems with the following statement regarding resource recovery alternatives:

*“The SW Subcommittee re-affirmed that the County is committed to developing processing capacity in order to reduce the level of landfilling of County waste. This commitment is affected by the following factors, some of which are not under the control of the County:*

- 1. Flow control issues ... In light of the lack of availability of effective flow control tools, St. Louis County will seek alternative financing options which do not require flow control prior to pursuing the development of processing capacity.*
- 2. Cost effectiveness issues ... The County will continue to actively assess opportunities to develop processing capacity which is determined to be cost effective, but will reject options which may require considerable financial investment with uncertain results.*
- 3. Focus on recycling ... As the development of processing capacity is explored, consideration will be given to developing capacity in a manner which enhances the achievement of County recycling goals. In addition, the County will continue to focus its resources on cost-effective recycling options.”*

The Solid Waste Subcommittee continues to actively participate in strategic planning of solid waste management, holding annual planning sessions. The Department continually provides background information to Subcommittee members to keep up to date on technologies and successful programs.

St. Louis County Processing Facility:1995 - 1998 Analysis. The solid waste management plan approved in August 1996 was predicated upon the assumption that the most likely processing scenario for the County was development of a combined MSW composting/rdf manufacture

facility. Review of the alternatives since then has not led the County closer to such a facility. Statewide, large-scale mixed waste processing facilities have had relatively mixed success. While many of the waste-to-energy related projects are working as designed, perceived regulatory bias against this type of facility, facility costs and related per ton tipping fees, and lack of local energy markets hamper the viability of such a facility in this area. Large-scale MSW compost facilities have a less positive track record. One facility gone out of business (Recomp), and at least two of the larger facilities in the state are either shut down or experiencing significant operations, administrative, and markets difficulties (Wright County, East Central). Even the relatively successful (comparatively) Prairieland Project has had problems, although that facility seems to be having more recent success.

MSW composting continues to be a potentially viable option for SWMA wastes. During 1995, the Minnesota Department of Natural Resources contracted for a report titled "The Potential to Supply MSW Compost for Mineland Reclamation in Northeastern Minnesota." (See Appendix T of the 1996 St. Louis County Solid Waste Management Plan). Completed in June 1995, the report reviewed the option and found that using MSW compost for mineland reclamation was viable, and recommended future consideration of developing a MSW composting plant at the St. Louis County landfill.

The R. W. Beck Study (see following section) reviewed the feasibility of developing a regional MSW composting facility and concluded that such a facility was not feasible at this time. The County will continue to consider and evaluate large scale resource recovery alternatives, but has no firm plans for development of such a facility at this time.

Northeast Minnesota Compost Market Feasibility Study. One of the most recent processing feasibility analyses conducted for the County's waste was the Northeast Minnesota Compost Market Feasibility Study completed in October 1998<sup>6</sup>.

Conducted jointly for WLSSD, St. Louis County, and Itasca County by R. W. Beck, the study was initiated to address the following questions:

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<sup>6</sup>Northeast Minnesota Compost Market Feasibility Study. Prepared for the Western Lake Superior Sanitary District, St. Louis County, Itasca County with assistance from the Minnesota Office of Environmental Assistance. R.W. Beck. October 1998.

1. Is mineland reclamation a dependable primary market for municipal solid waste (MSW) compost?
2. Are there potential secondary compost markets?
3. Is MSW compost considered a cost effective and an environmentally safe soil amendment?
4. Should the study sponsors move forward with the development of an MSW composting facility?

The Study approach included the following steps:

- Conduct an initial stakeholders meeting;
- Analyze external market factors (i.e. environmental regulations, solid waste assurance, mineland reclamation practices);
- Conduct a primary and secondary market assessment for MSW compost; and
- Evaluate the overall feasibility of MSW compost facility development.”

The R.W.Beck Study made the following recommendations:

*“RECOMMENDATIONS. Based upon the application of the above criteria, the Project Team recommends that the Project Partners not move forward with the development of a regional MSW composting facility at this date. Per our review, the markets for MSW compost need further development and the potential project risk could be substantial. The capital costs for an MSW composting facility are estimated at \$90,000 to \$100,000 per ton of daily capacity. A regional composting facility of 100 tons per day operating 2 shifts a day, 6 days a week, serving WLSSD and St. Louis County, is estimated to cost nearly \$10 million. The per ton costs (i.e. debt service and operating) are estimated at \$80 to \$100 per ton for many existing operating facilities. This per ton cost level is not competitive with existing transfer and disposal options used within the region.*

*Other alternative approaches present more viable opportunities. The Project Team recommends that the Project Partners consider the planning and implementation of a pilot source separated organics composting program composting organic materials (i.e. food waste, non-recyclable paper, etc.) collected separately from commercial generators. Primary and secondary markets could be more easily secured for a pilot project, as opposed to a long term arrangement.*

*A similar type project has been initiated in Hutchinson, Minnesota. The City of Hutchinson and McLeod County are presently collaborating to implement a similar program county wide. Moreover, the Minnesota Office of Environmental Assistance has offered to fund a portion of the development of the composting facility.*

*The pilot program would provide the following opportunities:*

- *test the ability to direct the flow of compostable materials to a designated location without substantial financial risk,*
- *undertake processing activities that model recently successful composting approaches, as opposed to more problematic composting approaches;*
- *recruit taconite mining company(s) as a project sponsor without requiring a long term contract which may be perceived as financially and environmentally risky;*
- *build upon existing research that indicates that MSW compost is a safe, effective soil amendment; and*
- *promote market development via a systematic outreach program for those markets considered the most viable - taconite mining and landscaping.*

*Overall, a pilot program for source separated organics could offer limited risk to the Project Partners, yet build upon existing market potential. The Project Team also perceives this approach as consistent with existing waste reduction and processing project funding programs offered by the Minnesota Office of Environmental Assistance.”*

The County has the following additional comments with respect to this study:

- A facility to process the County’s SWMA entire waste stream would need to be able to process 150 tons per day. Capital costs for this larger facility are estimated to be in the \$15 to \$20 million range. This high initial capital cost further limits project feasibility.
- WLSSD and Itasca County have made other arrangements for solid waste management (land disposal outside their respective service areas), and are not available as partners in the project.
- A private company in the Twin Cities area (SKB) has also developed a pilot organics composting project that can potentially serve as a reference project.

Participation in a regional landfill outside of St. Louis County. At various times St. Louis County has considered developing and participating in (or simply participating in) a regional landfill outside of St. Louis County. Most recently, that has been one of the options discussed as part of the NEWAC process. As a long term option, development of a regional landfill will continue to be considered.

More immediately, the County has the option of participating in existing publicly or privately owned regional landfills. All of St. Louis County's neighboring counties are participating in or developing systems that place long-term primary reliance on landfills located outside of the area.

These include:

- Cook County - land disposal in Sarona, Wisconsin through WLSSD;
- Lake County - land disposal in Sarona, Wisconsin through WLSSD;
- WLSSD - land disposal in Sarona, Wisconsin facility;
- Carlton County - land disposal in Sarona, Wisconsin through WLSSD;
- Koochiching County - landfilling waste at MARKIT landfill in Kittson County;
- Itasca County - landfilling waste in Twin Cities area; and
- Aitkin County - landfilling waste in Twin Cities area.

Only one landfill outside of St. Louis County is within a 100-mile radius of Virginia; the Superior, Wisconsin landfill. The Superior landfill currently accepts waste only from the City of Superior. The Superior landfill may be available to accept County waste. Four more landfills are within a 100 -150 mile radius - Sarona, East Central Solid Waste Commission (ECSWC), Morrison, and Crow Wing. It is expected that the only landfills available to St. Louis County other than the County Regional Landfill are privately owned. This includes landfills near Bruce, Wisconsin; Sarona, Wisconsin, Buffalo, Minnesota, and Elk River, Minnesota. Factors that the County will need to consider prior to making the decision to send waste to one of these facilities include:

- the County's ability to commit waste to the facilities;
- the level of state regulation and state financial assurance regulation;
- overall environmental and economic risks associated with each facility; and
- the cost of using each facility.

Private landfill operators are actively pursuing additional waste for their facilities, and participation in such facilities potentially offer some types of economic benefits in the way of

lower tipping fees. For the present, the County has developed an in-county landfill and is committed to that facility to satisfy primary land disposal requirements. However, the County has not permanently ruled out other options and will re-analyze them as needed (including in the next five year plan update as appropriate).

**Table 14**  
**Area Landfills and Availability - 2002**

<b>LANDFILL</b>	<b>OWNER</b>	<b>DISTANCE<sup>7</sup></b>	<b>CAPACITY<sup>8</sup></b>	<b>FACTORS</b>
Forest City Road Landfill, Wright County	Superior Services	200 miles	Potentially Available	In state. Long Distances. Certificate of Need issues.
Superior Landfill, Superior, Wisconsin	City of Superior	75 miles	Not Available	Out of state. Meets EPA Subtitle D Landfill regulations. Good transportation access.
Sarona Landfill Sarona, Wisconsin	Allied Waste	149 miles	Anticipated Available	Out of state. Moderate transportation access.
Timberline Trails Bruce, Wisconsin	Waste Management Inc (WMI)	200 miles	Anticipated Available	Out of state. Moderate transportation access

<sup>7</sup> One-way distance from Virginia, Minnesota.

<sup>8</sup> Rated regarding anticipated availability.

<b>Elk River Landfill Elk River, MN</b>	<b>WMI</b>	<b>190 miles</b>	<b>Anticipated Available</b>	<b>In state. Long distance.</b>
<b>Crow Wing County Landfill Brainerd, MN</b>	<b>Crow Wing County</b>	<b>143 miles</b>	<b>Anticipated not available</b>	<b>In state.</b>
<b>Morrison Cty Landfill Little Falls, MN</b>	<b>Morrison County</b>	<b>174 miles</b>	<b>Anticipated not available</b>	<b>In state.</b>
<b>ECSWC Landfill Mora, Minnesota</b>	<b>East Central Solid Waste Commission</b>	<b>133 miles</b>	<b>Anticipated not available</b>	<b>In state</b>

Using existing resource recovery facilities located outside the area. The County has considered participating in various existing resource recovery facilities:

- The County sent a portion of its waste to the WLSSD RDF facility until that facility closed in 1999.
- The County has also considered participation in the East Central Compost Facility and the Pennington County dRDF/Composting facility. The East Central Solid Waste Commission (Chisago, Isanti, Kanabec, Pine, and Mille Lacs counties) owns an MSW composting facility in Mora, Minnesota. This 250 ton per day facility is not currently operating. The ECSWC has made several efforts to make the plant operational, but currently appears to take the position that the plan as developed is not viable. For that reason, the ECSWC does not appear to plan to reopen the facility in the immediate future, and the County does not consider that plant to be a viable option.
- Pennington County owns an MSW processing facility in Thief River Falls, Minnesota. This facility in the past processed MSW into fuel, recycled materials, and compost. The capacity of the facility is estimated to be about 100 tpd. The facility has experienced extensive modifications and upgrades over the past five years, and has not established a long-term track record. Ongoing issues faced by the facility include product marketing, facility permit status, facility operations, and land disposal requirements. The long term technical viability of the facility is uncertain, and the County does not intend to give the facility further consideration at this time.

St. Louis County Solid Waste Department Processing Facility Evaluation Team. The County continues to evaluate solid waste processing. In January 1999 the County convened a Solid Waste Processing Facility Evaluation Team to explore and discuss processing alternatives.

Team members included:

- representatives from the County Board Solid Waste Subcommittee;
- representatives from the Bois Forte Band;
- Department staff;
- Office of Environmental Assistance staff;
- Western Lake Superior Sanitary District representatives; and
- citizen/city representatives.

The Team reviewed processing options and issues with the goal of providing input to the full County Board regarding future processing directions.

Current evaluation of source separated organics composting alternatives. An outgrowth of the Processing Facility Evaluation Team was a project to assess the viability of small-scale targeted source separated organics composting. The Department is developing a pilot project in the Ely Area centered around collection of source separated organics from targeted businesses and institutions. These wastes would be delivered by the generator or by the local hauler to the Northwoods Transfer Station. The organics would then either be composted at the Northwoods facility or shipped off-site for further processing in Virginia or Duluth. Steps on the pilot project that have been completed to date include:

- in 2000 OEA and Department staff and intern interviewed perspective participants in Ely
- in 2001, the Department completed a composition study of waste from the commercial district of Ely which is hauled to the Northwoods Transfer Station; and
- in 2002 OEA and Department staff began to review several program scenarios and compile expected costs of a pilot program in Ely.

The goal of the pilot program is to investigate and develop a system that can be expanded to the other County transfer stations and the larger municipalities of St. Louis County.

WLSSD has already developed a source separated organics composting project adjacent to their solid waste transfer station in Duluth. At that facility, source separated organic waste from commercial generators is mixed in windrows and turned frequently. The facility includes a pad and a leachate collection and treatment system. Finished compost is aimed at high end uses, including bagging and sale for residential use. WLSSD is beginning an additional pilot project to collect source separated organic wastes from a residential area. The Department has had and will continue to have discussions with WLSSD regarding potential utilization of this facility for at least some of the Department's organic waste. Discussions will also include options for sharing equipment and procedures.

Current evaluation of source separated demolition waste recovery alternatives. The department conducted a pilot study in the summer of 2002 to evaluate the feasibility of a future demolition

materials management alternative.<sup>9</sup> This alternative involved the separation of various constituents of the waste stream to limit some of the material that was being landfilled. The separated components consisted of the following: concrete, brick and bituminous, shingles, clean wood, and reusable items. The concrete, brick and bituminous that is collected will be used for a recycled aggregate product by a local contractor. The shingles will be ground up and utilized in a similar product. Currently, the shingles will be used in various departmental receiving pad upgrades. Future options for this product will include the possibility of adding them to a blacktop mix or for shouldering material on highway projects. The clean wood was ground into a mulch to be utilized by the customers. It also was being collected during the separation for fire wood. The reusable items such as windows, doors and dimensional lumber were also being collected by patrons. The remaining co-mingled stockpile was ground by a contractor to help reduce the volume to defer some of the transportation costs. A portion of this material was utilized as alternative daily cover material at our Regional Landfill facility. The Department is also exploring some of the local markets that might use this material as a fuel.

The Department conducted this study to collect data on alternatives to landfilling wastes. With new MPCA rules for demolition landfills being considered and space to site such landfills quickly diminishing, options for managing this waste stream need to be explored. The economics of transporting this material, as is, from remote sites also warranted researching management choices. The study found that given viable local markets and strong public education that a significant amount of demolition material could be recycled and reused.

Systems proposed for further evaluation. No further consideration of developing a waste-to-energy facility, participating in the WLSSD, East Central, or Pennington County facilities, or developing a SWMA-only or regional mixed waste composting facility will be included in this plan. Some of these options may resurface in the future as circumstances change. However, they have been eliminated for consideration at this time.

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<sup>9</sup> See Appendix E for additional information regarding this pilot study.

This plan proposes further evaluation and potential development of one processing related option for at least a portion of the SWMA's waste stream: organics composting for source separated residential/commercial wastes.

This alternative will be compared to an alternative of not processing any waste at this time and instead relying on simply landfilling waste left over after reduction and recycling programs.

#### **D. Resource Recovery and Disposal Options under Consideration**

Within the context of this plan St. Louis County continues to consider the following resource recovery and landfill options:

- development of locally based facilities or programs to process a portion of waste generated in discrete county solid waste service areas; and
- ongoing usage of the St. Louis County Regional Landfill for SWMA wastes.

The following is a brief description of each option followed by rationale for the level of consideration to be given to the option at this time.

Service-area based processing systems. A relatively new development nationally has been consideration of smaller scale and more specialized waste processing systems aimed at managing discrete portions of the waste stream. Examples of this are facilities to compost organics separated prior to collection, systems to recover construction and demolition wastes, and materials recovery facilities that remove recyclable materials from selected portions of the waste stream. Potential advantages of such facilities include:

- lower capital costs and operating expenses;
- more ability to attract specific types of wastes for processing;
- more controllable, predictable, and marketable end products;
- the ability to tailor a facility to meet specific local conditions; and
- partnerships with private or non-profit entities to recover reusable materials from the waste stream.

The R. W. Beck plan recommended a pilot source separated organics composting program as worthy of continued consideration. The County plans to explore options for joint organics composting. If successful, food and selected institutional wastes from Ely and other areas could be directed to a site for composting.

Ongoing usage of the St. Louis County Regional Landfill. St. Louis County has developed a state-of-the-art landfill in Virginia to meet the SWMA's land disposal needs. This landfill was developed to meet all federal and state requirements, and has been in operation since December 1993. (See Appendix X of the 1996 St. Louis County Solid Waste Management Plan –Regional Landfill). The St. Louis County Regional Landfill is the facility where the County plans to dispose of the majority of its process residue, rejects, bypass, and MSW during the ten-year planning period.

## **E. Comparative Analysis of Options**

More detailed consideration will be given to two primary management options available to the County: 1) an integrated waste system consisting of several smaller scale processing alternatives and utilizing recyclables removal, organics composting, construction/demolition recycling, and land disposal; and, 2) land disposal at the St. Louis County Regional Landfill.

Integrated system. Key components of the integrated system would include:

- development of (or participation in) source-separated organics waste composting projects in Ely and other areas;
- future consideration of programs for increased reuse or recycling of construction and demolition wastes;
- development of capacity to separate and process for recycling targeted commercial waste streams;
- expanded commercial generator outreach activities designed to promote waste reduction, identify alternative beneficial uses for waste currently landfilled, and promote overall improved waste management; and;
- disposal of the remaining SWMA waste at the St. Louis County Regional Landfill.

Rather than placing primary emphasis on a single processing system or disposal system, this approach will utilize various smaller scale local alternatives in conjunction with existing County facilities.

Land Disposal. Key components of the land disposal system would include:

- continuation (and, in some cases expansion) of existing SWMA reduction, recycling, household hazardous waste, special wastes management, and other programs;
- expanded commercial generator outreach activities designed to promote waste reduction, identify alternative beneficial uses for waste currently landfilled, and promote overall improved waste management; and
- reliance on the St. Louis County Regional Landfill as the County's primary management alternative.

The following section compares these alternatives by evaluating technical, financial, environmental, and other practical factors which would contribute to each option's feasibility or lack of feasibility. Because other aspects of the system (waste collection/haulage, reduction, recycling, special wastes, HHW, etc) will remain the same under each system, this comparison looks only at the regional landfill and processing facilities/system.

**Table 15: WASTE MANAGEMENT ALTERNATIVES TECHNICAL CONSIDERATIONS**

<b>CONSIDERATIONS</b>	<b>IWP SYSTEM (Integrated Waste Processing System utilizing organics composting)</b>	<b>LAND DISPOSAL SYSTEM</b>
Operational history	Developing in various areas; few integrated systems operational. In general, satisfactory history.	Long operational history in various forms; approximately 20 years experience with lined landfills (less in County).
Remaining permitted capacity	Dependent upon waste composition and type of projects developed.	582,833 cubic yards for current cells.
Available ultimate capacity/life expectancy	Varies by process and facilities. Flexibility to develop facilities sized to meet local opportunities. Development will extend landfill life. Some facilities have indefinite potential usage.	1,206,333 cubic yards design capacity remaining for landfill 11 years at current rates.)
Degree of technological development	Varies according to system element. Pilot projects underway.	Known technology.
Permitting status/issues	Regulatory issues for some existing processing facilities. New technology issues. More statutorily desirable facility.	Potential regulatory issues on horizon including air quality concerns. Leachate systems issues.
Proximity to source of generation	Siting dependent upon local waste stream characteristics. Siting flexibility.	Currently in a centralized location.
System dependency upon volume	Can be designed to avoid volume dependencies if sized for local needs. Uncertain product markets.	Landfill economics quite dependent upon volume.
Overall factors	Less dependence on landfill. More system flexibility/stability.	Successful current system.

**Table 16: WASTE MANAGEMENT ALTERNATIVES FINANCIAL CONSIDERATIONS**

CONSIDERATIONS	IWP SYSTEM (Integrated Waste Processing System utilizing organics composting )	LAND DISPOSAL SYSTEM
Projected Capital Costs. <sup>10</sup>	Projected Capital costs include all costs associated with land disposal system. Projected capital costs through 2008: \$2,620,000	Capital costs to date approximately \$7,131,000. Projected new capital costs through 2008: \$5,319,696.
Projected Operational Costs.	Projected Operational costs include all costs associated with land disposal system. Projected processing operational costs through 2008: \$1,905,000.	Projected Operational costs estimated at \$950,000 per year. Ten-year total: \$9,500,000. Figure does not include transfer station or haulage costs.
Projected Revenues.	Landfill system revenues. Organics composting system initially planned based on zero revenue for product produced. County hopes to be able to generate some revenue from sale of finished compost.	Estimate total tipping fee revenues for all waste entering collection disposal system of about \$2 million per year at current volumes and tip fees. 10-year total: \$20 million [Note: this revenue also funds transfer station and canister site development and operations.]

<sup>10</sup> See Appendix F - St. Louis County Solid Waste Department Capital Plan

**Table 16: WASTE MANAGEMENT ALTERNATIVES FINANCIAL CONSIDERATIONS**

CONSIDERATIONS	IWP SYSTEM (Integrated Waste Processing System utilizing organics composting )	LAND DISPOSAL SYSTEM
Projected Costs per Ton.	Average costs (with capital costs) of \$452,500 per year. If county processes 5000 tons per year of material, cost of about \$90 per ton. However, County believes that future planning can develop ways to lower costs, and hopes to receive some revenue.	County generates revenue from landfill operations that funds landfill costs and can be used to fund some other programs such as transfer station and canister site operations.
Overall 10-year system costs	Costs controllable based upon systems developed.	Anticipated and budgeted.
Tipping fee assurance	Waste assurance uncertainty. Rely only on targeted wastes.	Waste assurance uncertainty. Currently operating successfully.
County investment to date	Staff time only.	Extensive: Long-term financial assurance/liability responsibility.
Financial assurance status	Smaller scale operations limit liability exposure.	Long-term liability.
Transportation costs	Can control some costs through local processing. Costs higher for out-of-SWMA processing.	Anticipated and budgeted. System relies on significant transportation of all waste.
County risk exposure	Insurance availability/affordability. Waste assurance.	Long-term liabilities. Waste assurance.
Other	Grant fund availability. Need to subsidize some collection.	Low-cost alternative.

**Table 17**

**WASTE MANAGEMENT ALTERNATIVES ENVIRONMENTAL CONSIDERATIONS**

<b>CONSIDERATIONS</b>	<b>IWP SYSTEM (Integrated Waste Processing System utilizing organics composting )</b>	<b>LAND DISPOSAL SYSTEM</b>
Consistency with state policy	Fewer groundwater issues. Sustainability characteristics. Source reduction characteristics.	Ground water issues. Air emission issues. Least desirable alternative from state legal perspective.
Existing environmental status	Existing records available from variety of sources. Controllable environmental exposure. Ability to close/cease emissions.	Lined landfill. Regular gas and ground water monitoring schedule and leachate collection and treatment system.
Anticipated regulatory changes	Possible air quality issues.	Air quality issues Changes in hazardous materials classifications. Landfill gas management changes possible/likely. Perpetual care issues.
Environmental risk - Air	Minimal.	Regulatory changes. Expected methane/volatiles emissions.
Environmental risk - Surface water	Minimal at proposed locations.	Minimal with current design.
Environmental risk - Ground water	Minimal at proposed locations.	Minimal with current design. Uncertain long-term issues.
Environmental risk - Other	Compost usage.	Permanence of disposal issues.

<b>Table 18: WASTE MANAGEMENT ALTERNATIVES INSTITUTIONAL CONSIDERATIONS</b>		
<b>CONSIDERATIONS</b>	<b>IWP SYSTEM (Integrated Waste Processing System utilizing organics composting )</b>	<b>LAND DISPOSAL SYSTEM</b>
Siting factors	Site(s) expected to be available.	Existing expansion space available. Remote location; minimal impact on neighbors.
Necessity of waste assurance	Moderately important. Waste assurance currently provided by service fee system, municipal collection, and geographic considerations. Varies by system developed.	Moderately important. Waste assurance currently provided by service fee system, municipal collection, and geographic considerations.
Other factors.	Desirability of resource recovery and conservation. Potential availability of partners (cities, existing facilities). Regulatory ambiguities. Marketing issues. State desire for processing.	State desire for processing. Regulatory issues. Desire to conserve landfill capacity.

**F. Recommended Future Course of Action: Proposed System Option: Integrated Waste Processing System**

St. Louis County has given consideration to the technical, financial and environmental factors of an IWP System and the Landfill system.

A centralized waste processing facility was proposed as the waste management option most suited for St. Louis County in the 1996 Solid Waste Management Plan. However, the 1999 Plan

did not propose the development of a primary solid waste processing facility; this plan doesn't either. Analyses subsequent to the 1996 plan have caused the County to place greater emphasis on the development of smaller scale processing activities targeted at specific portions of the waste stream. The flexibility and stability of this multi-function system along with waste abatement capabilities make this system worthy of further study.

The County will continue further analysis and development of a IWP management system. This system would incorporate selected organics composting, materials recovery, and special waste recovery (for portions of the waste stream). The financial analysis of pilot programs for source separated organics composting and demolition material recovery have been conducted at a planning level and anticipated launching of those programs is included in the budget found in Appendix B. It is premature to develop engineering level cost data for all possible facilities or projects at this time.

Activities to be undertaken will include:

- ongoing evaluations by the St. Louis County Solid Waste Department Solid Waste Processing Facility Evaluation Team;
- ongoing discussions with neighboring counties through the NEWAC process;
- exploration and implementation of additional waste assurance mechanisms;
- additional processed materials market analysis;
- solid waste processing system selection and development on an ongoing basis, including analysis and potential development of organics and targeted commercial waste processing capacity in the Virginia area (adjacent to the landfill); and
- facility grant application, design, permitting, and contract development on as-needed basis.

The County will continue to evaluate other proposed and existing programs based on environmental, economic, legal, and geographic criteria. The County will also continue to evaluate other options and other projects.

St. Louis County recognizes the need to evaluate and consider solid waste management alternatives, including regional solutions for landfill abatement. The County is concerned about the rising cost of waste management, the environmental impacts of land disposal, long-term waste abatement solutions, and achieving waste reduction. Currently, the County is participating

in a regional task force (NEWAC) made up of representatives from WLSSD and Aitken, Carlton, Cook, Itasca, Koochiching, and Lake counties. The task force is assessing the prospect of developing a regional solid waste management system for the area. While the County does not believe that this task force holds much promise for processing facility/system development over the short to intermediate term, the County intends to continue to participate actively in the process in order to explore and potentially develop alternatives that may be feasible in the long term. County representatives will chair and staff the group in the future. The County will also continue other contacts with neighboring counties.

#### **G. SWMA need for Land Disposal Capacity for the Next Ten-Year Period.**

St. Louis County agrees with the waste management hierarchy established in state law (Minn. Stat. 115A.02) and concurs that land disposal of solid waste should be a last resort under any effective integrated waste management system. For that reason, the County will continue to take steps to develop landfill abatement alternatives and will support state initiatives designed to responsibly encourage landfill abatement and resource recovery. The goal-volume table contained in this plan identifies resource recovery projections and anticipated total land disposal needs for the area for the next ten-year period.

The County also believes that there are long-term costs and potential environmental problems with land disposal of solid waste. While some of these costs are at least partially mitigated by financial assurance funding reserved for facilities, other uncertainties are likely to result in future costs and future environmental problems associated with disposal facilities faced by area taxpayers. For these reasons, the County has taken the following positions:

- A. Disposal capacity will be needed for service area residents for the ten-year planning period. The County believes that this capacity is most responsibly and effectively provided at the St. Louis County Solid Waste Department's Regional Landfill. Any MSW disposal capacity needs identified in the County's goal-volume table will be provided at the Regional Landfill.
- B. The County believes that there are additional risks and costs associated with the disposal of MSW over and above what are currently addressed by federal and state rules. Because of this, it is the County's position that MSW disposal within the County's Solid Waste Service Areas should be limited to what is necessary to meet the needs of Service Area residents.

The County does not support the development of MSW disposal capacity within the Service Area for wastes generated outside the Service Area.

- C. Special circumstances may dictate that small quantities of MSW generated outside the SWMA will need land disposal within the SWMA. To address those circumstances and ensure that those waste generators pay an appropriate level of current and future costs the County has established a tipping fee for out-of-SWMA wastes that is substantially higher than the in-SWMA rate. In addition, the County has implemented MSW disposal surcharges authorized under Minn. Stat. 115A.919 to address current and future costs to residents of allowing disposal of MSW from outside the area.

## IV. Solid Waste System Evaluation and Ten Year Implementation Plan

### A. Solid Waste Abatement Programs

#### 1. Waste Reduction

##### a. General Policy and Goals

St. Louis County endorses Minnesota Statutes §115A.55, §115A.5501, and §115A.5502 which address and encourage source reduction through waste education programs, promotion of waste reduction, technical and financial assistance to solid waste generators, and reduction of packaging in waste. The County recognizes waste reduction as an essential component of a successful solid waste management program.

The County also endorses Minnesota Statutes §115A.93 and §115A.9301 which require volume or weight-based pricing for the collection and disposal of solid waste. The County considers the volume or weight-based pricing system an important factor in accomplishing waste reduction and landfill abatement.

The goal of the County is to make waste education and source reduction programs available to all residents, businesses, schools, and all levels of government throughout the SWMA. The County will continue to implement an aggressive program to reduce waste generated by County facilities.

##### b. Existing Programs

St. Louis County's waste reduction campaign consists of a volume or weight-based collection and disposal pricing system combined with a comprehensive recycling program (which includes roll-off recycling and curbside recycling collections), an expanded household hazardous waste collection and product exchange program, participation in the Minnesota Materials Exchange Program, and an education program which provides technical assistance to the County's residents and businesses as well as other County agencies.

Prior to implementing the volume or weight-based collection and disposal pricing system on January 1, 1993, St. Louis County conducted a massive waste reduction and waste education campaign consisting of paid advertisements, 60,000 mailed newsletters, and newspaper articles. Since the implementation of the volume or weight-based pricing system, the County has determined that the volume or weight-based pricing system is the primary incentive for residents and businesses to reduce waste.

On December 17, 1997, the St. Louis County Board of Commissioners adopted Resolution 1031 which set waste reduction as a priority in all County-owned facilities and created a waste reduction team of County employees. This team, now known as the P2 Team, used the OEA's Source Reduction Now program as a guide. The P2 Team provided employee education materials utilizing the Spirit of St. Louis employee newsletter as well as paycheck inserts and e-mail messages. After two years, the P2 Team discontinued regular meetings due to time and staffing concerns in other County agencies. Information is currently available upon request. Department staff are currently providing technical assistance during the design phase of reuse of the Mesaba Clinic building in Hibbing and will be an active participant in reuse of equipment from the closed Nopeming nursing facility.

The Solid Waste Department has also surveyed businesses within the County regarding waste reduction activities. Approximately every three years and as recently as 2001 the Department sends mass-mailings to all service area businesses which may include information from MnTAP, Minnesota Waste Wise, the Materials Exchange and Clean Shop (VSQG) programs as well as a directory of local resources on solid waste management issues. In addition, the County provides businesses with ongoing technical assistance (on-site and by telephone) and source reduction literature upon request.

As a member of NEWAC the County participated in the Waste Reduction Art Contest during 2000, 2001 and 2002. This contest involved sixth grade students in the Arrowhead region who submitted art and essay ideas for waste reduction. NEWAC and participating counties received a National Association of Counties Achievement Award for this endeavor.

The County has also encouraged its residents to practice waste reduction by distributing waste reduction flyers, promoting the OEA waste reduction “If Not You, Who” campaign, encouraged participation in reuse and recycling programs, and promoted source reduction of household hazardous wastes.

During 1997 the Solid Waste Department implemented a salvaging program at its transfer stations and larger canister sites. Through this program customers who sign a liability waiver may take at no charge tires and scrap metal in limited amounts, as well as reusable household items that attendants set aside. Salvaged items must be for their own personal use. The Solid Waste Planners are primarily responsible for implementing the program with assistance from other Solid Waste staff.

In 1999 the Department began a pilot study in Ely to determine the feasibility of a source separated organics composting program. During the initial phases on-site visits to Ely area businesses provided them with information on source reduction and reuse as well as organic separation.

During the summer of 2002 a pilot study was conducted at the Northwoods Demolition Landfill to research alternatives. Prior to the on-site study a survey and letter went out to area contractors which included information on construction/demolition waste reduction and reuse.

The public education programs will continue to address such topics as source reduction, reuse, recycling, and proper disposal of household hazardous waste. The staff will utilize the following media resources to achieve maximum program awareness: paid advertising, news releases, newsletters, flyers, radio announcements, public access television, staffed booths and displays.

The waste reduction program for county facilities and schools consists of source reduction, “buy recycled” procurement, waste reduction and recycling, and hazardous waste management. Administration and staff have been instructed on the environmental advantages and methods of implementing waste reduction programs through the purchasing of items with recycled material content, purchasing products in bulk, buying

reusable products, and using less toxic products when possible. The County Purchasing Agent is currently working on a pilot environmentally preferable procurement program with the OEA.

c. Specific Programs To Be Developed

The County will continue to focus its waste reduction efforts on the business and industrial sectors with emphasis on source reduction, “buy recycled” procurement, waste reduction and recycling, and hazardous waste management. Solid Waste staff will provide technical assistance and on-site visits when requested. When staff time does not permit on-site visits these customers will be referred to MnTAP and Minnesota Waste Wise.

The County will also inform businesses about and encourage businesses to participate in the Minnesota Materials Exchange program which connects generators and potential users of unwanted materials.

d. Responsible Person

Required staff time for implementing the program will amount to approximately .30 FTE for each Solid Waste Planner and .10 FTE clerical.

e. Program Budget

In 2003, the Solid Waste Department has budgeted \$13,200 for waste education to the public of which the above mentioned programs will be included. The programs are funded by the solid waste service fee and through SCORE revenues.

## **2. Waste Education**

a. General Policy and Goals

St. Louis County considers public education the most important component in its strategy to achieve waste abatement goals and is planning accordingly. Over the next ten years, ongoing public education will be provided for all elements of the solid waste management program that can benefit from an informed public. The County’s goal is to provide public education to all residents.

b. Existing Waste Education Programs

The St. Louis County Solid Waste Department is the primary source for waste education in the SWMA. Additional educational services are provided through the County Extension Service, private recyclers, OEA Education Grant recipients, local units of government and the WLSSD.

Waste education programs within the SWMA will be the primary responsibility of the Solid Waste Planners. The Department also considers education of field staff a high priority. To this end the Solid Waste Information Guide was developed and is available at all Department field sites. Current waste education programs within the SWMA include:

- Talks to community organizations.
- Radio and television advertizing promoting County programs for HHW, special wastes and recycling.
- Providing information packets to the public on recycling, composting, and HHW disposal.
- Displays and presentations at various environmental and county fairs.
- Topical radio talk shows.
- Recycling, waste reduction, and general waste management presentations at schools and community groups meetings.
- Waste education announcements on public access television.
- Toll-free waste information hotline.
- The Department's web page provides locations and other information on recycling, special waste disposal and HHW collections.
- Tours of the Regional Landfill, transfer stations and canister sites for youth groups and college classes.
- Use of Eco Partners "Trash Talk" newsletter throughout all service area schools. This newsletter is distributed to all third, fourth, fifth and sixth grade students, more than 3,500 pupils.
- Providing technical assistance and copy-ready information to local units of government concerning recycling and waste reduction.

- Participation in joint-use agreement with Carlton and Lake Counties and WLSSD for use of the Build-It-Recycled Trailer (BIRT).
- Working with the NEWAC education committee to further regional solid waste management messages.

The County Extension Service provides the Info-U phone system which extends the resources of the University of Minnesota to residents of St. Louis County, 24 hours a day, seven days a week. This system provides research based information to address current issues and concerns. The County Extension Service is also active in other waste education work including waste reduction, recycling, and backyard composting.

Some private recyclers have used newspaper advertising and flyers to educate the public within the SWMA on the benefits of recycling.

The Department also strives to keep the cities and townships informed on issues in the solid waste field. Minutes of the Solid Waste Subcommittee meetings, updates from the Department Director and copies of advertisements for recycling, waste education and other activities are sent to the clerks on a regular basis. The Department likes to keep the advisory groups, cities and townships abreast with current issues in solid waste management and processing.

The Solid Waste Department also utilizes WLSSD's extensive waste education program for public awareness in the areas of waste reduction, reuse, recycling, burn barrel reduction and household hazardous waste disposal. Waste education materials include newspaper articles and paid advertisements, flyers, brochures, pamphlets, and radio announcements.

The Solid Waste Department is also an active partner in a regional waste education initiative, which is working to develop messages of waste management that are common to all agencies in the northeast region of Minnesota.

c. Specific Programs to be Developed

St. Louis County intends to continue existing waste education programs with emphasis in on recycling, source reduction and business waste management alternatives utilizing staff presentations, pamphlets, and displays and mailings.

d. Responsible Person

Implementation of the Solid Waste Department's public education program will primarily be the responsibility of the County's two Solid Waste Planners. Approximately .30 FTE will be dedicated to public education efforts.

e. Estimated Program Budget

In 2003, St. Louis County has budgeted \$54,000 (exclusive of salary) for the public education program. Similar amounts are anticipated in future years. As the County moves forward in implementing source separated waste reduction programs this amount is expected to increase significantly. Funding for the program is derived from the solid waste service fee and SCORE revenues.

### 3. Recycling

a. General Policy and Goals

St. Louis County has established recycling policies and goals that meet or exceed recycling goal requirements in Minnesota Statute §115A.551, subd. 2, the opportunity to recycle requirements in Minnesota Statute §115A.552, and the organized collection requirements in Minnesota Statute §115A.94. Based on the 2002 Goal Volume Table (see Appendix A), the County has established recycling goals of 57.8 percent by weight of the SWMA's solid waste by the year 2003. This goal includes an 8% recycling credit from the state for source reduction and yard waste programs conducted in the SWMA. Based on the SCORE Report, St. Louis County's 2001 recycling rate was 58.8 percent.

It should be noted that the recyclables market within St. Louis County is limited. This can be attributed to the SWMA's sparse population and distance from the Twin Cities. The majority of recyclable materials are hauled to markets in the metropolitan area.

b. Existing Programs and Proposed Programs

The County intends to continue the recycling program begun in 1989 by continuing the existing curbside collection programs, expanding and enhancing the drop-off collection program, encouraging and supporting SWMA-wide recycling participation by residents, government entities, businesses, and industries, and maintaining the County-owned large scale and small scale recycled materials processing facilities.

Traditionally the County has worked with private sector service providers to conduct the roll-off collection and recyclables processing and marketing portions of the overall recycling program. Since 1998, the County has contracted with Northern Minnesota Recycling Incorporated (NMR). NMR currently operates the County-owned recycled materials processing facility at the Regional Landfill in Virginia which was built in 2000. The facility has a capacity of 12,000 tons per year and was built utilizing an OEA matching grant of \$1.16 million.

St. Louis County established a 1998 Recycling and Waste Reduction Grant to help cities and townships develop new or improved recycling or waste reduction programs. The grant program made \$150,000 available to assist local units of government (including the Bois Forte Reservation) in the County's solid waste service fee area establish, maintain, or further develop their solid waste recycling and waste reduction programs. Eligible program costs included, but were not limited to, recycling equipment and containers, recycling-related staff costs, yard waste composting activities, recycling/reduction advertising costs, waste education, recycling end-market development, and household hazardous waste collection activities. The program was offered on a one year only basis. Through the grant program, a total of \$105,929.24 was awarded by the County to 13 cities, 12 townships, and the Bois Forte Reservation. The County will consider such a program again in future years.

Also in 1998, the County started collecting and stockpiling glass for use in local projects. This keeps about 1,200 tons per year of relatively low value material out of our primary processing system avoiding the \$49/ton processing fee and resulting in a cleaner recyclables stream.

Effectiveness of all programs that support recycling and waste reduction are evaluated on an on-going basis.

The goals of St. Louis County's aggressive recycling program are to:

- Recycle the maximum amount of solid waste technically and financially feasible.
- Continue to exceed State recycling goals by 5 percent.
- Implement a program that is user friendly and encourages recycling by the public.
- Remove and properly dispose of problem materials from the solid waste stream.
- Inform and educate the public regarding proper and effective solid waste management procedures.
- Provide technical assistance to public and private entities to ensure proper solid waste management.
- Develop/Maintain strong relationships with end markets.
- Work with the OEA, local economic development agencies, local cities, and private developers in an effort to expand local end markets for recycled materials.

To ensure all SWMA residents have an opportunity to recycle, St. Louis County has developed a comprehensive program which includes:

- Curbside recycling collection in five cities (processing costs up to a predetermined limit for each city will be paid by the County).
- Cardboard-only recycling collection in one city (processing costs up to a predetermined limit will be paid by the County).
- Cardboard balers at Northwoods and Cook Transfer Stations.
- Four County-owned cardboard balers leased to provide local cardboard processing.
- Recycling drop-off containers located at 47 sites throughout the SWMA.
- Recyclables drop-off at the Brookston Transfer Station.
- Recyclables drop-off at the Dougherty recyclables processing facility in Saginaw.
- Three recyclables drop-off "sit sites" in south St. Louis County.
- County accepts telephone directories in curbside and drop-off programs.
- Financial assistance and/or equipment to two cities for recycling programs.

- Financial assistance and/or equipment to two private entities.
- Providing recycling information to the public through newspaper articles, brochures, and personal contact.

1) Curbside Recycling - St. Louis County has established a curbside recycling program with the cities of Chisholm, Eveleth, Hibbing, Mt. Iron, Virginia, and Gilbert (cardboard only). The County pays the processing costs (up to a predetermined limit set by the County) for any city which contracts with the County to bring its curbside collected recyclables to the County recycled materials processing facility.

To be eligible to participate in the County curbside recycling program, the following must be met:

- Each city is to have a weight- or volume-based system for both residential and commercial garbage customers.
- Each city is required to have a minimum of one curbside recycling collection per resident/business per month.
- At least once per month, each city will accept in its curbside program commingled fiber items including newspaper, magazines, catalogs up to ½-inch thick, junk mail (including "window" envelopes), office paper, file folders, and boxboard (cereal boxes, beverage cases, etc.).
- At least once per month, each city will accept in its curbside program commingled core recyclables: glass containers (clear, brown, and green), aluminum and bi-metal cans, tin-coated steel cans, and "necked" high-density polyethylene (HDPE) and "necked" polyethylene terephthalate (PET) plastic containers. Glass collected by the cities of Chisholm, Eveleth, Mt. Iron, Virginia, and in certain sections of Hibbing will be stockpiled at the Regional Landfill or Hibbing MSW transfer station. The majority of glass collected in the Hibbing curbside collection program is commingled with the plastic and metal recyclable materials and will require sorting at the processing facility.
- Each city will accept brown paper bags in the cardboard collection.

- All loaded recycling trailers shall be weighed on the weigh scale at the Regional Landfill or at a County transfer station prior to being delivered to the County recycled materials processing facility.

The County has contracted to have a minimum of two markets for each category of recyclables accepted in the County's recycling program. For cities choosing to deliver their curbside collected recyclables to the County recycled materials processing facility, St. Louis County will pay the processing costs if the city meets the following conditions:

- Each city, at their own expense, will be responsible for delivering their recyclable materials to the County recycled materials processing facility or transfer station.
- Cities utilizing the County recycled materials processing facility shall deliver to the facility all program approved recyclable materials collected in the curbside recycling program.
- Under the County contract, processing fees will only be paid for recyclables processed at the County recycled materials processing facility.
- Payment will only be made for clean, approved, and properly prepared recyclables.
- The County shall determine responsibility for landfill tipping fees of unacceptable materials delivered to the recycling processor.
- The County will take ownership of the delivered materials and will retain any revenue derived from their sale.
- Processing cost for tonnage exceeding the predetermined limit will be the responsibility of the city.

The processing cost for the 2002 curbside recycling program was \$192,910. Haulage of curbside collected recyclables from Hibbing cost an additional \$26,600. Revenue derived from the sale of recyclable materials totaled \$135,856 reducing the total curbside program cost to \$83,654. Collection of recyclables from the program totaled 3,988; which equates to net \$20.97 per ton.

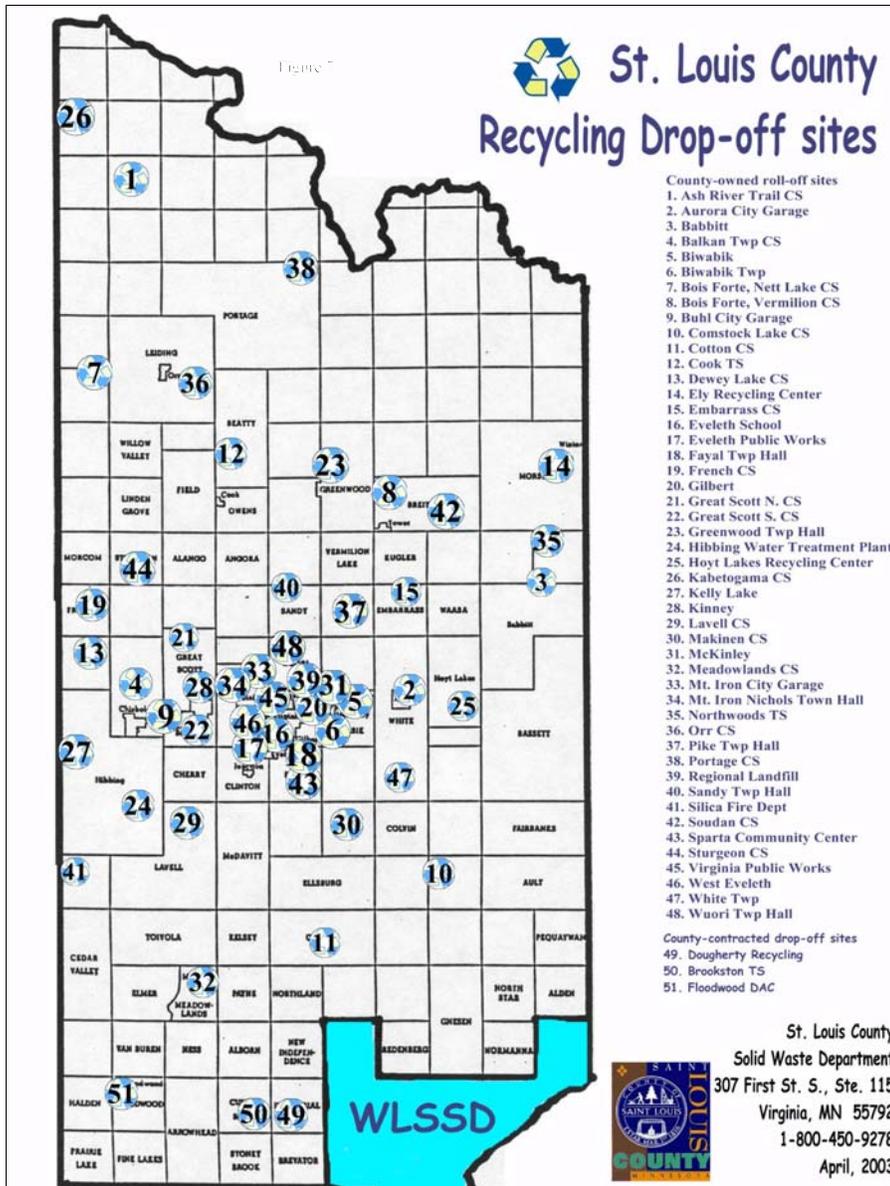
The St. Louis County curbside recycling program is continually being evaluated for its effectiveness, from both a recycling and cost standpoint. This may result in periodic changes to improve the program after regular review and evaluation.

- 2) Curbside Recycling (Non-County Subsidized). The City of Cook began its curbside collection of recyclables to complement its volume-based MSW collection system. Once the City of Cook implemented its volume-based system for MSW, the amount of garbage collected decreased substantially. As a result, the city's contracted garbage hauler agreed to collect curbside recyclables at no charge to the city.

The City provides curbside collection of recyclables on a weekly basis. The

recyclables are delivered to the Cook Transfer Station, placed in the County's recycling drop-off container by transfer station attendants, and delivered to the County-contracted processor for processing and marketing.

- 3). Recycling Drop-off Program. The St. Louis County recycling drop-off program consists of 47 strategically located collection sites. These sites provide residents



throughout the SWMA an opportunity to participate in the County's recycling program.

St. Louis County has a contract with a private recycling processor to operate the program. Under the terms of the drop-off contract, empty 25 cubic yard drop-off containers (owned by the County) are delivered to the collection sites by the processor and full containers are hauled to the County recycled materials processing facility. The recyclables are processed on the sort line, baled, and prepared for market.

Recyclables allowed to be commingled in the "fiber" compartment of the drop-off container include: newspapers, magazines, catalogs and telephone books (up to ½-inch thick), office paper, file folders, junk mail (including window envelopes), and box board.

"Core" recyclables allowed to be commingled in the same compartment include: aluminum and bi-metal cans, tin and steel food cans, and "necked" containers made of #1 and #2 plastic. Green, brown, and clear glass are allowed to be commingled in the glass compartments. Prior to weighing the roll-off container, the glass is emptied and stockpiled at the Regional Landfill.

At collection sites with very high volume, multi-compartment containers have been replaced with two single-compartment containers. One container is for the "core" recyclables (plastic, tin, aluminum, and glass), and the other container is for recyclable fiber items. Beginning in 1998, the County also provided a separate 20 cubic yard container at eight large volume roll-off sites exclusively for the collection of glass. These containers along with glass collected in the five-compartment containers are delivered directly to the glass stockpile at the Regional Landfill, completely bypassing the processing facility.

The cost for the 2002 recycling drop-off program was \$359,749. Revenue derived from the sale of recyclable materials totaled \$115,729 reducing the total drop-off

program cost to \$244,020. Collection of recyclables from the program totaled 3,481 tons; which equates to a net of \$70.10 per ton.

The County continues to evaluate the drop-off program on an ongoing basis. Though changes may occur to improve the program, the County intends on maintaining the drop-off program in 2003 and beyond.

- 4) Direct Assistance to Two Cities. The St. Louis County Solid Waste Department provides direct financial and technical assistance and/or equipment for recycling programs in two cities. The County intends to review this program with the goal of providing equity to the cities while making the programs viable.

The City of Aurora and the City of Ely each receives a cardboard baler (leased for \$1 per year).

- 5) The majority of recycling collection in the South St. Louis County-(Brookston Transfer Station) area is conducted by Dougherty Trucking and Recycling in Saginaw, Minnesota.

- 6) Direct Assistance to Three Private Entities. St. Louis County provides partial financial reimbursement to the Floodwood Services & Training, Inc. for the operation of their recycling collection program. Containers are placed outside the recycling building for the collection of plastic, tin, aluminum, glass and paper products.

The County leases a cardboard baler to Dougherty Trucking and Recycling for use as a backup in the event their primary baler needs repair.

The County also leases a cardboard baler (for \$50 per year) to Clark's I.G.A. grocery store in Cook so that the business can bale its own cardboard, rather than bringing their large amounts to the Cook Transfer Station and requiring transfer station personnel to bale it. This arrangement allows transfer station personnel time to perform other assigned duties.

- 7) Public Awareness and Education. The Department continues to provide information to the public regarding its various recycling programs. The Department's toll-free number is staffed during business hours. The Department's page on the County's web site provides a link to local recycling drop-off locations by zip-code. Newspaper articles and ads, brochures, flyers, and personal contact by Solid Waste Department staff are used to educate the public and promote the programs. In addition, the Solid Waste Department staff welcomes questions and comments from the public and is always available to address their needs.

The Solid Waste Department has also published instruction sheets informing the public of acceptable items in the County's drop-off and curbside recycling programs. A booklet has been widely distributed which details acceptable materials and locations for drop-off and collection as well as reuse options available in the SWMA.

The St. Louis County Solid Waste Planners have met with local businesses to discuss businesses' participation in the County recycling programs. Staff also promotes and facilitates business, school and non-profit use of the Minnesota Materials Exchange.

St. Louis County complies with Minnesota State Statute §115A.151 which requires that all county and local units of government recycle at least three of the following four materials: paper, glass, plastic, and metal; and that the collected recyclable materials be transferred to a recycler.

c. Programs to be Implemented

Emphasis is placed on implementing recycling in the schools, promoting "buy recycled" and Pollution Prevention programs within the St. Louis County departments, waste abatement and reuse programs as well as public education and awareness for the ongoing County recycling programs. During past meetings with urban schools the difficulties of materials collection for recycling were discussed. The Department will continue to work with the cities to facilitate collection of recyclable materials from schools into the curbside programs. Rural schools are encouraged to use the County's

drop-off locations when school staff are available to do so. These efforts will be continued over the next decade. The County will assist districts in the development and implementation of school recycling programs upon request.

Currently, at least three materials are recycled at each County facility, with each facility having its own unique recycling program. Department staff will work with other County departments to facilitate maximum use of existing programs.

d. Responsible Person

One Solid Waste Program Administrator is primarily responsible for coordinating the St. Louis County recycling programs and is expected to dedicate 0.25 FTE on the County's ambitious recycling programs. Additional staffing includes a Planner at .05 FTE and clerical at 0.10 FTE.

e. Recycling Budget

St. Louis County has budgeted \$720,000 for recycling programs in 2003. Funding for the County's recycling programs will be derived from the solid waste service fee and SCORE funds.

#### **4. Yard Waste Management**

a. General Policy and Goals

St. Louis County endorses and supports Minnesota Statute §115A.931 which prohibits a person from placing yard waste in mixed municipal solid waste; a disposal facility; or in a resource recovery facility except for the purposes of reuse, composting, or co-composting after January 1, 1992. The County's goals are to educate the public on the yard waste statute and enforce any violation of the statute.

b. Existing Programs

The majority of the yard waste (leaves, grass clippings, and tree and plant residue) in St. Louis County's solid waste stream is generated in the urban centers. Little to no

yard waste enters the waste stream from the rural areas of the SWMA. The St. Louis County yard waste program targets the establishment and promotion of yard waste sites convenient to the urban centers. St. Louis County currently provides yard waste sites at four transfer stations, two canister sites, and the Regional Landfill. Several townships as well as the cities of Babbitt, Chisholm, Ely, Eveleth, Gilbert, Hibbing, and Virginia also provide yard waste sites for local residential drop-off where materials are allowed to compost on-site.

#### 1) Existing Yard Waste Management Program

Yard waste is not weighed at the County yard waste compost sites, but is estimated at approximately 8% of the northern St. Louis County MSW waste stream. This calculates to approximately 4,100 tons per year.

Yard waste compost sites were established by St. Louis County in 1992, coincidental to the State's ban on landfilling yard waste that went into effect on January 1, 1992. Although County yard waste compost sites are available, St. Louis County encourages residents to practice on-site reuse. This includes using grass clippings for mulch and yard waste for backyard composting.

Most yard waste that enters the waste stream is generated in the cities. As a result, many cities have developed programs to address this situation.

These programs can be categorized as:

- a) City-provided one time per year collection available in the cities of Tower-Soudan and Virginia.
- b) City-provided two times per year collections available in the cities of Biwabik, Chisholm, Eveleth, Gilbert, Hibbing, and Hoyt Lakes.
- c) City-provided once per week collection available in the City of Babbitt.

- d) Permit-By-Rule yard waste collection site available in Biwabik Township. Yard waste is then transported to the yard waste compost site at the Regional Landfill by township employees.

Yard waste collected in these city programs is transported to the County yard waste compost sites or to a city-owned site.

In addition, residents throughout the SWMA are allowed to deliver yard waste to the County yard waste compost sites during the sites' hours of operation. The yard waste is placed in a static pile and turned occasionally with a loader to aerate the pile and ensure continued composting action. The County does not measure moisture content or check for elevated temperatures indicating the composting process is occurring. Since the County's yard waste compost sites are located at County facilities, no odor or other environmental problems are anticipated.

The Solid Waste Department utilizes specific public education targeting yard waste composting in the SWMA. Also, the County Extension Service provides information to homeowners on backyard composting through its education efforts.

The following County locations provide yard waste compost sites:

- Regional Landfill
- Brookston Transfer Station
- Cook Transfer Station
- Hudson Transfer Station
- Northwoods Transfer Station
- County Highway #77 Canister Site
- Soudan Canister Site

As a pilot project, the Department ground the brush pile at the Regional Landfill in the Summer of 2002. Approximately 700 cubic yards of brush were ground. The material is being used on site for erosion control.

Beginning in 2003, the Department has eliminated the tipping fee on brush generated within the Department Service area in order to encourage proper management of the material.

St. Louis County will continue the present yard waste program. Finished yard waste compost is currently available to the public at no charge. In addition, the Department will encourage on-site use of yard waste through backyard composting.

2) Responsible Person

The County's public education program identifies the ban on the landfilling of yard waste, the locations and hours of the public yard waste composting sites, and the methods of back yard composting. The yard waste education campaign will be the responsibility of the County's two Solid Waste Planners. Budgets for the yard waste sites are included in transfer station, canister site, roll-off container site, and landfill budgets. Required staff time is anticipated to be .05 FTE.

3) Program Budget

St. Louis County has budgeted \$8,000 for its yard waste program in 2003, with funding obtained from the solid waste service fee.

## **B. Primary Solid Waste Management Programs**

### **1. Integrated Waste Processing Program**

The general policy and goals of St. Louis County are to reduce the amount of landfilled material in the most efficient and environmentally sound manner. To this end, the County conducts on-going research and evaluation of emerging and existing waste processing methods in Minnesota and other similar climatic locations. An evaluation team of stakeholders will be utilized to review Department findings and a recommendation will be made to the County Board when current systems changes are beneficial to the County.

In 1999 the Department began a study of low-tech source separated options including small scale localized composting projects. A pilot study of source separated organics is in

process for the Northwoods Transfer Station area which has included a waste composition study of commercial waste from the Ely downtown district. It is expected that equipment and facility upgrades will be in place for this program in 2004, however the Department is proceeding with caution due to state and local budget deficits. At the onset of this program the County will conduct a public education campaign to enhance the program and to keep the public informed of the need and environmental reasons to implement the program. The need to research environmental and health impacts is recognized by the County and will be an integral part of analyzing the feasibility of this project. If the program at Northwoods is successful the County plans to establish similar programs in the Virginia, Hibbing and Cook areas in the future.

## **2. Ceasing use of MSW Incineration and Energy Recovery at WLSSD**

In the past approximately 3.5% of the SWMA's total MSW was sent to the WLSSD.

WLSSD discontinued RFD incineration as of June 30, 1999. All SWMA MSW is now transferred to the County's landfill in Virginia. The County will continue to explore existing processing options for at least some of the waste.

## **3. St. Louis County Regional Landfill**

### **a. General Policy and Goals**

It is the policy of St. Louis County to provide safe and accessible disposal services at the lowest possible cost to its citizens and to dispose of waste materials in a manner that ensures the protection of the environment. Currently, the County owns and operates one municipal solid waste landfill. The MPCA has assumed responsibility for post closure monitoring and maintenance of fourteen closed landfills, twelve of which are on land still owned by the County. At this time the County has facilitated the removal of materials from four old dumps for use as fill material during MPCA work at three of these closed landfills.

Although the total elimination of land disposal of solid waste is not possible, it is the goal of St. Louis County to continually evaluate cost-effective alternatives to land disposal for implementation within the SWMA. Land disposal alternatives include reduction/reuse of waste materials, recycling, composting, material recovery, and incineration.

b. Existing Program

The St. Louis County Regional Landfill (MPCA Permit No. SW-405) is located approximately 2.5 miles east of the City of Virginia, Minnesota. The landfill was constructed in 1993 to meet or exceed all regulatory requirements. During construction, five feet of mine dump material was excavated, put back in place and compacted to maximum density. Two feet of low permeability material was placed and compacted above this base material. A 60-mil high-density polyethylene liner was placed over the low permeability clay layer and a one foot drainage layer of granular material was placed over the liner. A leachate collection system was installed within the drainage layer.

The leachate system collects liquids from the bottom of the landfill via a system of pipes and pumps it into two holding ponds where the leachate is aerated to promote biological processes which remove volatile organic compounds. These ponds also encourage the settlement of particulates from the leachate. After aeration processing and testing, the leachate is sprayed onto an adjacent 16-acre field for further biological processing. The design capacity of 6,000,000 gallons for leachate storage has proven to be more than adequate. In 1999, to provide temporary additional treatment capability the County installed additional sprayers. These spray heads will be moved as the landfill footprint expands. In addition, the County could transport leachate to the WLSSD wastewater treatment facility in the future in the unlikely event that leachate generation rates increase beyond the system's capacity.

<b>Table 19</b>	
<b>St. Louis County Regional Landfill Permitting Activity</b>	
Action	Date
1992 County Solid Waste Plan Approved and Certificate of Need Issued	December, 1992
Original Landfill Permit Issued	April 30, 1993
Phase 1 construction	May - November 1993
Phase 1a construction	May - August 1995
Landfill 5-year repermit application submitted to MPCA	July 1996
1996 County Solid Waste Plan and Certificate of Need	August 29, 1996
Landfill EAW completed and approved	1997 - 1998
Landfill Permit Expired	April 30, 1998
County Plan update submitted to OEA	March 1999
Landfill 5-year repermit and modification application submitted to MPCA	February, 2003
Landfill EAW Submittal	March, 2003
2003 County Solid Waste Plan and Certificate of Need Submittal	April, 2003

The landfill began accepting waste on November 18, 1993. Over the past nine years, approximately 612,800 tons of MSW have been placed in the landfill. Approximately 114,739 cubic yards of industrial waste and asbestos have also been placed in the landfill. MPCA Permit SW-405 authorized 1,366,500 cubic yards of permitted capacity for the Regional Landfill. St. Louis County submitted a permit application in February, 2003, to expand the landfill footprint, update landfill information, and request additional landfill capacity. The new permit is expected to be issued in the fall of 2003. Final cover has been placed on cell 1A of the landfill at this time which is approximately 3.8 acres.

On June 9, 1999, St. Louis County was granted a Certificate of Need (CON) in the amount of 429,625 cubic yards valid through January 1, 2004. St. Louis County has used 196,184 cubic yards of CON through December 31, 2002, leaving a balance of 233,441 cubic yards. Through this plan update, St. Louis County is requesting issuance of a new CON of 774,560 cubic yards based on the Goal Volume Table generated with OEA assistance on January 15, 2003 (Appendix A) which covers the period 2003 through 2012.

The quantity and waste type of each load delivered to the landfill is recorded on a computerized landfill management system (LMS). The vertical and horizontal coordinates of the daily working face are also recorded on the LMS. As a result, the location of all waste placed in the landfill can be identified by the date it was landfilled.

**TABLE 20**  
**ST. LOUIS COUNTY REGIONAL LANDFILL TONNAGES: 1993 - 2002**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MSW	1,615	40,455	42,325	42,831	42,867	44,119	48,226	48,999	52,131	50,388
Ash	110	6,151	4,423	5,851	6,820	5,103	4,543	5,424	5,506	8,798
Industrial Waste	0	7,798	9,169	9,743	14,301	11,719	12,145	13,508*	9,182*	12,838
Total	1,725	54,768	55,917	58,425	63,988	60,941	64,914	67,931	66,819	72,024

\*Includes treated petroleum contaminated soils.

Incoming waste is screened by the scale attendant for acceptability. In addition, the landfill operator monitors incoming waste as it is placed in the active tipping area of the landfill and unacceptable waste deposited there is removed from the landfill and properly disposed. St. Louis County plans to implement a random load inspection program which will begin in 2003 to further ensure that unacceptable wastes are excluded from the landfill. Industrial wastes accepted at the landfill include empty pesticide containers (if triple-rinsed), asbestos, foundry wastes, incinerator ash, dry paint residue, sandblasting waste, and solidified ink sludge, and foundry sand and treated petroleum contaminated soils which are used as cover material.

There are 16 closed landfills within St. Louis County. All of these have undergone closure and 14 were transferred to the Minnesota Pollution Control Agency in 1996 for post-closure monitoring and maintenance.

### **Beneficial Use**

In 1996, a large generator of spent casting sand, Northern Castings, notified St. Louis County that it was considering several disposal options for its waste material. One of the options being investigated was the use of its waste material as alternative daily cover at the County's Regional Landfill. Northern Castings in Hibbing hoped that, in this manner, their waste materials would be used for some beneficial purpose and, as a result, their disposal fees would be reduced. The St. Louis County Solid Waste Department contacted the Minnesota Pollution Control Agency and requested approval from them to use spent casting sand as an alternative daily cover material. This approval was granted and the Department established a new waste code category called Beneficial Reuse Material for this material to acknowledge its usefulness at the landfill. Since that time over 36,330 tons of this material has been diverted for use as cover at the landfill.

### **Bulky Materials**

Mattresses and box springs are a costly and difficult problem material that must be handled at our canister sites, transfer stations, and the Regional Landfill. In an attempt to determine the scope of the problem, the Department conducted a mattress/box spring count during the month of February, 2003 and found that approximately 530 units were delivered to our facilities during that time. All of these units ultimately were disposed of in the Regional Landfill. Additional counts will be conducted during the summer and fall of 2003, and winter of 2004 to determine the number of units received annually.

The Department is actively participating in the Mattress Recycling Workshop Group sponsored by the Minnesota Office of Environmental Assistance and the Western Lake Superior Sanitary District. We are assisting this group in the hope of developing alternative means of handling and disposal of these items.

## **Unacceptable Materials**

Hazardous and liquid wastes are not accepted at the landfill. Special wastes such as yard waste, scrap metal, waste oil, oil filters, automobile batteries, fluorescent tubes, appliances, used antifreeze, and tires are handled as separate waste streams and are not landfilled.

## **Municipal Utilities Coal Ash**

The Regional Landfill (RLF) has been accepting approximately 5,500 tons of municipal utility coal ash annually from the City of Virginia since the landfill opened in 1993. Another 5,000 tons of municipal utility coal ash generated by the City of Hibbing was being landfilled at a Minnesota Power Company ash landfill in Itasca County.

In 2001, Minnesota Power closed its Itasca County ash landfill causing the City of Hibbing to bring their municipal utility coal ash to the RLF. MPCA staff have raised concerns about potential boron loading problems associated with the disposal of the additional coal ash at the facility. As a result, the Department has initiated a new monitoring/testing program to identify potential coal ash related problems. Department staff have also been meeting with the cities of Hibbing and Virginia Public Utilities staff to identify alternative management options.

The 2003 revision of the Environmental Monitoring System (EMS) Workplan for the RLF was submitted to the MPCA during February, 2003 and included additions to existing monitoring which were recommended by the testing contractor, Northeast Technical Services in the January 28, 2003 report, Evaluation of the Effects of Coal Ash in the St. Louis County Regional Landfill. (Appendix G)

As part of the EMS Workplan, leachate spray irrigation soils at the RLF are tested in the spring, prior to the irrigation season and are compared against Minn. Rules 7041. The 2002 results for soluble salts limits in the soils, plus the metal loading calculations compared to cation exchange capacity indicate that metal loading will not present a

lifetime limitation for the soils in the spray irrigation field. Therefore, the site soils have a significant remaining lifetime, particularly under the County's good management practices.

The County also plans to implement a tentative soil replacement plan which would address two different spray radii per year over several years and will ultimately accomplish total soils replacement without negatively impacting the use of the spray irrigation field.

The County plans to continually evaluate the monitoring and testing results and to review any future research on boron loading which may apply to the spray irrigations fields. At this time municipal utilities coal ash will continue to be accepted at the RLF, however, the County will exercise it's option to refuse this waste stream in the future based on results of future information.

### **Ground Water Monitoring**

Upgradient and downgradient groundwater test wells were installed during construction of the landfill and are sampled and tested in the spring, summer, and fall by an independent laboratory. Test results have shown no contamination in these wells at this time. Should groundwater constituents ever exceed allowable limits, St. Louis County will take all necessary actions for mitigation and remediation to prevent further contamination. This site has been regularly inspected by the MPCA and has been found to be in compliance.

### **Re-Permitting**

At the present disposal rate, the Regional Landfill will reach permitted capacity in early 2004. The County submitted to the MPCA an updated Permit Application in January, 2003. Phase IA of the landfill has reach design capacity and received final cover. Phase I will reach design capacity in 2004. The 2.5 acre Phase 2 was constructed in 1999 and the 2.8 acre Phase 3 in 2002. These phases are currently in use. St. Louis County has prepared preliminary design for future phases of landfill development for

submittal with the Permit Application. The 2002 permit application also includes a modification of the landfill footprint back to the original footprint of 1993 which will result in an ultimate capacity of 4,008,800 cubic yards.

c. Evaluation of Program to Be Developed

St. Louis County has evaluated the impact of landfilling out-of-SWMA MSW at the Regional Landfill. This tonnage would be in addition to the 150 tons per day of in-SWMA MSW currently being landfilled. At this time the County intends to focus on disposal of waste generated within the service area and not solicit out-of-service area waste.

d. Responsible Person

The Solid Waste Director is responsible for the operation of St. Louis County's municipal solid waste disposal program. Proposed source separated composting programs will require a Planner at .15 FTE. Currently, land disposal of municipal solid waste in St. Louis County requires staffing the landfill, the transfer stations, and the canister sites totaling 21.25 FTEs. Clerical staffing requires .75 FTE, Staff supervision and program administration accounts for an additional 1.45 FTE. In addition, the actual operation of the landfill, the Hibbing Transfer Station, waste transportation, design engineering, and all groundwater and leachate sampling and analysis activities are conducted by contract employees.

e. Program Budget

The source of funding for the operation of the landfill, the transfer stations, and the canister sites is derived from solid waste tipping fees. See Appendix B for current and proposed annual budgets.

#### **4. Waste Transfer**

a. **General Policy and Goals**

It is the policy of St. Louis County to provide conveniently located disposal sites for rural residents that choose to self-haul their solid waste.

b. **Existing Program**

The County MSW management network includes 20 canister sites, five transfer stations, and a landfill to service its customers. The County charges the same tipping fee for all service area residents, regardless of their location.

In order to make this system function, it is necessary to transport waste from the canister sites and transfer stations to the final disposal facility. Waste from the canisters at the respective canister sites is transported by private haulers under contract with the County to the appropriate transfer station or directly to the Regional Landfill.

#### **Transfer Stations**

St. Louis County also owns and operates five solid waste transfer stations. The Northwoods (Ely), Hudson (Aurora), Cook, and Brookston transfer stations were built in 1990, and the Hibbing Transfer Station in 2002. These facilities consist of a concrete, enclosed tipping floor where waste is transferred from commercial haulers and private individuals to transfer trailers. Solid waste from the Northwoods, Hudson, Cook, Brookston and Hibbing transfer stations is transported to the Regional Landfill for final disposal.

Incoming waste is screened by the site operator and unacceptable materials are refused or diverted for proper disposal. All of the transfer stations include a certified weigh scale and automated charge-by-weight systems to record the type and amount of incoming waste materials and assess the correct disposal fees. In addition, all transfer stations also accept appliances, scrap metal,

recyclable materials, used waste oil, vehicle batteries, demolition material, tires, used antifreeze, and yard waste separately from the municipal waste.

The haulage of waste from all transfer stations is done by private haulers under contract with the County. The County owns the transfer trailers and roll-off units. The contractor provides the employees and vehicle to transport the waste.

### **Canister Sites**

To service residents in remote areas, the County owns and operates seventeen canister sites and has agreements with the Bois Forte reservation and Balkan Township who also own and operate canister sites which transfer MSW to the Regional Landfill. At these sites, individuals dispose of their waste in enclosed canisters for transport to the transfer stations or directly to the Regional Landfill. Site attendants monitor incoming waste for acceptance. Many of these sites also accept recyclable materials, appliances, fluorescent tubes, waste oil, demolition material, scrap metal, tires, and yard waste. Users of these sites pay disposal fees based upon the volume of their waste. See Appendix C for a full listing of County facilities and services available.

### **Safety Plan**

To ensure employee and customer safety, St. Louis County emphasizes the safe operation of its facilities through its Safety Plan, its Contingency Action Plan, and its Emergency Response Plan. The Department a Safety Committee in 2002 which meets at least quarterly. If safety issues are reported the Committee meets as soon as possible to resolve the issue before an injury might occur. Over the past five years, no serious incidents have occurred at any of the County's sites as a result of improper operations or unsafe conditions.

- c. Evaluation of Programs to Be Developed

The waste transfer system described above is fully implemented and provides for the current transfer needs of the SWMA. No changes are planned at this time. If changes occur in the waste stream or final waste disposal method in any part of the SWMA, appropriate changes will be made in the transfer system.

d. Responsible Person

One Program Administrator oversees the waste transfer operation contracts. Performance of these duties requires approximately .2 FTE's.

e. Program Budget

The total cost for waste transfer in the SWMA is approximately \$2,000,000 per year. The cost is expected to remain at this level for the foreseeable future.

f. Environmental and Health Impacts

Environmental and health impacts of the County's waste transfer program are the same as for any truck haulage operation. This includes air quality concerns from truck exhaust systems and the possibility of vehicle accidents. The screening of waste entering County facilities minimizes the possibility of release of toxic or hazardous materials from the waste.

**C. Special and Problem Materials Management**

**1. Household Hazardous Waste and Very Small Quantity Generator (VSQG) Hazardous Waste Management**

A) General Policy and Goals

St. Louis County endorses and supports Minnesota Statute §115A.96 which established a statewide program to manage household hazardous waste. The goals of the County are to provide information, education, and collection opportunities to its residents for proper management of household hazardous wastes.

In addition the Department has long recognized the need to assist Very Small Quantity Generators (VSQG's) in the SWMA with the disposal of their hazardous wastes. Problems confronting VSQG's trying to dispose of their hazardous waste include:

- VSQG hazardous waste cannot be placed in the landfill.
- VSQG hazardous waste cannot be accepted at the HHW collections.
- The majority of VSQG's in St. Louis County do not generate enough hazardous waste to warrant regular pickup by a HW collector.
- Long distances to licensed hazardous waste disposal facilities make delivery of VSQG hazardous waste uneconomical and impractical.

St. Louis County's long-range goal is to provide an opportunity for VSQG's to conveniently dispose of the wastes they generate.

## B) Existing Program

### **HHW Facilities**

St. Louis County has household hazardous waste collection and storage facilities on its land adjacent to the Regional Landfill and at the Hibbing Transfer Station. The facility near Virginia was funded in part with a grant from the OEA. The Hibbing facilities was built with Department funding as part of the new MSW transfer station. Both facilities provide year round access to HHW drop off which had not been previously available to SWMA residents.

The County purchased a transportation vehicle in 1998 which is used to conduct remote area collections and to transport processed HHW to the regional HHW program facility in Duluth. Through the Department's contract with WLSSD residents of the Department's service area may also bring their HHW directly to the facility at the District.

The County HHW program provides remote collections throughout the SWMA during the summer months, and year-round drop-off at the two County HHW facilities located near Virginia and Hibbing. The HHW brought into the County HHW program is lab-packed or bulked, manifested, and transported by County staff to the WLSSD facility where arrangements are made for proper disposal of the materials. St. Louis County pays WLSSD for the contract administration, support and disposal costs.

Currently, the County also contracts with WLSSD to provide drop-off service for three VSQG collections per year. St. Louis County pays \$1,000 per collection and provides advertising and collection facility space. In addition, County staff are present at these collections to collect waste fluorescent tubes. The WLSSD VSQG program provides staffing, equipment and supplies for these collections. Participants pay a fee to participate as well as the cost of disposal for their waste materials.

The collections are held at County solid waste facilities and township properties throughout the Department's service area. St. Louis County provides advertising for all collections and requests that participants call the toll-free number to schedule appointments at sites which are heavily used. VSQG participants make direct connection with the WLSSD program. Collection event advertising includes paid newspaper advertisements, flyers, fact sheets, public access television, and radio announcements as well as township, city and Chamber of Commerce

newsletters. During 2002 the Department spent over \$10,600 in advertising for HHW and VSQG collections.

The Department's HHW program also provides storage and disposal options for local law enforcement agencies when clandestine drug labs are dismantled.

Staffing for the HHW collections is comprised of Solid Waste Department staff with back-up site management contracted through WLSSD staffing. All workers receive training prior to the collection events in conformance with MPCA guidelines.

Any usable material brought to the collections is offered to the public free of charge through the product exchange at the County HHW facilities. The exchange program promotes product reuse while reducing disposal costs to the County.

3) Proposed Program

The County HHW program is currently established and successful. Collection locations are modified on an annual basis. In the future facility hours may be expanded if there is a demonstrated need.

The County is currently seeking approval from the MPCA to allow Minimal Quantity Generator wastes to be brought into the County HHW program. This will provide a more convenient disposal opportunity and keep more hazardous wastes out of the landfill. Since commercial participants pay for disposal of their own wastes it is not expected that this change will add significant cost to the County.

The County will continue to contract with WLSSD for contract administration, staff support and disposal of HHW collected at the HHW collection facility

The Field Staff Supervisor is designated the responsible person for the County's household hazardous waste program. Support staff include the HHW Specialist, a Solid Waste Technician and trained Solid Waste Workers. Total staffing is at 1.65 FTE.

4) Program Budget

St. Louis County's 2003 budget for the household hazardous waste program is \$199,978, with funding derived from the solid waste service fee and SCORE funds. VSQG program contract costs are currently funded through service fees. VSQG's are required to pay for the disposal of their hazardous waste as well as an administrative fee.

## 2. Appliance Management

a. General Policy and Goals

St. Louis County will continue to comply with Minnesota Statute §115A.552 which ensures that St. Louis County SWMA residents will have an opportunity to recycle. St. Louis County has 17 locations where recycling opportunities for appliances are available. In addition, several private businesses within St. Louis County provide recycling opportunities for appliances. St. Louis County will continue to comply with Minnesota Statute §115A.9561 which requires appliances not be placed in mixed municipal solid waste. St. Louis County will continue with its program for the removal of capacitors and ballasts containing PCBs, the removal of fluorocarbon refrigerant gases, and the recycling or reuse of metal including mercury.

b. Existing Program

St. Louis County has 17 appliance drop-off sites as noted in Appendix C. During 2002, 18,734 appliances were processed through this program.

The County has a contract with Central Scrap Metal Processing, which is an appliance recycler. Central Scrap Metal Processing processes the appliances on-site, at the 17 facilities, and then bales and ships for recycling. To ensure that a majority of appliances are recycled in St. Louis County, no tipping fee is charged for up to two appliances per trip for appliances generated by residents or businesses within the St. Louis County program area. A signed voucher will allow more than two per time at no charge. A fee is charged to SWMA residents and businesses for appliances in excess of two per trip and for all appliances brought from outside the St. Louis County North and East Service Areas. This system allows the vast majority of appliances coming into the St. Louis County collection system to have the hazardous waste components removed and the appliances recycled correctly.

Central Scrap Metal Processing is licensed by the MPCA as a hazardous waste handler which allows them to legally remove and process hazardous waste. The company has also submitted to the MPCA a Refrigeration Recovery Certificate which is required by the EPA and MPCA for the proper removal of CFC's and HCFC's. Central Scrap Metal Processing annually reports to the MPCA on the amounts of hazardous waste they process.

c. Specific Programs to Be Developed

St. Louis County will continue to fund the above referenced program at adequate levels to ensure that appliances received at St. Louis County facilities will be properly managed.

d. Responsible Person

The Deputy Director will be the responsible person for contracting for haulage and disposal of appliances. Approximately .30 FTE administration, .20 FTE clerical staff and 1.25 FTE field staff is assigned to this task of major appliance management.

e. Estimated Program Budget

In 2002, St. Louis County spent \$98,416 on appliance processing and recycling. In 2003, the program is anticipated to cost \$99,500 with continued funding throughout the next 10 years. Funding for appliance recycling is derived from the SCORE revenue. It is St. Louis County's intention to receive as many appliances as possible from St. Louis County SWMA residences and businesses. It is in St. Louis County's best interest to collect these major appliances to ensure that air quality, groundwater, and human health aren't adversely affected by improper disposal. By recycling and reuse of these appliances and metals, St. Louis County is exceeding the state's intention for the management of appliances.

f. Implementation Schedule

It is the intention of St. Louis County to continue the existing program.

g. Environmental and Health Impacts

This unique free disposal of appliances policy helps to ensure proper management of hazardous wastes contained in appliances. By recycling and reuse of these appliances and major metals, St. Louis County is exceeding the State of Minnesota's intention for management of appliances.

### **3. Tire Management**

a. General Policy and Goals

The St. Louis County Solid Waste Department will comply with Minnesota Statute §115A.914 subd. 3, and MN Rules ch. 9220.0200 to 9220.0680 which require counties to address the collection and processing of waste tires in the Solid Waste Management Plan.

b. Existing Program

St. Louis County contracts with Greenman Technologies of Minnesota, Inc., Savage, Minnesota, which is licensed by the Minnesota Department of Transportation and the Minnesota Pollution Control Agency for the proper

management of waste tires. St. Louis County has 17 facilities where waste tires are collected for proper management and disposal. The tipping fee schedule allows for the free disposal of four tires per load for users (non-commercial only) of the St. Louis County facilities. Tires in excess of four per load are charged \$1.50 per unit for passenger tires and \$6.50 per unit for highway truck tires. St. Louis County accepts off-the-road tires and the tipping fee is based on \$165 per ton. The six weigh scale site facilities accept these off-the-road tires. The no-charge policy for a limited number of tires helps ensure that proper management and disposal of waste tires is occurs in St. Louis County. The tires are accepted at the same locations listed above under Appliance Management:

Approximately 100 percent of the tires recycled through the County's tire management program are transported to Greenman Technologies facility in Savage. In 2002, 97 tons of tires were collected.

c. Specific Programs to Be Developed

St. Louis County plans no specific additions to this program in the near future and is satisfied with the results in the nine years that the no-charge policy has been in place.

The transfer station permits limit the number of tires that will be stored on site and the County-contracted licensed tire transporter periodically visits these sites to ensure compliance with MPCA regulations.

At present, St. Louis County has not adopted a solid waste tire ordinance that meets or exceeds MPCA Rules (State Statutes § 115A.914, subd. 3, and MN Rules ch. 9220.0200 to 9220.0680). Proper tire disposal is addressed in the Solid Waste Ordinance 45.

d. Responsible Person

The Deputy Director is responsible for waste tire management in St. Louis County. Approximately .10 FTE is required in St. Louis County for waste tire management.

e. Estimated Program Budget

The program budget in 2002 expended \$71,000 for management of waste tires at the 17 facilities in St. Louis County. It is estimated that the same level of funding will be necessary for the collection and the disposal costs in 2003 with future funding to remain at adequate levels to ensure that the same quality of program is carried out in the future. Source of program funding is the solid waste service fee.

f. Implementation Schedule

St. Louis County will continue to implement the existing waste tire program.

g. Environmental and Health Impacts

St. Louis County cleaned up three large tire dumps, two of them having in excess of 100,000 tires, thus reducing potential environmental and health impacts. With the limited numbers of tires the County's transfer stations and canister sites are allowed to stockpile, the health impacts shall be insignificant. No large known unpermitted tire dumps are located in St. Louis County. One private dump containing approximately 25,000 tires was cleaned up in May 1992.

#### **4. Used Oil and Lead-acid and Dry Cell Batteries Management**

1) General Policy and Goals

St. Louis County endorses the following state policies that keep waste oil, oil filters, and lead-acid and dry cell batteries out of the waste stream and encourage proper handling of used oil resulting in the reduction of surface and groundwater contamination:

- St. Louis County endorses Minnesota Statute §115A.916 which prohibits oil and used oil filters from being landfilled.

- St. Louis County endorses Minnesota Statute §115A.915 which prohibits a person from placing lead-acid batteries in municipal solid waste or disposing of a lead-acid battery after January 1, 1988.
- St. Louis County endorses State Statute §115A.9155 which prohibits a person from placing in mixed municipal solid waste a dry cell battery containing mercuric oxide electrode, silver oxide electrode, nickel-cadmium, or sealed lead-acid that was purchased for use by a government agency, or an industrial, communications, or medical facility.

It is the goal of St. Louis County to promote the collection and recycling of waste oil, used oil filters, and lead-acid and dry cell batteries by providing collection sites for the general public. A list of County sites which accept these items is available in Appendix C. The goal of St. Louis County is to eliminate these items from being landfilled. The County's goal is also to maintain a list of all waste oil collection and battery collection sites within the SWMA.

## 2) Existing Programs

### a. Used Oil Management Program

The County provides public waste oil collection sites at the Regional Landfill, five transfer stations, and eleven canister sites throughout the SWMA where residents can dispose of their used oil free of charge. In addition, used oil is accepted at the HHW collections if a facility is not convenient. In 2002, St. Louis County arranged with Como Lube and Supplies, Inc. to recycle 29,634 gallons of used oil with a revenue of 5¢ per gallon paid to the County.

St. Louis County will continue to promote and encourage proper disposal of used oil to the residents of the SWMA.

### b. Used Oil Filter Management Program

The County accepts properly drained used oil filters at 17 sites throughout the SWMA. Residents are allowed to dispose of up to four used automobile oil

filters, per trip, free of charge. A tipping fee is charged for all oil filters generated by businesses or commercial vehicles.

Used oil filters are also collected at the HHW collections if a facility is not convenient. The Solid Waste Department also maintains a list of retailers throughout the SWMA that accept used oil filters.

St. Louis County contracts with Como Lube and Supplies, Inc. for the disposal of used oil filters collected at the County facilities. The County recycled 100 - 55 gallon drums of used oil filters in 2002 at a cost of \$4,500.

St. Louis County will continue to promote and encourage proper disposal of used oil filters to the residents of the SWMA using funding from SCORE revenues.

c. Lead-Acid Battery Program

The County has a well established vehicle battery collection system that provides convenient drop-off locations to the general public. Collection sites are managed and staffed by Solid Waste Department employees. In addition, lead-acid batteries are also accepted at the HHW collections. The County does not charge a tipping fee for the disposal of lead-acid batteries.

The County is providing convenient collection points to complement vehicle battery collection done by private sector scrap metal dealers, retail merchants, and automotive repair businesses.

Minnesota statutes have established a five dollar surcharge that is refundable when motor vehicle batteries are returned for recycling. Persons purchasing new vehicle batteries are exempt from the surcharge if they return a used battery at the time of purchase. As a result of this legislation, St. Louis County believes most lead-acid batteries will be collected by retailers and, therefore, does not plan to expand the number of collection sites.

St. Louis County currently contracts with Interstate Battery, Inc., for the collection and disposal of used lead-acid batteries. In 2002, St. Louis County recycled 24 tons of lead-acid batteries were collected at the County's facilities .

d. Dry Cell Battery Program

Residents wishing to dispose of dry cell batteries are instructed to bring the batteries to the HHW collections. Businesses are able to dispose of dry cell batteries through the VSQG program. In addition, the Department maintains a list of commercial establishments which accept rechargeable batteries and recycle them through the Rechargeable Battery Recycling Program.

St. Louis County allows alkaline or zinc carbon batteries to be discarded with MSW.

3) Responsible Person

The Field Staff Supervisor will be responsible at .15 FTE for the County's used oil, oil filter and battery management program. Collection of the used oil and filters is performed by site attendants requiring approximately .30 FTE staff time.

4) Program Budget

The budget for the used oil management program is included in the \$2,500 dedicated for special waste disposal. Additional funds are available from the household hazardous waste budget. The source of funding for the lead-acid battery program is derived from SCORE revenue.

## 5. Fluorescent Tubes

a. General Policy and Goals

St. Louis County endorses Minnesota Statute §115A.932 which prohibits fluorescent bulbs from being placed in mixed municipal solid waste. It is the policy of St. Louis County to promote the proper disposal of fluorescent bulbs by providing collection locations throughout the SWMA.

b. Existing Program

Residents can dispose of all sizes and shapes of fluorescent tubes for free through the HHW program. In addition, the County accepts four foot fluorescent tubes at 16 solid waste facilities. Residents (non-commercial only) are allowed to dispose of four fluorescent tubes per load free of charge. A list of facilities which accept fluorescent tubes can be found in Appendix C.

Tipping fees are charged for all fluorescent tubes generated by businesses and commercial sources and for residents disposing of more than four 4-foot fluorescent tubes per trip. The County currently contracts with Retrofit Recycling, Inc. for the recycling of fluorescent bulbs collected at the County facilities. In 2002, approximately 5.4 tons of fluorescent tubes were collected at County facilities and through the HHW and Clean Shop Programs.

c. Responsible Person

The Field Staff Supervisor (.05 FTE) is responsible for overseeing the County's fluorescent bulb collection and recycling program. Approximately .5 FTE of Field and HHW Staff time is spent on this program.

d. Program Budget

St. Louis County budgeted \$4,000 for the collection and disposal of fluorescent bulbs in 2002. Funding for the program will be derived from SCORE revenue.

## 6. Antifreeze

a. General Policy and Goals

It is the goal of St. Louis County to promote the collection and recycling of antifreeze by providing collection sites for the general public. The County's goal is also to maintain a list of all antifreeze collection sites within the SWMA.

b. Existing Program

The County accepts used antifreeze at eight sites throughout the SWMA as listed in Appendix C. Four types of antifreeze are accepted. The type of antifreeze must be identified for disposal at the facilities. Ed's Recycling processes the antifreeze and returns it to the Solid Waste Department. It is then sent to St. Louis County Public Works for use in vehicles and equipment. Residents are allowed to dispose of their antifreeze at no charge.

c. Responsible Person

The Field Staff Supervisor is responsible for overseeing the County's antifreeze collection and recycling program at approximately .1 FTE.

d. Program Budget

There is \$2,000 allocated in the County's budget for the antifreeze program with funding derived from SCORE revenue.

## **7. Computers and Monitors**

a. General Policy and Goals

It is the policy of St. Louis County to provide residents and businesses with safe and convenient disposal of computers and monitors. It is the goal of the County to reclaim the recyclable materials and eliminate disposing of computers and monitors in the Regional Landfill.

b. Existing Program

Computers from County facilities are collected by the St. Louis County MIS Department and sent to 5-R Processors in Wisconsin for reuse or material reclamation.

Residents of St. Louis County are allowed to put unusable computer components and other electronics in the MSW waste stream. Commercial entities and residents are referred to a license electronics recycler. The nearest electronics recycler at this time is Life Cyclers in Duluth.

Staff have participated in state and regional discussions of electronics waste management. The Department will continue to make referrals to Life Cyclers and other electronics recyclers within the state. Staff will continue to review alternatives for land disposal of residential electronics wastes generated within the SWMA and to provide collection events for SWMA residents.

c. Responsible Person

The Deputy Director is responsible for overseeing the County's electronics management program for non-SWMA generated electronics. Approximately 0.02 FTE is spent on this program.

d. Program Budget

The Department has included minimal funding in the budget for computer and monitor collection program.

## **8. Demolition Materials Management**

a. General Policy and Goals

It is the policy of St. Louis County to provide safe and accessible waste disposal services at the lowest possible cost to its citizens and to dispose of those waste materials in a manner that ensures the protection of the environment. It is also the policy of the County to promote proper management of private demolition disposal facilities within the SWMA in order to protect the environment.

It is the goal of the County to find cost-effective alternatives to land disposal for these materials in the future. Alternatives include the reuse of glass and bituminous materials in new pavement, the reuse of concrete, brick, or masonry in drainage or septic systems, and the use of wood materials for composting, erosion control or fuel.

b. Existing Program

1. County-owned facilities.

St. Louis County owns three operational demolition landfills and one 'mothballed' demolition landfill. The operational facilities are located adjacent to the Northwoods,

Brookston, and Hibbing transfer stations. The Portage Demolition Landfill, MPCA Permit No. SW-364 is being held in reserve in the event of a catastrophic fire in the BWCAW. The Northwoods Demolition Landfill, MPCA Permit No. SW-368, began operation in 1990 and will reach its expected capacity in 2003. The Brookston Demolition Landfill, MPCA Permit No. SW-371, began operation in 1990 and has an expected capacity of 24,000 cubic yards. The Hibbing Demolition Landfill, MPCA Permit No. SW-423, has an expected capacity of 272,400 cubic yards. These facilities accept only demolition debris which is defined as solid waste resulting from the demolition of buildings, roads, and other man-made structures including concrete, brick, bituminous, untreated wood, masonry, and glass or plastic building parts.

The County also accepts demolition material at the St. Louis County Regional Landfill, at the Cook and Hudson transfer stations, and at the County Highway #77, Portage, French and Soudan canister sites. At these locations, demolition material is placed in roll-off containers and is transported to the Hibbing Demolition Landfill for final disposal. Demolition debris is thoroughly screened by the site operator before being accepted at any County facility and is monitored during and after unloading. Any materials not identified as acceptable will be refused by the site attendant or will be removed from the landfill and transported to a proper disposal site.

To properly maintain its demolition landfills, St. Louis County contains, compacts, and covers demolition debris at least monthly according to approved phased-development plans. However, due to the adverse weather conditions and the significantly reduced volume of demolition waste during the winter months, cover is placed only as needed between December and April. The phased-development plans direct the placement of material into small, confined cells which are placed so that final elevation is reached in an organized manner. As each phase reaches final elevation, it is covered with at least two feet of cover material and six inches of topsoil and it is then planted with shallow-rooted grasses to prevent erosion.

These sites are inspected by MPCA-certified Type II Inspectors and any corrective actions needed as a result of these inspections will be taken as soon as practical.

The future of county-owned demolition landfills is being reviewed. Pending anticipated revisions in State permitting requirements, including the possible need for liners and leachate collection systems, the Department will revise demolition management programs. County staff are currently reviewing alternative processing options which include source separation, reuse, grinding and hauling, as well as alternative uses for aggregate, pavement, mulch and fuel.

The County's demolition debris management program is fully funded through tipping and disposal fees. The annual budget of \$205,370 includes costs for landfill operation, site staffing, contractor activities, inspection activities, and contingency. The County sets aside a \$.50 per cubic yard surcharge into a separate fund along with funds collected from private facilities.

2. There are currently three private permitted demolition landfills within the SWMA. These facilities are required under Ordinance 45 to obtain an annual license for operations from the Department. As condition of this license these facilities must submit a copy of their MPCA Annual Report so that the County may track their activities. These facilities are also required to submit regular surcharge reports to the Department. A credit toward that surcharge is granted for facilities with an approved recycling program. This credit is included as an incentive to reduce demolition landfill volumes.

Table 21

**DEMOLITION LANDFILLS IN ST. LOUIS COUNTY SWMA**

Facility Name	MPCA Permit #	Location	Materials Accepted	Ultimate Design Capacity <i>(includes cover)</i>
US Steel Minntac	SW-240	Mountain Iron	Proprietary waste materials only	750,000 cubic yards

Table 21

**DEMOLITION LANDFILLS IN ST. LOUIS COUNTY SWMA**

Facility Name	MPCA Permit #	Location	Materials Accepted	Ultimate Design Capacity <i>(includes cover)</i>
Veit Northland Demolition LF	SW-549	Hibbing	Demolition Materials	105,000 cubic yards (currently in expansion process to 1,035,000 yards)
Waste Management Voyager LF	SW-428	Canyon	Demolition and Industrial Waste	5,376,800 cubic yards

## c. Responsible Person

One Solid Waste Program Administrator is responsible for the County demolition debris management program. Required administrative time for the County program is .20 FTE.

Staffing for the demolition debris management program consists of one Type III-certified Demolition Landfill Operator at each site during operating hours (2.5 FTE) and 2.25 of staff time for Demolition transfer and quarterly inspections.

The Deputy Director is responsible for overseeing the administration of licenses and surcharges at .08 FTE. The two Solid Waste Planners review license applications, track waste volumes and surcharge payments and provide technical assistance. Required staff time for this is .15 FTE.

## d. Program Budget

The County has implemented a surcharge under the authority of Minnesota Statute §115A.919. Revenue collected is placed in a fund which will be used as the Statute allows for landfill abatement purposes, or costs of closure, postclosure care, and response actions or for purposes of mitigating and compensating for the local risks, costs, and other adverse effects of facilities.

In 2003, the Department's budget for the County-owned demolition landfill program is \$179,000. Funding for the program is derived from facility licensing fees.

## **9. Scrap Metal Management Program**

### **a. General Policy and Goals**

It is the policy of St. Louis County to provide residents and businesses with an opportunity to recycle scrap metal by providing convenient scrap metal collection locations throughout the SWMA. It is the County's goal to eliminate scrap metal from the landfill.

### **b. Existing Program**

St. Louis County has established 17 scrap metal collection locations where residents and businesses can dispose of scrap metal free of charge. Collection sites are noted in Appendix C.

Residents and businesses are permitted to dispose of scrap metal during the locations' hours of operations. In 2002, these County locations collected 2,908 tons of scrap metal.

St. Louis County currently contracts with Central Scrap Metal Processing for the haulage and recycling of scrap metal collected at the County's locations. The County plans to continue the current scrap metal management program but will continue to evaluate and monitor the program for possible enhancements to better serve the public.

### **c. Responsible Person**

The Deputy Director is responsible for overseeing the program at .05 FTE. Required field staff time for the program equals .50 FTE.

d. Program Budget

The contract for scrap removal from County sites allows the contractor to keep the revenue generated through the sale value of the metals. No other funding is needed at this time.

## 10. Salvaging

a. General Policies and Goals

In accordance with St. Louis County's commitment to encourage recycling and reuse of materials when possible, residents are allowed to recover materials that would normally be landfilled as MSW or demolition waste or cost the County money to recycle.

b. Existing Program

Residents are allowed to recover reuseable qualities of tires, scrap metal, lumber or other building materials, and household goods at all of the Solid Waste Disposal facilities. A Waiver of Liability must be signed by the person requesting to remove the items. The waivers are kept on file at the site for a period of 2 years.

c. Responsible Person

The Field Staff Supervisor is responsible for overseeing the salvaging program.

d. Program Budget

There is no cost involved with this program. It is not necessary to include it in the budget.

## D. Environmental Risk Mitigation and Enforcement Programs

### 1. On-site and Illegal Disposal (Environmental Risks)

a. On-site Disposal: Plans and Programs

The St. Louis County Solid Waste Department provides solid waste disposal services for all areas of the SWMA. It is the goal of St. Louis County to eliminate the illegal

disposal of waste materials by SWMA residents through a solid waste system that provides convenient, accessible, affordable, and environmentally-safe disposal options. Some SWMA residents use private or municipal sanitation services to transport their waste to one of the County's solid waste facilities or they may choose to transport their waste to those facilities themselves. These solid waste facilities consist of twenty canister sites, five transfer stations, two 'sit' sites, and the Regional Landfill. These facilities are located throughout the SWMA (see map on page 33). Even in the most remote areas of the SWMA, canister sites are located approximately twenty miles apart to encourage and facilitate proper waste disposal.

The Solid Waste Department also has built two household hazardous waste storage and collection facilities to further assist SWMA residents in properly disposing of waste materials. This service is supplemented with a collection vehicle which conducts scheduled household hazardous waste collections in remote areas of the SWMA.

In addition, St. Louis County will promote the proper disposal of waste materials through its community education and outreach programs. These programs will advise the general public on the proper disposal of waste materials, will work with community groups to provide additional disposal services, and will explain the consequences of improper waste disposal.

b. **Illegal Disposal**

Although it is the goal of St. Louis County to eliminate illegal disposal of waste materials, some of these illegal disposal sites may still exist. The St. Louis County Solid Waste Ordinance No. 45 (see Appendix H) addresses this issue. If illegal disposal complaints are received by the Solid Waste Department, staff is dispatched to the site to investigate. If illegal disposal is verified, a St. Louis County Sheriff's Deputy assigned to environmental enforcement visits the property owner documenting the conditions at the site which constitute the illegal disposal and directing the property owner to remediate those conditions through proper disposal practices. In most cases in the past, the property owner has complied with the Department's directions and no further action has been necessary. However, when further enforcement actions have

been necessary, the Deputy is able to issue a citation for the violation in accordance with Ordinance #45 and State Statutes.

It is the intent of the St. Louis County Solid Waste Department to discourage illegal disposal of waste materials through community education programs and by providing convenient, accessible, affordable disposal services to its citizens with enforcement actions being taken only when necessary.

c. Responsible Person

The Deputy Director is the responsible person for Risk Mitigation and Enforcement Programs along with a Sheriff's Deputy who visits and inspects for violations at approximately .15 FTE. Voluntary compliance is first and foremost, but in some cases after ample time has been given for compliance of the violation and it has not been corrected, a citation will be issued. The County Attorney's office assists in prosecution on an as-needed basis.

d. Program Budget

The County cost for risk mitigation and enforcement during 2002 was \$31,300. Funding for the program is derived from the solid waste service fee.

## **2. Solid Waste Ordinance**

It is the intention of St. Louis County to protect the health of the public and the environment within its borders. Minnesota state law (Chapter 400) authorizes counties to conduct solid waste management programs, requires that counties provide for the periodic inspection of MSW facilities, requires that counties take steps to bring out-of-compliance facilities into compliance, and enables counties to establish by ordinance rules, regulations, and standards for solid waste management. One tool counties make use of in administering local programs is development and administration of county solid waste ordinances.

a. Ordinance Status

The County initially adopted Solid Waste Ordinance No. 45 to take effect on January 1, 1994. Previous to this ordinance, the County enacted Ordinance No. 8 and Ordinance No. 32A; these ordinances were repealed with the passage of Ordinance No. 45. The County has since amended the solid waste ordinance several times, most recently on March 26, 2002. A copy is attached as Appendix H.

b. Implementation and Enforcement Issues

The principle areas for which the solid waste ordinance has been used to date are the areas of licensing, haulers requirements, surcharge and service fee implementation and enforcement of proper storage and disposal of waste materials.

c. Planned Amendments

The ordinance will be evaluated on an ongoing basis to determine needed improvements. The next planned amendments will be implemented in 2003 and will include collection tools for past-due tipping fee accounts.

St. Louis County will also continue to analyze its solid waste management service charges for equity and effectiveness. Fees and surcharges are reviewed by the County Board on an annual basis. In the event that the County determines that changes are needed in the fees or service charge systems, Ordinance No. 45 will be changed to reflect those changes.

d. Responsible Person

The Director of the St. Louis County Solid Waste Department is responsible for overseeing and directing the activities of the St. Louis County Solid Waste Program. Specific duties regarding administration of Ordinance No. 45 are delegated to the Deputy Director (fees and service charges, enforcement), the Solid Waste Program Administrators and Field Staff Supervisor (enforcement, inspection). Other department staff also have inspection activities, and all department staff are responsible for noting and reporting violations, educating the public regarding proper practices, and carrying out the duties of the department.

The County also devotes additional resources to implementing the ordinance, including:

- St. Louis County has assigned a .4 FTE Deputy position from the Sheriff's Department to carry out enforcement activities;
- the County Attorney's Department has staffing provided for ordinance violations prosecution, ordinance amendment activities, and related activities;
- the County Auditor carries out service charge provisions; and
- other county employees conduct related activities as needed.

e. Program Budget

Maintenance of the Solid Waste Ordinance is considered part of customary staff duties. For the purposes of this plan it is estimated that approximately \$3,500 was expended on ordinance maintenance during 2002. It is estimated that during 2002 approximately .5 FTE was spent on the update of Ordinance 45 by the Solid Waste Director, Solid Waste Planner, and Assistant County Attorney.

## **E. Planning and Administration**

### **1. Annual Plan Review and Ten-year Update**

a. Plan Development Time Line

Annual review of the Solid Waste Management Plan is scheduled for the fourth quarter of each year throughout the 10-year time line.

b. Plan Development Process

Any modifications or amendments to this Plan will be submitted in writing to the OEA for review and approval. A full update of the plan is required every five years with that time line anticipated to change to ten years.

c. Responsible Person

The entire Department staff will have input into updating and amending the plan. Staff time is anticipated to be .05 to .1 FTE and will increase dependent upon number and complexity of amendments made to the plan.

d. Program Budget

Annual review of the plan and five or ten year update are included in the staff and administration section of the Solid Waste Department budget, with the solid waste service fee being the funding source.

## 2. Contingency to Primary Management System

a. Short-term Alternatives

The St. Louis County Regional Landfill in Virginia, Minnesota, meets the needs for final disposal of all of the MSW generated in the SWMA. If the Regional Landfill cannot accept waste, it would be delivered to landfills outside the service area during the short term.

The short term option chosen would be based on convenience, cost of tipping fees and transportation, and the potential long-term liability.

b. Long-term Alternatives

If the Regional Landfill is closed for an extended period of time, waste would be delivered to either an MSW transfer station at WLSSD in Duluth, Minnesota; SWIS Corp. in Pennington County, Minnesota; East Central Solid Waste Facility near Mora, Minnesota; or to landfills potentially available to the County. The final choice would be based on several criteria, including the cost of tipping fees, contract arrangements available, transportation, whether or not the facility would process or landfill the waste, and the potential long-term liability.

## 3. Solid Waste Facility Siting

- a. St. Louis County Solid Waste Ordinance 45 and Planning and Zoning Ordinance 46, along with MPCA rules regulate the site of waste disposal facilities within the SWMA. The Certificate of Need for MSW disposal will be issued in it's entirety to the St. Louis County Regional Landfill. No further MSW landfill capacity is needed in the SWMA.

- b. The Department is conducting a study to determine the feasibility of potential organics and materials recovery facilities in the northeast portion of the county and in Virginia later in the planning period. There are no other new County facilities planned, however the County will react to changes in need within its jurisdiction in order to ensure that convenient service is provided. The County will include public participation in all relevant phases of future determination of the type of facility to be developed, the types of compost markets utilized, and the methods used for financing the facility. The County will comply with all MPCA, DNR, EQB, OEA, and other regulations regarding development of the facilities.
- c. The County continues to assess the costs and/or benefits of current site locations. The Department will incorporate public participation in decisions which would effect current or future solid waste management siting.

#### **4. Public Participation and Citizen's Advisory Committee**

##### **a. Methods**

Historically, St. Louis County has conducted extensive public participation activities as part of its solid waste management planning and implementation activities. Examples of this include:

- The County has established four citizen advisory groups to advise the Department on solid waste activities. These groups have been consolidated into one advisory group which will meet as significant changes are expected in the County integrated waste management system.
- The Solid Waste Department conducted meetings of the six range cities involved in curbside collection programs to discuss and implement program improvements and receive city input. At this time these programs are mature and meetings are held only if significant changes are implemented.
- The County Board of Commissioners has established a Solid Waste Subcommittee comprised of four of the seven commissioners. This group meets monthly to discuss solid waste plans and programs, hear comments and presentations from vendors, other interested parties and the public, and make

management recommendations to the full Board. Meetings of this group are public and are advertised in the manner of all county board meetings.

- The County Board of Commissioners discusses solid waste management issues on a regular basis and makes all overriding solid waste program decisions.
- Solid Waste Department staff regularly attend local government meetings, citizen meetings, and other events to receive input and explain the County's programs.

b. Documentation Location

Meeting documentation is contained in County Board and Department minutes, local units of government minutes, and staff records. The Department also provides all of the townships in the service area with periodic information packets containing update information on solid waste activities.

c. Ongoing Participation

The County will continue to strengthen its public participation programs. Steps that will be taken in order to do this include:

- The County is broadening its educational outreach activities to keep the public informed of current issues and decisions and solicit input.
- The County will develop and staff issue-specific advisory groups as needed in order to address individual issue needs. An example of this was the public discussion meetings in 2001 of an advisory group to review County service fee issues in the nine townships north of Duluth.
- The County will maintain citizen oversight for enforcement activities.
- The County will strengthen and expand contacts with state enforcement and planning advisors.

## 5. Solid Waste Staff

a. Existing Staff

Currently the County has authorization for 40 full time equivalent (FTE) positions for its solid waste programs. Thirty-seven (37) FTE positions are currently filled by county

staff. Three positions are currently vacant. In addition, the Solid Waste Department funds and receives support from various other St. Louis County Departments including the County Attorney's department, the Sheriff's Department, the County Auditor's Department, the Management Information Systems Department, Civil Service, Employee Training and Development, and the County Administrator's Department.

Staff supervision and administration includes .40 FTE Program Administrator, .40 FTE Field Staff Supervisor, .05 FTE Director, and .50 FTE Clerical staffing.

The County also contracts for some County solid waste functions with private businesses, including:

- a contract with a local firm for landfill operations including compaction and daily cover material application, plowing, and site work;
- a contract with a local firm for demolition landfill operations;
- a contract with a local firm for Hibbing Transfer Station operations;
- a contract with a local firm for leachate system management;
- contracts with various firms for waste haulage from the canister sites and transfer stations to the Regional Landfill;
- contracts for waste oil, oil filters, tires, appliances, scrap metal and antifreeze processing and hauling.
- a contract with a local firm for recycling roll-off collection and processing;
- a contract with a local firm for processing and marketing curbside collected recyclables;
- contracts with range cities for curbside recycling activities;
- contracts with engineering firms for technical assistance; and
- contracts with firms for appliance management, battery management, scrap metal management, and other waste component-specific management activities.

b. Staffing Needs

The County will continue to refine its staffing needs over the next ten years with the goals of keeping costs low, providing necessary levels of service to customers, enabling a strong private sector presence in the County waste system, and providing a

reasonable working environment for county employees. Specific staffing actions anticipated include:

- The County will expand and strengthen employee training programs.
- The County will increase staffing to operate household hazardous waste management programs.
- The County entered into a long-term contract for private operation arrangements for recyclables processing which will result in no additional County staff being hired to operate the facility.
- The County will continue to consider options for privatization of elements of the County's programs, and will consider options for contracting with local units of government for operation of discrete program components.

Future staffing decisions will be made by the Director through recommendation to the County Board of Commissioners.

## **6. Program Budgeting**

### **a. Annual Solid Waste Department Budget Development Activities**

St. Louis County develops its bi-annual solid waste budget through the County's overall annual budgeting process. This process includes:

- development of department-specific budget information;
- submittal of departmental information to the administrator's office for review and incorporation in general County budgets;
- presentation of budget information to the Solid Waste Subcommittee, and Board of Commissioners;
- Board of Commissioners budget review;
- a public hearing on the budget; and
- final budget adoption.

Factors taken into account in budget development include:

- predicted revenues and expenditures;
- existing contractual commitments; and
- future program needs.

b. Itemized Solid Waste Budget for Long Term Planning

St. Louis County's Solid Waste Department is committed to maintaining a cost-effective integrated solid waste management program. Towards that end, the County intends to conduct ongoing planning and ongoing analysis of the potential costs of various solid waste options. The County supports planning staff and administrative staff capable of conducting most system evaluations. The County will contract on an as-needed basis for additional outside expertise. The County has set aside funding for future costs of facility planning and construction from the Department fund balance; additional budgeting to raise funds for those activities is not needed.

1) 10-year Budget. Appendix B contains a 10-year budget for proposed solid waste program costs.

2) Financial Assumptions. Given the dynamic nature of the solid waste industry and of solid waste in general, it is difficult to make any long-term assumptions about solid waste. Changes in private firms that the County contracts with for services can have significant impacts on program needs and future expenditures. Changing availability of solid waste processing capacity can affect future financial planning. Changes in State and Federal programs and funding can impact future County program and financial planning. Other factors can change. For purposes of planning, the following general assumptions are made:

- Development of localized organic waste composting program in 2004.
- Construction of new phases of landfill at appropriate periods.
- Status quo contracting of recycling, hauling, leachate collection, landfill operations, and other services.
- Same level of county staffing.

- Same level accrual of revenues (assuming stable waste stream because of waste reduction and a slight increase in population). Disposal of SWMA wastes at facilities planned for by County.
- Same level regulatory requirements and expenditures.
- Ongoing availability of SCORE funding.

## 7. Solid Waste Program Funding.

### a. Funding Policies and Goals

St. Louis County is committed to operating a solid waste program that meets or exceeds state requirements and satisfies the needs of SWMA citizens. Funding will be provided consistent with goals established throughout this plan.

### b. Existing Funding Mechanisms

The Department currently receives funding from five sources: 1) tipping fees charged at solid waste facilities; 2) solid waste service fees; 3) state funding provided to assist in funding recycling programs (SCORE); 4) license and surcharge fees; and 5) fees received from leasing property for operation of a contaminated soil treatment facility.

The County is also exploring development or utilization of other funding mechanisms, including:

- securement of additional tipping fee revenue through acceptance of additional types of waste or of waste from outside of the SWMA;
- state solid waste processing facility, programmatic, and HHW grants;
- regional funding grants; and
- revenue developed from other utilization of county properties.

### c. Amounts and Sources of Funding

See Appendix B.

## **8. Goals, Volumes, and Tonnages Table.**

Appendix A contains the County's goals, volumes, and tonnages table.



*Resolution*  
*of the*  
**Board of County Commissioners**  
**St. Louis County, Minnesota**

*Adopted on: July 8, 2003*

*Resolution No. 463*

*Offered by Commissioner: Sweeney*

WHEREAS, the Legislature of the State of Minnesota requires that Minnesota's counties develop a Solid Waste Management Plan in accordance with Minnesota Statute §115A.46; Minnesota Statute §115A.551; Minnesota Statute §115A.63; Minnesota Statute §115A.84; Minnesota Statute §115A.914; Minnesota Statute §115A.96, Subdivisions 6 and 7; and Minnesota Statute §115.97, and all applicable statutes and rules; and

WHEREAS, Minnesota counties recognize the need to plan for and practice environmentally sound methods of managing their solid waste stream; and

WHEREAS, in 1989, the legislature of the State of Minnesota enacted legislation to require that Solid Waste Management Plans be amended to include the requirements in Minnesota Statute §115A.551, Minnesota Statute §115A.914; Minnesota Statute §115A.96, Subdivision 6; and

WHEREAS, St. Louis County recognizes the need to plan for and implement waste reduction, recycling, organic waste composting, and special waste management strategies;

NOW, THEREFORE, BE IT RESOLVED, that the St. Louis County Solid Waste Department provides solid waste services for its Solid Waste Management Area which includes all areas of the County outside the Western Lake Superior Sanitary District.

RESOLVED FURTHER, that the St. Louis County Board of Commissioners hereby approves and adopts the Updated St. Louis County Solid Waste Management Plan and supporting documentation dated April 24, 2003; and

RESOLVED FURTHER, that St. Louis County agrees to maintain and implement the Plan as required by Minnesota Rules Pt. 9215.0530, Subparts 1 and 2.

RESOLVED FURTHER, that the St. Louis County Board submits this document to the Director of the Minnesota Office of Environmental Assistance for final approval pursuant to applicable Minnesota laws and rules.

Commissioner Raukar moved the adoption of the Resolution and it was declared adopted upon the following vote:  
Yeas - Commissioners Fay, Kron, Forsman, Sweeney, Nelson, Raukar and Chair Fink - 7  
Nays - None

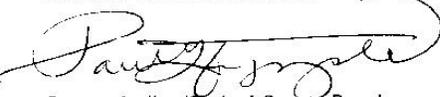
STATE OF MINNESOTA  
Office of County Auditor, ss.  
County of St. Louis

I, **GORDON D. MCFAUL**, Auditor of the County of St. Louis, do hereby certify that I have compared the foregoing with the original resolution filed in my office on the 8th day of July, A.D. 2003, and that this is a true and correct copy.

WITNESS MY HAND AND SEAL OF OFFICE at Duluth, Minnesota, this 8th day of July, A.D., 2003

GORDON D. MCFAUL, COUNTY AUDITOR

By

  
Deputy Auditor/Clerk of County Board