

# APPENDIX A

ADDITIONAL INFORMATION

REGARDING THE

SELECTED

SYSTEM



## EVALUATION OF RECYCLING

The following provides additional information regarding implementation and evaluations of various components of the Selected System.

The St. Clair County Resource Recovery Office currently manages eight recycling drop-off sites which service unincorporated areas of the county. At the time of publishing these locations included:

- Burtchville Twp. – Township Hall
- China Twp. – Township Hall
- Clay Twp. – Harsens Island Fire Department
- Clay Twp. – Township Hall
- Fort Gratiot Twp. – Department of Public Works
- Ira Twp. – Township Hall
- Kimball Twp. – Smiths Creek Landfill
- Memphis – Department of Public Works

Residents may bring material to these drop off locations to be recycled. While these drop-off sites are located throughout the County not all residents use them. Many residents take advantage of curbside recycling offered by the waste hauler who services them. Some communities contract for curbside recycling in addition to the waste collection services they offer. Currently, there are Ten communities with curbside recycling available to residents in conjunction with the municipal contract for waste collection: Algonac, Marine City, Marysville, Port Huron, St. Clair, Yale, China Twp., Cottrellville Twp., East China Twp., and Ira Twp.

Commercial and industrial customers contract individually with private haulers to collect recyclables. The larger commercial and industrial businesses in the County recycle many items, particularly cardboard, paper, and metal (iron and steel). Recycling costs money and many items are not cost-effective from a business perspective. In short, if an item is cost-effective to recycle, the larger manufacturers are probably doing it already. However, the small and medium sized businesses do not usually participate because they are not as familiar with recycling opportunities or do not have sufficient volume of recyclables to qualify for attractive rates.

Curbside yard waste collection is available in at least eight communities. While the individual household in some of these communities contracts for curbside yard waste collection, it is part of the municipal contract for solid waste collection in the remaining communities. Some communities (like Clay Twp.) operate their own yard waste disposal/composting programs. These include the efforts of communities like the City of Marysville that provides for Christmas Tree recycling seasonally.

In addition to its recycling and educational efforts, the St. Clair County Resource Recovery Office also manages a Household Hazardous Material Drop Off Site at Smiths Creek

Landfill. This service is available to county residents on an appointment basis. In addition to the Household Hazardous Material Drop Off Site which the Resource Recovery Office Manages, it also maintains up-to-date inventories of Businesses and organizations that provide similar services.

**DETAILED FEATURES OF RECYCLING AND COMPOSTING PROGRAMS:**

List below the types and volumes of material available for recycling or composting.

According to the United States Environmental Protection Agency (EPA), national averages show the following breakdown of what is in Municipal Solid Waste (MSW).

<b>Material Category:</b>	<b>EPA Average</b>	<b>St. Clair County Residential/Commercial Waste, tons</b>	<b>St. Clair County Average Amount, tons</b>
Paper	38%	168,651	64,087
Yard Trimmings	18%	168,651	30,357
Metals	8%	168,651	13,492
Plastic	8%	168,651	13,492
Glass	7%	168,651	11,806
Food Waste	7%	168,651	11,806
Other	14%	168,651	23,611

The following briefly describes the processes used or to be used to select the equipment and locations of the recycling and composting programs included in the Selected System. Difficulties encountered during past selection processes are also summarized along with how those problems were addressed:

**Equipment Selection**

**Existing Programs:**

The process of equipment selection is handled mostly by the private sector in St. Clair County. The notable exception to this is the selection of recycling drop-off bins operated by the St. Clair County Resource Recovery Office. Approximately ten years ago, St. Clair County purchased eight, custom-made, 30 cubic yard roll off containers. One container was purchased by a five-township coalition (Lynn, Mussey, Emmet, Berlin and Riley).

**Proposed Programs:**

There are no proposed programs for equipment selection. It will remain the choice of the operators of the facilities as to what equipment is used.

**Site Availability & Selection**

**Existing Programs:**

Many communities in St. Clair County use private waste haulers to provide curbside recycling and composting services to their residents. The private waste haulers utilize their own recycling facilities for the most part. The private owners of these facilities

determined the process used to select the sites for these facilities.

The eight custom-made, 30 cubic yard roll-off containers operated by the St. Clair County Resource Recovery Office are located at their respective Township Halls and Department of Public Works. The exception is the container located at Smiths Creek Landfill.

There are two private composting facilities in St. Clair County that are used by private haulers. Composting facilities are not required to be licensed by the MDEQ or NREPA Act 115, but they must meet local ordinances and have local site plan approval. Although not required, the MDEQ will do an advisory analysis of the site to determine how suitable the land is for a facility of this sort, if requested by the local government.

**Proposed Programs:**

None.

**Composting Operating Parameters:**

The following identifies some of the operating parameters which are to be used or are planned to be used to monitor the composting programs.

**Existing Programs:**

<u>Program Name:</u>	<u>pH Range</u>	<u>Heat Range</u>	<u>Other Parameter</u>	<u>Measurement Unit</u>
<u>Techni-Comp Environmental</u>	<u>7 – 7.2</u>	<u>~ 131° F</u>	<u>aerated 1-2 times a week in summer and fall; biweekly in winter</u>	<u>N./A.</u>
<u>Indian Summer<sup>1</sup></u>	<u>7.1-7.4</u>	<u>~ 140° F</u>	<u>Piles are turned Three times a Year.</u>	<u>Accepts ~ 35,000 tons per year Of which only 5000 tons are from St. Clair County</u>

**Proposed Programs:**

<u>Program Name</u>	<u>pH Range</u>	<u>Heat Range</u>	<u>Other Parameter</u>	<u>Measurement Unit</u>
<u>Howards Transfer And Reclamation Facility</u>	<u>N./A.</u>	<u>N./A.</u>	<u>N./A.</u>	<u>N./A.</u>

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<sup>1</sup> Finished compost product is available to Casco Twp. residents at no charge (for personal use).

## **COORDINATION EFFORTS:**

Solid Waste Management Plans need to be developed and implemented with due regard for both local conditions and the state and federal regulatory framework for protecting public health and the quality of the air, water, and land. The following states the ways in which coordination will be achieved to minimize potential conflicts with other programs and, if possible, to enhance those programs.

It may be necessary to enter into various types of agreements between public and private sectors to be able to implement the various components of this solid waste management system. The known existing arrangements are described below which are considered necessary to successfully implement this system within the County. In addition, proposed arrangements are recommended which address any discrepancies that the existing arrangements may have created or overlooked. Since arrangements may exist between two or more private parties that are not public knowledge, this section may not be comprehensive of all the arrangements within the County. Additionally, it may be necessary to cancel or enter into new or revised arrangements as conditions change during the planning period. The entities responsible for developing, approving, and enforcing these arrangements are also noted.

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Ultimate responsibility for the St. Clair County solid waste management program rests with the St. Clair County Board of Commissioners. The county owns Smiths Creek Landfill, administers the Resource Recovery Office, requires waste haulers to be licensed and adopts the Monitoring and Enforcement Mechanism to enforce the plan.

The Board of Commissioners has appointed the Metropolitan Planning Commission (SCCMPC) as the Designated Planning Agency (DPA). In carrying out the duties of DPA, the SCCMPC provides staff support to the Solid Waste Management Planning Committee. There is no role of approval by the SCCMPC in this process. The Solid Waste Management Planning Committee serves that function and will continue.

The Health Department shares monitoring and enforcement responsibilities under the plan and adopts the monitoring and enforcement contained in this plan. (Appendix E)

# MEMORANDUM OF UNDERSTANDING

## Solid Waste Management Planning Process

This Memorandum of Understanding (MOU), entered into this date of February 18, 1998, by and between, the St. Clair County Solid Waste Management Planning Committee, hereinafter referred to as the "COMMITTEE", and the St. Clair County Metropolitan Planning Commission, hereinafter referred to as the "DESIGNATED PLANNING AGENCY" or "DPA", for the purpose of identifying the roles and responsibilities of the parties in agreeing to cooperate in the St. Clair County's solid waste management planning process.

The Michigan Department of Environmental Quality, Waste Management Division, under authority of Section 11539a of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act 1994 P.A. 451, as amended, have issued the following requirements to guide Michigan counties in the preparation of an updated solid waste management plan. This MOU is not intended to replace any of Part 115 or its Administrative Rules.

Pursuant to Section 11533, the County Board of Commissioners shall appoint a Committee to assist the agency designated to prepare the plan. The term of appointment for the COMMITTEE is two years. The COMMITTEE shall consist of 14 members. Of the members appointed, four (4) shall represent the solid waste management industry, two (2) shall represent environmental interest groups, one (1) shall represent county government, one (1) shall represent city government, one (1) shall represent township government, one (1) shall represent the regional solid waste planning agency (SEMCOG), one (1) shall represent industrial waste generators, and three (3) shall represent the general public. A member appointed to represent a county, city or township government shall be an elected official of that government or the designee of that elected official. Vacancies shall be filled in the same manner as the original appointments. A member may be removed for non-performance of duty. The role of the COMMITTEE is to be a policy body in this process which directs drafting of the plan, approves the plan and recommends the plan to the County Board of Commissioners.

Pursuant to Section 11533, Rule 702(1), the County Board of Commissioners shall appoint the DPA who is responsible for the plan preparation. The duties of the DPA are specified in both sections of the law and the rules (Section 11535 and Rules 706, 707, 711[g]). These duties include:

- arrange and hold meetings of the COMMITTEE
- hold public hearings on the draft plan
- publish public notices
- do research and gather information and public comments necessary to prepare the plan
- draft plan materials and documents


- mail notices and plan materials as necessary
- maintain a central repository for public review of plan materials
- maintain mailing lists
- conduct all public participation activities.

In carrying out these duties, the DPA provides staff support to the COMMITTEE. The St. Clair County Metropolitan Planning Commission (SCCMPC) operates under the State Enabling Legislation and is charged with the responsibility of comprehensive planning for the county. The County Board of Commissioners appropriates funds to staff the SCCMPC's annual work program which consists of six full-time employees. Inasmuch as staff is responsible for duties comparable to what has and continues to be required for the drafting of the solid waste management plan, it is appropriate that the staff which serves the St. Clair County Metropolitan Planning Commission can serve the staff functions of the DPA.

There is no role of approval by the SCCMPC in this process. The COMMITTEE serves that function and will continue.

Therefore, the COMMITTEE, not the SCCMPC serves as the policy body in the preparation and drafting of the solid waste plan. By designating the SCCMPC as the DPA, it is implicit that the staff of the SCCMPC will function as staff to the COMMITTEE and there will be no approval authority on behalf of the SCCMPC.

Attest:

  
\_\_\_\_\_  
Ted Frantz, Chairperson  
Solid Waste Management Planning Committee

2-26-98  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Steven Cooper, Chairperson  
St. Clair County Metropolitan Planning Commission

2-18-98  
\_\_\_\_\_  
Date

## COSTS & FUNDING:

The following estimates the necessary management, capital, and operational and maintenance requirements for each applicable component of the solid waste management system. In addition, potential funding sources have been identified to support those components.

Calculation of the costs of some of the various components is not possible due to the number of private agencies and businesses providing the services. Agencies and businesses tend to absorb the cost of performing these tasks without the knowledge of their specific cost.

<b>System Component<sup>1</sup></b>	<b>Estimated Costs</b>	<b>Potential Funding Sources</b>
<u>Resource Conservation Efforts</u>	N./A.	Resource Recovery Programs
<u>Resource Recovery Programs</u>	\$170,000/yr	Fee (\$.25/yd <sup>3</sup> Smiths Creek Landfill)
<u>Volume Reduction Techniques</u>	\$60,000/yr	Use of paper mill sludge in place of virgin material for Alternative Daily Cover.
<u>Collection Processes</u>	N./A.	Private Haulers
<u>Transportation</u>	N./A.	St. Clair County Road Commission
<u>Disposal Areas</u>	1. \$3,051,000/yr 2. N./A.	1. Smiths Creek Landfill 2. Range Road Property (Type III) Detroit Edison
<u>Future Disposal Area Uses</u>	N./A.	Landfill Tipping Fees.
<u>Management Arrangements</u> DPA Staff	\$75,000/yr	SCCMPC dept. fund.
<u>Educational &amp; Informational Programs</u>	N./A.	Resource Recovery Programs

<sup>1</sup> These components and their subcomponents may vary with each system.

## **EVALUATION SUMMARY OF THE SELECTED SYSTEM:**

The solid waste management system has been evaluated for anticipated positive and negative impacts on the public health, economics, environmental conditions, siting considerations, existing disposal areas, and energy consumption and production which would occur as a result of implementing this Selected System. In addition, the Selected System was evaluated to determine if it would be technically and economically feasible, whether the public would accept this Selected System, and the effectiveness of the educational and informational programs. Impacts to the resource recovery programs created by the solid waste collection system, local support groups, institutional arrangements, and the population in the County in addition to market availability for the collected materials and the transportation network were also considered. Impediments to implementing the solid waste management system are identified and proposed activities which will help overcome those problems are also addressed to assure successful programs. The Selected System was also evaluated as to how it relates to the Michigan Solid Waste Policy's goals. The following summarizes the findings of this evaluation and the basis for selecting this system:

The Goals and Objectives of the St. Clair County Solid Waste Management Plan can be effectively achieved with a continuation of the present day solid waste management practices employed by some of the County's municipalities and by adoption of similar approaches by the remaining communities. With an increased focus on resource conservation, waste reduction, pollution prevention and recycling by all of the County's waste generators including residents, businesses and industries, the County can meet its goal of reducing the quantity and volume of solid waste that must be disposed of in landfills.

The selected solid waste management system is technically and economically feasible. All of the major components including collection, transportation, disposal, recycling, and composting are proven technologies and have been accepted by the public.

The positive and negative impacts of the selected system are evaluated below:

### ***Effects on Public Health and the Environment***

One of the primary goals of the selected solid waste management system is to "Protect public health and the environment from the adverse effects of improper solid waste collection, transportation, processing and disposal. The means by which this goal will be met are as follows:

- Promote solid waste practices that avoid adverse effects on the public health and environment.
- Assure that all non-hazardous solid waste generated in St. Clair County is collected and recovered, processed, or disposed of at facilities which comply with state laws and rules governing location, design and operation.
- Identify sufficient disposal capacity to accommodate the solid waste generated in St. Clair County for a 10-year planning period.
- Develop a county wide inspection program for solid waste collection vehicles.
- Promote the county household hazardous waste drop-off/collection program.
- Encourage municipalities to explore contracting with a single hauler for

residential pick up of solid waste, recyclables and yard waste with in the municipality.

The selected plan, which places an emphasis on resource recovery, relies solely on sanitary landfills for final disposal of waste. Historically, land disposal of solid waste at “dumps” produced negative effects on public health and the environment due to leakage, blowing papers, and vermin. Modern landfill design features such as composite liner systems, leachate collection systems and improved operational methods to reduce blowing papers and vermin have addressed these conditions.

Any increase in materials diverted from landfills by recycling and composting programs will extend the remaining life of sanitary landfills and reduce the public health and environmental impacts by reducing the amounts of certain types of materials entering landfills.

The transition from Household Hazardous Waste Collection Days to Household Hazardous Materials Collection by appointment offers county residents a year-round solution to household hazardous waste disposal. This change in operational methods will help remove household hazardous wastes from the waste stream and prevent them from going to a landfill.

### ***Economics***

While landfilling remains the most cost-effective method of solid waste disposal, improperly designed or operated landfills can prove costly due to off-site migration of leachates and landfill gases. Smiths Creek landfill currently meets State regulation. .

Included in tipping fees at Smiths Creek Landfill that cover short and long term operational costs, is a dedicated resource recovery fee. The money collected by this fee funds the Resource Recovery Program. The Resource Recovery Program currently funds:

- Resource Recovery Efforts
- Volume Reduction Techniques
- Educational & Informational Programs

A common goal of the Resource Recovery Program and the Solid Waste Management Plan is to reduce the quantity and volume of County’s solid waste stream that must be disposed of in landfills. Because recycling markets may fluctuate up and down, recycling and resource recovery may not necessarily be the most cost-effective waste component. St. Clair County residents may be willing to pay a little more for these components of the solid waste management system because of the obvious benefits. Self-sufficiency is a critical part of the plan. The flow control provisions of the plan assists in assuring the disposal and resource recovery components of the plan can be adequately funded.

### ***Siting Considerations***

Regarding existing or potential problems with sanitary landfills it should be noted that under strict State requirements many of the problems associated with the old-type "dumps" are gone. A sanitary landfill can be an environmentally acceptable method of disposal. However, landfills can be extremely difficult to site due to public opposition and the need to locate an environmentally sound site. St. Clair County has more than ten years of disposal capacity identified in this plan (15 years current capacity and 33 future capacity) and does not need to site a new landfill. As the need arises to expand the existing engineering plans at Smiths Creek Landfill, this Plan has identified three potential scenarios of expansion (pg. III-35).

Composting operations and recycling facilities are not subject to the licensing provisions under NREPA Part 115. This plan has identified those operations in the county that are currently composting and recycling. It is not this Plan update's intent to prohibit additional programs or expansion of current programs to be implemented beyond those listed.

### ***Existing Disposal Areas***

The selected solid waste management system identifies two landfills and one transfer station/processing plant to provide disposal capacity for the five and ten year planning periods. Therefore, no new solid waste disposal areas are included in this Plan. However, possible future expansion of Smiths Creek Landfill is recognized by this Plan.

### ***Energy Consumption and Production***

The selected solid waste management system uses a lot of energy in the form of fuel consumption to run all of the collection routes. Through coordinated efforts and new hauling technologies much of the duplication, which leads to increased energy consumption, can be eliminated. For example, energy savings may be incurred if municipalities hire a single hauler to handle all residences in the municipality. This would eliminate multiple haulers covering the same routes.

Sanitary landfills represent a potential loss of energy recovery of combustible materials. Title 5, of the Federal Clean Air Act of 1990 will require all Type II Landfills that exceed a certain level of landfill gas generation, to incorporate some sort of gas recovery system. This Plan encourages studies into the feasibility of methane gas recovery for energy production at Smiths Creek Landfill.

## **ADVANTAGES AND DISADVANTAGES OF THE SELECTED SYSTEM:**

Each solid waste management system has pros and cons relating to its implementation within the County. Following is an outline of the major advantages and disadvantages for this Selected System.

### **ADVANTAGES:**

1. The selected solid waste management system is technically and economically feasible.
2. All of the major components of the selected solid waste management system including collection, transportation, disposal, recycling and composting are proven technologies and have been accepted by the public.
3. Selected system identifies opportunities to increase educational materials and public awareness of resource recovery.
4. Selected system identifies programs for collection of household hazardous materials.
5. Selected system is limited to two landfills which minimizes the potential for groundwater contamination from numerous sites.
6. Selected system identifies several composting and recycling components which preserve landfill space.

### **DISADVANTAGES:**

1. Relies on landfilling as the only disposal method.
2. Overlapping collection routes by competing haulers is inefficient
3. Selected system does not provide for energy capture or production.
4. The cost of recycling is high and the market for recyclables is unpredictable.
5. Lack of information database to evaluate waste alternatives available to county.

