Appendix A

SECTION VI
POTENTIAL RECYCLING AND COMPOSTING PROGRAMS IN MONROE COUNTY

(Excerpts from the 1991 Monroe County Solid Waste Management Plan)

The following excerpts from the 1991 Monroe County Solid Waste Management Plan were reviewed during the 1998-1999 process of updating the Plan. The following range of available options in recycling and composting within Monroe County were considered.

PROGRAM STRUCTURE

A. **Education** is an absolutely critical component of all recycling and composting programs.

- A shared responsibility between local units of government, Monroe County, school systems, and involved elements of the private sector can together create a social climate conducive to effective education.

- Educational efforts should include information on available programs, environmental benefits to recycling and composting, general waste awareness, and practical techniques to reduce and reuse at the household and commercial levels.

B. **Incentives** create positive motivations to participate in recycling and composting programs. These possible incentives can be of an economic or convenience nature.

- Economic incentives can include lower collection rates for targeted materials, reduced tipping fees at landfills or disposal facilities, and lotteries returning cash to randomly selected participants.

- Convenience incentives include more frequent collection services as well as containers to easily separate and store materials. These containers can be distributed at the residential and/or commercial level.

C. **Regulations** structure rules to enhance recycling and composting in the local communities. These regulations can:

- govern the contracts awarded to waste haulers,

- change licensing and franchise requirements of haulers to provide the "opportunity to recycle" to their clients, or

- create local or county ordinances banning certain materials from the waste stream or requiring their separation.

D. **Institutional support** can create working relationships between local units of government, Monroe County, and the private sector to maximize the impact and efficiency of recycling and composting programs and promotion.

- This relationship can be formalized through memorandums of understanding, steering committees, and the like.

- A full-time Solid Waste Coordinator and required staff can facilitate communications, oversee the implementation of an integrated county-wide plan, and seek outside sources of program financing including State-wide grants and loans.

Together, education, incentives, regulation, and institutional support can provide the foundation capable of redirecting 25-50% of Monroe County's waste stream through waste recycling and composting.

BASE LEVEL RECYCLING/COMPOSTING PROGRAMS

Given the rising cost and unpredictable nature of landfill disposal, some levels of recycling and composting are necessary. The text that follows attempts to provide the framework for a series of programs designed to reduce Monroe County's dependence on landfills at a base or minimal level.

Monthly Residential Curbside Recycling for the City of Monroe

A monthly residential curbside program in the City of Monroe would service the largest and most densely populated community in the County. Monroe's 24,000 residents, living in 8,900 households, would be able to place their newspapers, glass, magazines, tin cans, and plastic on the curb once per month for pick-up by a contracted hauler. This service could be incorporated into the existing trash pick-up contract or bid separately.

One modified garbage truck with compartmentalized bins would be able to service all of Monroe's households over four route days in the month. Thus, for example, a recycling pick-up over each of four Mondays could service the entire community.

An effective, voluntary program can expect to recover 10% of the residential waste stream, with 25-33% of the eligible households participating. The City of Monroe could expect to recover over 1,250 tons of material per year through this program.

County-wide Mobile Recycling Drop-Off Units

Four mobile, compartmentalized trailers could be placed at 14 separate locations throughout Monroe County on a weekly basis. Each identified site would receive one of the four trailers one to two days per week, with one trailer serving four locations. These trailers would be serviced by one of two pick-up trucks capable of hauling up to five tons of capacity.

Newspaper, clear, green, and brown glass, and tin cans would be collected through this program. These collection trailers would be placed at local supermarkets, churches, schools, shopping centers, or parks. The collected materials would then be transported to a centralized or regional facility for processing.

All communities in the Monroe County with over 4,000 population would be serviced with these units along with Luna Pier, Carleton, Petersburg, and the Village of Dundee. The remaining locations include:

Ash Township	Ida Township
Bedford Township	LaSalle Township
Berlin Township	Raisinville Township
Erie Township	Whiteford Township
Frenchtown Township	City of Monroe

A well-publicized drop-off program can expect to recover 2% of the total waste generated within a given locality. With this assumption, these 14 drop-off locations could expect to recover 1,250 tons of material per year.

Commercial Corrugated Cardboard Recovery

The recovery of cardboard in a base level program could include a cardboard collection program at local businesses within the City of Monroe. This would involve the separate collection of cardboard from targeted businesses within the City of Monroe known to generate substantial quantities of cardboard. Roughly 25% of Monroe's businesses would thus be targeted, recovering 50% of the corrugated within the City. A separate dumpster for cardboard would be provided to participants, with collection contracted to one or more local contractors. These establishments, including retail, grocery, and restaurant services, could receive a direct monetary incentive through reduced waste hauling costs, and be placed on a regular collection schedule based on anticipated volume.

An estimated 775 tons of material could be recovered through this program each year, or roughly 3% of the City of Monroe's waste stream.

Commercial High-Grade Paper Recovery for City of Monroe

A high-grade paper recovery program for the City of Monroe is also proposed. This program would target office buildings known to generate substantial volumes of high-grade paper, including government offices, banks, schools, insurance companies, and the like. Special dumpsters would be provided to participating firms, with regular pick-up provided by City-contracted waste haulers. A reduced waste collection fee could be provided as an incentive. High-grade paper could be collected as one grade, requiring employees to sort only between "file stock" paper and general refuse. A targeted goal of recovering 25% of Monroe's high-grade paper through this program would translate into roughly 250 tons of material per year.

Recycling Processing Capability

Given the scope of recycling programs discussed above, appropriate processing capacity is needed to process the identified range of materials. Processing is necessary to clean, sort, and prepare materials so that consistent markets are available that maximize the return on materials sold. The following summary table identifies the type of material collected and the estimated annual tonnage return for this base level program.

Newspaper:	1,938 tons	(54.9% of total volume)
Cardboard:	775 tons	(21.9%)
Hi-Grade Paper:	250 tons	(7.0%)
Magazines:	63 tons	(1.7%)
Glass:	374 tons	(10.6%)
Tin Cans:	100 tons	(2.8%)
Plastic:	25 tons	(.7%)
TOTAL:	3,525 TONS	(100.0%)
Motor Oil:	2,000 gallons	

In addition to processing the materials generated from specific collection programs, this recycling processing facility can also accept recyclable materials from other sources, including haulers, business, industry, and individuals. Materials delivered to the processing facility gate would need to meet minimum standards of purity and separation. A small tip fee could be charged, lower than current landfill disposal rates, to provide revenue to the program while encouraging alternatives to landfilling. Materials not collected through other programs, including scrap metal and appliances could also be accepted at the facility. An additional 5,700 tons of material could be diverted through the processing facility itself, composed as follows: `

Cardboard:	4,875 tons
Ferrous Metal/ Appliances:	287 tons
Newspaper:	626 tons
TOTAL:	5,788 tons

Together, identified collection programs and the processing facility could recover over 9,000 tons per year, translating into roughly 7% of Monroe County's type II solid waste. Ninety-two percent (8,527 tons) of the volume recovered through this series of programs is paper--newspaper, cardboard, high-grade paper, and magazines.

Compost Recovery

A "compost only" section at the existing type II landfill or future disposal facility is recommended. Haulers, contractors, landscapers and residents could bring separated compostables including leaves, grass clippings, landscape waste, and brush to this special area of the landfill and pay a reduced tipping fee for their participation. In addition, finished

compost could be made available to participants at no charge. The voluntary support of the landfill owner would be required.

A low technology approach to processing the compost is proposed, reducing capital and operating costs, but also reducing the quality of the product and its ability to decay rapidly. The raw materials would be built into windrows to compost or decompose and would need to be turned with a front-end loader three times per year. The finished compost would be available in approximately two years.

The finished compost, consisting of low quality because of minimal screening, would be made available to local units of government, the landfill owner, and the general public at no charge. An estimated 10,000 cubic yards or 2,500 tons would be diverted through this "compost only" landfill site.

A series of four independent compost centers is also proposed. The sites, geographically dispersed, would each be open and staffed one to two days per week. A low technology process would be used at these compost centers as well, with a finished product available in two years. Landscapers, haulers, tree trimmers, and the general public would be encouraged to use these centers. If each site were open on a different day of the week, the potential would exist for users to have access to a site somewhere in the County six days per week.
It is assumed that siting of the 1-2 acre centers could be made at no cost using underutilized land owned by the County, local units of government, nurseries, farms, type III landfills, etc.

The finished compost would be made available to local units of government and the general public at no charge. A nominal fee could be charged to farmers, landscapers, and nurseries.

An estimated 10,000 cubic yards or 2,500 tons would be diverted through these four compost centers. In addition, backyard composting is recommended, especially in rural areas of the County.

FULL-SCALE RECYCLING/COMPOSTING IN MONROE COUNTY

An aggressive recycling and composting program in Monroe County, combining source and site-based separation systems, can expect to recover upwards of 60% of the solid waste within the county. The source based recycling systems, with strong incentives and regulations, can expect to recover 28% of the waste stream. Composting systems, again with strong promotion and enforcement, can divert another 9% of type II wastes. Finally, a site based waste processing facility can contribute an additional 20-25% in waste recovery.

The sections that follow attempt to describe and document the potential for full-scale recycling and composting in Monroe County.

Weekly Residential Curbside Recycling for the City of Monroe and the Townships of Bedford, Frenchtown, and Monroe

An estimated 30,000 households are proposed to receive weekly collection of recyclables in this scenario, serving 84,628 residents. The four political entities with the highest populations were selected to receive this service, representing 58% of the entire county's population. Assuming a diversion of 40% of the residential waste in these communities through this program, an estimated 23% of the residential waste in the county would be recovered.

In order to achieve a 40% recovery rate, incentives and regulations, including mandatory recycling, will need to be considered. Licensing requirements and contracts with private haulers in these areas will need to reflect this recovery goal. Monroe County should consider an ordinance requiring source separation for residents in communities with over 14,000 residents.

Newspaper, magazines, glass, tin cans, motor oil, and mixed plastics would be collected in the following volumes:

Newspaper:	13,0788 tons	(72% of total volume)
Magazines:	908 tons	(5% to total)
Glass:	2,725 tons	(15% of total)
Tin Cans:	908 tons	(5% of total)
Plastic:	545 tons	(3% of total)
TOTAL:	18,164 TONS	(100% of total)
Motor Oil:	11,000 gallons	

An estimated 15 compartmentalized, curbside trucks would be needed to service these geographic areas on a weekly basis. Collected material would be transported to the centralized waste processing facility.

Fixed-Site Recycling Drop-off Depots

A series of eleven permanent drop-off recycling sites throughout Monroe County is proposed. These depots would be unstaffed except for Saturdays, when staffing would be available for seniors, handicappers, and others who would like the added convenience of staff support. Design of the compartmentalized roll-off containers would maximize the ease of use, and minimize hazards of contamination, vandalism, or injury.

Supervised drop-off units are widely used throughout the country with generally very positive results. Strong education programs, combined with placement of the units in well-lit and well-traveled areas should greatly reduce the risks associated with this system, such as litter and unregulated disposal of bulky items. The depots would be serviced by a uni-body semi-tractor/roll-off trailer that would drop a replacement container at the site and deliver the full unit to the processing center.

Newspaper, magazines, container glass, tin cans, and motor oil would be collected at the depots. An oil storage tank, separate from the roll-off container would also be placed at each site. Self-service drop-off of motor oil has been successfully implemented in numerous settings, including Meijer stores in Michigan.

All communities with over 3,000 population that are not receiving curbside collection would receive a depot, including the following jurisdictions:

Ash Township	LaSalle Township	Erie Township
Berlin Township	London Township	Ida Township
Village of Carleton	Raisinville Township	Whiteford Township
Village of Dundee	Summerfield Township	

An estimated 10% of the residential waste could be recovered through these depots into participating communities assuming appropriate incentives, education, and regulation. With 34% of the county population residing in these communities, a recovery target of 3.4% of the total Monroe County residential waste stream is presumed. The following recovery by material is suggested:

Newspaper:	1,997 tons	(75% of total volume)
Magazines:	133 tons	(5% to total)
Glass:	399 tons	(15% of total)
Tin Cans:	133 tons	(5% of total)
TOTAL:	2,662 TONS	(100.0%)
Motor Oil:	3,200 gallons	

Commercial Corrugated Cardboard Recovery

One approach to cardboard recovery would involve a collection program to businesses in the City of Monroe, and the townships of Bedford, Frenchtown, and Monroe. These communities have the largest employment within their borders, an estimated 70% of all employees in the county. The separate collection of cardboard would be available to (or required) of all cardboard generators with a regular schedule of pick-ups by front-end loading vehicles. 75% of the available cardboard in these communities would be recovered through this program, an estimated 11,240 tons per year.

Commercial High-Grade Paper Recovery

The separate collection of high-grade office paper from businesses, offices, and institutions with over 10 employees within Monroe County is proposed. A 50% recovery of high-grade paper within the county is targeted, totaling over 4,700 tons of material per year. High-grade paper would be co-mingles and collected as one grade, and would be collected from dumpsters sited at business locations, using a front-end loading truck.

A ban on office paper disposal at landfills or other disposal facilities in the county, along with education, other possible regulations, and incentives can achieve this rate of recovery. A regular schedule of pick-ups would be provided by local waste hauling contractors who are licensed to collect these materials by the local jurisdiction or County.

Source Separation Processing Facility

The source-based collection programs discussed above would recover over 38,000 tons. Processing systems are needed to clean, sort, and prepare materials for market. The following chart summarizes tonnage diversion by material:

Newspaper:	15,075 tons	(39% of total volume)
Cardboard:	13,052 tons	(34% of total)
Magazines:	1,041 tons	(3% to total)
Hi-Grade:	4,763 tons	(12% of total)
Glass:	3,124 tons	(8% of total)
Tin Cans:	1,041 tons	(3% of total)
Plastics:	545 tons	(1% of total)
TOTAL:	38,641 TONS	(100%)
Motor Oil:	14,200 gallons	

Two or more regional processing facilities are recommended over one mammoth facility. Redundant equipment, including automatic and semi-automatic balers, glass crushes, can flatteners, and plastic shredders will be necessary in any case to process this volume of material. Three regional processing facilities, for example, each processing roughly 13,000 tons of material annually, compare favorably to volumes estimated to be processed in the base level processing facility. In other words, 38% larger volumes would be processed in each of these regional facilities, over what would be received in the base level facility, yet would require little additional equipment relative to the base level program.

Regional facilities would also reduce transportation costs significantly, given the frequency and volume of material collected through these source separation programs.

Centralized Waste Processing Facility

A site-based waste recovery component should be developed in conjunction with a waste transfer facility. This facility, ideally located in or near the City of Monroe, would process mixed waste not recovered through source-based recovery programs. A facility sized to process roughly 60% of Monroe County's non-source separated waste (52,500 tons) could include recovery systems designed to recover at least 20% of the waste entering the facility (10,500 tons).

Beyond cost and recovery potential, a facility of this kind is also beneficial in that it can be adapted to more aggressive resource recovery in the future, either by way of recycling, composting, or preparation of a refuse-derived fuel product. It creates a high technology,

adaptable, multi-purpose facility, geared toward material recovery and the transfer of non-recoverable waste to whatever disposal facilities are ultimately developed to serve Monroe County.

Compost Recovery

A ban on yard and wood waste disposal at all licensed Monroe County disposal facilities, along with the construction of a separate, high-technology, county-wide composting facility is recommended. Wood and yard waste would be accepted at the 25 acre compost facility, with tipping fees reflective of operating costs and out-of-county landfill disposal rates. An estimated 13,500 tons of compostable material would be targeted for processing through this facility.

Given the high volumes of expected material, and the need to effectively market a finished product, a high-technology approach to composting should be employed. This would include pre-processing of the compost, including shredding, chipping, grinding, mixing, and de-watering.

Windrows should be turned three times per month, with curing piles formed after six turns. Finished compost would be available within two to three months. Compost should be distributed or sold after final screening, shredding, and packaging has occurred. An estimated 3,000 tons of compost would be delivered directly to the compost processing facility.

Secondly, a series of three regional compost transfer centers should be developed throughout Monroe County. These centers would provide staffed drop-off locations in three geographically dispersed areas of the county. Ideally located in areas already staffed, including DPW yards, the landfill entrance, etc., these sites would be open six days per week, providing a convenience outlet for compostable material generated by households, businesses, landscapers, and local units of government. An estimated 1/2 acre would be required for each site.

Material would be loaded from one of two docks, into transfer containers, most likely 60-90 cubic yards roll-offs. These containers would be transferred to the compost processing facility on a daily basis, or as needed. Tipping fees would be assessed at each location. An estimated 1,000 tons of material would be collected at each transfer site.

Thirdly, a weekly curbside pick-up of grass, brush, and leaves in the City of Monroe and the townships of Frenchtown, Bedford, and Monroe is proposed. Pick-ups would be made eight months of the year, from April through November. No pick-up would be provided during the winter months.

Residents in these communities would be required to separate compostables from other household trash. Collection of the material would be provided through a licensed hauler as part of an overall solid waste contract. Low-cost biodegradable plastic bags, kraft paper

bags, or specialized collection containers would be required of participants. In this way, no de-bagging or additional processing would be required of the collection agent in delivering the material to the compost processing facility. An estimated 75%, or 7,500 tons of annual yard waste generated in these communities would be diverted from a landfill or incineration facility through this program.

In total, 13,500 tons of compostable material, or 55% of available compostables within the county would be recovered through these programs. After the decomposition process, roughly 5,100 tons or 20,000 cubic yards of material would be available for distribution and sale. One half of the finished compost could be distributed at no charge to local units of government and the general public.

DETAILED FEATURES OF RECYCLING AND COMPOSTING PROGRAMS:

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

The following is a list of materials that have the potential of being recycled or composted within Monroe County.

Plastics #1 & 2	Yard Waste
Tin	Tires
Aluminum	Household Hazardous Waste
Newspaper	Agriculture Chemicals
Magazines	Household Batteries
Office Paper	Wood
Corrugated Cardboard	Food Scraps
Glass	Clothing
Metals	

Volumes for the above referenced materials are not available in Monroe County primarily because all programs within Monroe County are voluntary and many different haulers collect within this County and contract directly with the homeowners.

**** For an estimate of current program diversion rates please refer to section III page 37.***

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

Monroe County utilizes private vendors and waste haulers therefore, the need to select equipment is not a function of the County.

Site Availability & Selection

Monroe County communities use private waste haulers to provide collection of recycling and composting materials. Monroe County does provide a yard waste drop off this program is vended out to the private sector. Therefore, the need for Monroe County to select sites for proposed and existing programs is not a function of the County.

Composting Operating Parameters:

Not a function of the County.

Existing Programs:

Program Name:	pH Range	Heat Range	Other Parameter	Measurement Unit

Proposed Programs:

Program Name	pH Range	Heat Range	Other Parameter	Measurement Unit

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.

Ultimate responsibility for implementing the Monroe County Solid Waste Management Plan rests with the Monroe County Board of Commissioners. Within this plan, the position of Solid Waste Coordinator has been established to oversee coordinating and implementing the plan. However, it may be necessary to coordinate with the private sector to implement various components of this plan.

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.

System Component[1]	Estimated Costs	Potential Funding Sources
Resource Conservation Efforts	$6,000.00	Monroe County Solid Waste Disposal Fee
Resource Recovery Programs	$30,000.00	Monroe County Solid Waste Disposal Fee
Volume Reduction Techniques	N/A	Monroe County Solid Waste Disposal Fee
Collection Processes	$25,000.00	Monroe County Solid Waste Disposal Fee
Transportation	N/A	Monroe County Solid Waste Disposal Fee
Disposal Areas	N/A	Monroe County Solid Waste Disposal Fee
Future Disposal Area Uses	N/A	Monroe County Solid Waste Disposal Fee
Management Arrangements	$50,000.00	Monroe County Solid Waste Disposal Fee
Educational & Informational Programs	$10,000.00	Monroe County Solid Waste Disposal Fee

[1] 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.

Many components of the selected system have been implemented therefore, they are feasible, and this has been demonstrated through out the update.

The Selected system has been evaluated and the basis for maintaining the current level of waste management alternatives has been evaluated based on the following criteria:

- Public Acceptability

  The selected plan relies on landfilling as the preferred method of waste disposal this is acceptable because the plan does not call for siting of a new disposal area. Also, the County is committed to continue with its current level of recycling and composting programs therefore ultimately preserving landfill capacity.

- Environmental Impacts

  Properly constructed, maintained and monitored sanitary landfills can have minimal effect on the environment.

- Technical Feasibility / Economically Feasibility

  Currently landfilling is the most economic method of waste disposal for Monroe County residents, the plan encourage communities to seek municipal waste contracts to provide recycling and composting programs that would be convenient to residents and Compliment County supported programs. With a significant increase in population within Monroe County the opportunities for increased tax base does allow municipalities to create a mechanism for revenue.

- Existing Disposal Areas

  The existing plan provides for 10 years disposal capacity for the five and ten year periods. Therefore, no new landfills would be considered.

- Siting Considerations

  The Plan allows industry to submit a proposal to the County for consideration to site a landfill. It would be evaluated to consider the impact to the County and if the siting mechanism should be triggered.

EVALUATION OF RECYCLING

Monroe County has maintained recycling drop off stations despite lack of participation in some areas and contamination in others. We have worked closely with industry to correct these problems and feel that these programs are an important part of the recycling efforts within Monroe County.

Several local units of government have entered into waste hauling services that now include curbside recycling and yard waste collection this has definitely filled a need for the residents of these communities.

The position of the Solid Waste Coordinator has given Monroe County residents local industry an outlet to discuss and provide information for waste reductions services within Monroe County. It has provided for the coordination of many successful programs offered to Monroe County residents.

- Household Hazardous Waste Collection programs
- Yard Waste Collection Program
- Household Battery Program in cooperation with our local banking industry Monroe Bank & Trust
- Christmas Tree Chipping Program
- Bottles to Benches
- Compost bins sales

Currently Monroe County is working to establish a Clean Sweep Program that would offer a safe and convenient method of disposal for herbicides and pesticides from the agriculture community. To complement this program Monroe County is going to establish a Household Hazardous waste collection site at the same location, this will offer the residents of Monroe County the same opportunity to safely and conveniently dispose of household hazardous wastes.

Any increase in the recycling or composting would have to come from the private sector, Monroe County is not going to implement any programs that would require the County to collect, transport or seek markets for materials. Monroe County will continue to support and provide technical assistance to local units of governments regarding implementing any type of waste reduction or recycling programs at the local level.

DETAILED FEATURES OF RECYCLING AND COMPOSTING PROGRAMS

Kinds and volume of material in solid waste stream that will be recycled or composted. The following is a list of materials that have the potential of being recycled or composted within Monroe County.

Plastics # 1 & # 2	Yard Waste
Tin	Tires
Aluminum	Household Hazardous Waste
Newspaper	Agriculture Chemicals
Magazines	Household Batteries
Office paper	Wood
Corrugated	Food Scraps
Glass	Clothing
Metals	

Volumes for the above referenced materials are not available in Monroe County primarily because all programs within Monroe County are voluntary and many different haulers collect within this County and contract directly with the homeowners.

* *For an estimate of current program diversion rates please refer to section III page 37.*

Equipment Selection

Monroe County utilizes private vendors and waste haulers therefore, the need to select equipment is not a function of the County.

Site Availability & Selection

Monroe County communities use private waste haulers to provide collection of recycling and composting materials. Monroe County does provide a yard waste drop off this program is vended out to the private sector. Therefore, the need for Monroe County to select sites for proposed and existing programs is not a function of the County.

Composting Operating Parameters

Not a function of the County.

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. It allows for the Solid Waste Coordinator to work with individual municipalities to create a program that fit the community needs

2. Landfilling is the preferred method of waste disposal this is acceptable because this plan does not call for the siting of a new disposal facility.

3. Continued support for the position of the Solid Waste Coordinator provides a resource available to all County residents.

DISADVANTAGES:

1. The cost for recycling is high.

2. Markets for recycling are unpredictable.

3. In a rual community haul routes for waste haulers are sometimes not feasible.

Appendix B

APPENDIX B

NON-SELECTED

SYSTEMS

Before selecting the solid waste management system contained within this Plan update, the County developed and considered other alternative systems. The details of the non-selected systems are available for review in the County's repository. The following section provides a brief description of these non-selected systems and an explanation why they were not selected. Complete one evaluation summary for each non-selected alternative system.

APPENDIX B

The following was excerpted from the 1991 Monroe County Solid Waste Plan Update. The information was considered in the development of the 1998 Monroe County Solid Waste Plan Update.

COLLECTION AND TRANSPORTATION

Collection and transportation of solid waste is the process of accumulating solid waste from a number of households or businesses into a single unit and transferring the waste to a transfer facility, processing plant, resource recovery plant, or to a final disposal point (i.e., landfill).

Solid waste transporting units are addressed under Part 115. Regulations require vehicles to be adequately covered and cleaned. Appropriate operational procedures are outlined in the Rules.

Collection of waste in urban and rural areas is accomplished by different practices which correspond to the differences in concentration of solid waste production. Collection of bulky items, pick up of source separated materials, and collection of commercial and industrial wastes are special problems associated with urban areas. For these reasons, rural and urban collection and transportation systems are discussed separately.

Urban Collection and Transportation Systems

Collection of residential wastes in urban areas may be accomplished at curbside, alley, or in the backyard. Curbside or alley collection is more efficient and economical compared with backyard collection. Backyard collection requires additional manpower time to retrieve waste from backyards and increased fuel consumption due to extended idling time. Backyard collection is also more physically demanding and involves greater hazards to collectors.

Collection may be accomplished once a week, twice a week, or more than twice a week. Once or twice a week collection requires fewer vehicles and less fuel, and is considerably less costly than more frequent collection. The advantages of more frequent collection are that littering, unpleasant odors and required storage space for solid waste may be reduced.

Bulky items include large appliances, trees and furniture, which often require special handling. Collection of bulky items can be accomplished in several ways: pickup along with mixed refuse; periodic collection along defined routes; collection in response to residential phone request; or radio report by collection crews with pickup by a separate crew. Collection of bulky items along with mixed refuse requires that the collection vehicles and crews are able to handle large objects. A single person crew, for example, could not lift a large item, such as a refrigerator alone. Collection of bulky items along with regular refuse is less expensive than separate collection. However, it is difficult to assess bulk pickup fees with this arrangement. In addition, it is difficult to anticipate and handle especially large quantities.

Periodic collection of bulky items along defined routes works well in inner city areas where pickups are close together. In suburban areas, where pickups are scattered, this system is wasteful. In addition, it is difficult to assess fees for the service. Residential call in systems are more efficient. Proper scheduling makes it possible to concentrate pickups and more efficiently use collectors' time. Lack of cooperation by residents may present problems. This system also has drawbacks in inner city areas where there are a large number of pickups. The final system, radio report by collection crews with pickup by a separate crew, insures that the waste is

collected in a timely manner. A possible problem is that sporadic reports by collection crews may hinder the efficient routing of vehicles.

Source separation is the separation of materials at the point of consumption for reuse in the manufacture of new products. However, it is important to note that several techniques, notably single material separated collection and multi-material separated collection, directly relate to the entire residential collection and transportation system. Single material separated collection may be accomplished by using a compartment or installing a rack in a general refuse truck. Multi-material separated collection usually requires a specially designed collection vehicle. Both systems will affect the volumes handled and cost of collection services.

In many urban areas, solid wastes from large commercial and industrial establishments are not collected by public haulers, primarily because the standard side and rear loading residential collection vehicles cannot accommodate large containers (i.e., greater than four cubic yards). Instead, these establishments contract with private haulers on an individual basis.

Rural Collection and Transportation Systems

The methods of collection used in urban areas have little relevance to rural areas, where there is much greater distance between collection points. There are, however, several collection methods applicable to rural areas. These methods include: disposal by residents; direct transport by residents to landfills; transport by residents to centrally located bulk containers; and door-to-door "mailbox" collection.

Disposal by residents on their own property is most convenient and least expensive. However, it is also most difficult to monitor and control, and may encourage open burning and roadside dumping, which are unacceptable practices. Disposal by residents is not considered an optimal alternative.

Transport of waste by residents to staffed bulk containers is another alternative collection method. These containers can be purchased relatively inexpensively and effectively serve residents within a 3 to 5 mile radius. This method of collection, sometimes called a convenience center, is incorporated into the discussion of transfer facilities, which begins later in this section.

Applicability to Monroe County

Monroe County's collection system is working relatively well and the County will continue to rely on private companies to supply collection and transportation services. There are, however, some difficulties associated with duplication of services and economic inefficiency. With 13 private haulers operating in the County, there is a great deal of overlap.

De-centralization of hauling has also prevented opportunities for recycling/composting. A centralized collection system could include source separation alternatives which would be mandated by the local communities.

COLLECTION AND TRANSPORTATION

Description

- process of collecting and transferring solid waste from the point where it is generated to a transfer facility, processing plant, resource recovery plant, or final disposal point (i.e., landfill)

Requirements for Implementation

- public or private collection service with adequate equipment and manpower
- public education program to information residents of time of collection and necessary preparation

Alternate Methods

- urban areas
  - curb side, alley or backyard pickup of residential wastes
  - special pickup of bulky items
  - curbside pickup or recycling center for source separated materials
  - door-to-door pickup of commercial and industrial wastes
- rural areas
  - disposal on own property
  - transport by residents to landfill
  - transport by residents to bulk containers (Type B transfer facilities)
  - door-to-door "mailbox" collection

Applicability to Monroe County

- continuance of private service is preferred for the majority of the County
- public collection service is provided in the City of Milan
- 13 private haulers serve remainder of Monroe County

TRANSFER FACILITIES

A transfer facility is a designated location where solid waste is collected in containers and hauled to a disposal site. Type A transfer facilities are designed to handle waste primarily from mechanically unloaded collection vehicles. These large facilities are considered when collection vehicles must travel more than fifteen miles from their collection routes to the disposal site. At this distance, the saving in vehicle maintenance and fuel costs begin to balance the cost of constructing, operating, and maintaining a complex, large capacity transfer facility.

Type B transfer facilities are designed to handle manually unloaded waste. These small transfer facilities, sometimes called convenience centers, are used in rural areas to collect waste transported and unloaded by residents. Convenience centers effectively serve residents within a five-mile radius and are most attractive where waste volumes are low.

Transfer facilities may or may not include compaction capability. Non-compacting transfer facilities are used in low volume applications and are comprised of one or more 10, 20, or 40-cubic yard containers. The containers are filled with refuse manually and periodically emptied into a truck or hauled to a disposal site. A variation of this system is dumping by residents directly into a truck parked at a designated location.

A compactor may be economical if more than 70 cubic yards of waste are handled each week. There are two types of hydraulic compactors presently in use. A mobile compactor is mounted directly onto a transfer trailer. Solid waste is dumped into a hopper and pushed toward the back of the trailer by a horizontal compression ram. Hinged backdoors swing open to eject waste. A disadvantage of this type of unit is that the weight limits on roads may limit the size of vehicle and the amount of waste which can be transported.

A stationary compactor overcomes the weight limitations of the mobile compactor. A stationary compactor is anchored at a transfer facility and connected to a container or a trailer with sides reinforced to handle compaction pressure. Waste is dumped into a hopper or moved by conveyor into the compactor and pushed toward the front of the trailer.

A transfer facility must be centrally located and in sufficient demand to justify maintenance costs. A former landfill site may be used to minimize land acquisition costs. A utility connection may be required if a compactor is used. Access roads must be well maintained and able to accommodate heavy vehicles, but lightly used to avoid disruption of local traffic.

Transfer facilities have several advantages. First, transportation costs are minimized when there is considerable distance between waste generators and the ultimate disposal site. Establishing a transfer facility is less costly than the cost to upgrade, construct, or maintain a landfill in compliance with Part 115. Thus, they are economical in sparsely settled areas. In addition, transfer facilities are easily adapted into recycling centers. Finally, a facility with compaction capability can reduce the volume of waste by half, thus reducing transport costs and conserving landfill space.

Transfer facilities have several disadvantages. They are not an ultimate method of disposal. Rural bridge and road limits may present problems to hauling containers, particularly if solid waste is compacted. Unstaffed transfer facilities also have the disadvantage of potentially generating litter and unregulated disposal. Furthermore, elaborate systems with compactors and large capacities have high capital, operation and maintenance costs.

Applicability to Monroe County

Monroe County currently does not have any Type A or Type B licensed transfer facilities. With escalating transportation costs and longer haul routes, it is likely that the County will be in need of both type of facilities.

TRANSFER FACILITIES

Description	-	designated location where solid waste is collected in containers and hauled to disposal sites
Requirements for Implementation	-	landfill at considerable distance from waste generators
	-	construction permit and operating license pursuant to Part 115
Advantages	-	minimizes collection costs when long distance between generators and disposal site
	-	simple facility can be economical in sparsely settled areas
	-	easily adapted into recycling centers
	-	with compaction capability can reduce volumes by half
Disadvantages	-	not ultimate disposal method
	-	more elaborate systems have high capital and O&M costs
	-	rural road weight limits may be problem to hauling containers, especially if waste is compacted
	-	potential litter generation and unregulated disposal
Alternate Methods	-	Type A - large facility designed primarily to handle wastes unloaded mechanically (i.e., from collection trucks)
	-	Type B - small facility designed to handle wastes unloaded manually by residents or commercial establishments

SANITARY LANDFILLS

A sanitary landfill is a land area where solid wastes are disposed of utilizing sanitary landfilling techniques. These techniques involve confining the refuse to the smallest practical volume and area and covering it with a layer of suitable soil at the conclusion of each day's operation.

Sanitary landfills, as defined by Part 115, are categorized as either Type II or III landfills. "Type II means an on-land disposal facility designed and operated to accommodate general types of solid waste, including, but not limited to garbage and rubbish, but excluding hazardous waste." "Type III means an on-land disposal facility designed and operated to accommodate large volumes of certain solid waste having minimal potential for groundwater contamination." Type III landfills are generally easier and less costly to site compared with a Type II facility. The following discussion of sanitary landfill methods and applicability to Monroe County is related primarily to Type II sanitary landfills.

Today's landfills contrast significantly with landfills developed prior to enactment of the Solid Waste Management Act, P.A. 641, 1978 (now Part 115 of NREPA). Part 115 requires environmental safeguards such as liners, leachate collection systems, groundwater monitoring and engineering requirements. The Michigan Department of Environmental Quality and local certified health departments oversee the implementation of requirements presented in Part 115.

Sanitary Landfill Methods

There are basically two alternate methods of landfill: the trench method and the area method. The trench method involves the excavation of trenches which are progressively filled with compacted solid waste. Soil from the trench excavation is used as cover material. The trench method is primarily used in very small landfill operations; thus, it is rarely used today.

In the area method, a large area of land is excavated to approximately 30 feet below grade. The excavated soil is stored in stock piles for use as future cover material. Solid waste material is unloaded onto the existing ground surface and spread into long uniform layers 16 to 30 inches thick. Many layers may be placed on top of each other until the desired height is obtained. The layers are compacted and covered with 6-12 inches of soil at the end of each day's operation.

A combination of the area method and trench method may also be used. After trenches are dug and filled, the site may be covered with solid waste using the area method. Spoil left over from the trench method may be used as cover material during the area method disposal.

General Landfill Siting Requirements and Design Guidelines

1. To determine whether a site is acceptable for hosting a Type II sanitary landfill, a hydrogeologic investigation must be completed. An area containing natural clay soils and a deep ground water table is likely to be more suitable for sanitary landfill development than an area containing porous soils and a high water table. The use of impermeable synthetic lines, however, may be required for landfill development in the future.
2. Surface water, ground water and the atmosphere must be protected from landfill generated pollutants. The use of methane recovery technology and leachate collection systems must be considered in any new landfill development project.
3. Sufficient quantities of suitable soil for covering each day's waste disposal should be available on site or an off site source should be identified.
4. Transportation distance is a factor which must be considered.

3. Sufficient quantities of suitable soil for covering each day's waste disposal should be available on site or an off site source should be identified.
4. Transportation distance is a factor which must be considered.

Post Landfill Uses

The ultimate use, once closed, of the sanitary landfill must be determined prior to development. Ultimate uses of completed landfill sites include greenbelts, recreational areas, parking lots and sites for construction of light one-story structures such as greenhouses which are approved by the MDEQ. Greenbelts, or buffer zones contain no expansive structures and are planted with shallow-rooted vegetation. Recreational facilities constructed on landfill sites include ski hills, ball diamonds, golf courses, and tennis courts. One-story structures, parking lots, roads and runways for small airplanes have also been constructed on former landfill sites. However, design, construction and maintenance of structures on landfill sites is much higher than on other sites and requires MDEQ approval. Variable decomposition rates, settling and differences in density of waste are special problems. Buildings must be anchored by corrosion-resistant pilings and vented to prevent gas accumulation. Roads or parking lots must be constructed of flexible, easily repairable material. For these reasons, low density recreational use of completed landfill sites is most common.

Applicability to Monroe County

Although waste recovery options can dramatically reduce the amount of sanitary landfill space needed, they can not totally eliminate Monroe County's dependence on landfills. Sanitary landfills are an economically viable alternative method for disposal of solid wastes and residues derived from waste processing. Yet it has become increasingly difficult to site landfills in Monroe County for several reasons. First, siting landfills near population centers is difficult because of limited available land, increasing land values and public opposition. Second, landfill licensing requirements are becoming more stringent due to environmental concerns. Consequently, it is becoming extremely costly to design and construct a landfill in compliance with Part 115. Monroe County, however, must continue to identify criteria for evaluating potential sanitary landfill hosts.

Out of county landfills currently used by Monroe County may not be available to the County in the future. A goal of the Monroe County Solid Waste Management Plan is to reduce the County's dependency on distant landfills. An integrated solid waste management plan which incorporates a variety of waste management alternatives and fosters cooperation and flexibility between counties will help solve Monroe County's solid waste disposal problems.

SANITARY LANDFILLS

Description	-	land area where solid wastes are disposed by spreading in thin layers, compacting to the smallest practical volume, and covering with soil at the end of each day
Requirements For Implementation	-	sufficiently large land area able to meet environmental and regulatory requirements (e.g., isolation distance, etc.)
	-	near urban areas to avoid high transport costs
	-	adequate cover material

- site with suitable hydrogeologic conditions to minimize potential environmental hazards
- engineering design to control escape of gases and leachates
- construction permit and operating license required by Part 115

Advantages

- final disposal method which can receive all refuse items
- frequently an economical method if land is available and operational costs are monitored
- flexible: not affected by short term fluctuations in volume

  operations can be terminated without great loss of land or equipment
- equipment maintenance less costly compared to other waste management systems
- once land is acquired, landfill can be established if necessary permits have been issued

Disadvantages

- land costs continue to increase
- large amount of land needed may not be available near urban concentrations
- location of new landfills frequently opposed by public
- prevention of groundwater pollution and meeting MDEQ licensing requirements is costly
- potential liability for groundwater contamination
- methane may present explosive hazards to end use of landfill

Applicability to Monroe County

- regardless of other waste disposal systems employed, access to a licensed sanitary landfill for all residents is necessary
- development of an additional in-county landfill may be necessary to meet Monroe County's disposal requirements if current capacity is depleted and access to facilities in other counties or states is not available.

VOLUME REDUCTION

Volume reduction processing serves to make handling and disposal of solid wastes easier because the maximum particle size is controlled. Waste volumes may be processed by compactors, balers or shredders.

Compactors are commonly used in collection trucks or transfer facilities. Their primary purpose is to reduce volumes, thereby increasing payloads and reducing transportation costs. Compactors typically reduce solid waste volumes by 50 percent.

lers can handle single materials or mixed refuse, and are thus more versatile than compactors. Balers are important in three areas: bundling of recyclable materials, volume reduction for businesses and refuse handling at landfills. Baling of recyclable materials improves ease of handling and increases the selling price of certain materials, notably cardboard. All recyclable materials except glass and fragile plastic may be baled.

Balefilling in landfill operations will conserve space, reduce the amount of cover material required and reduce transportation costs. Balefilling is also claimed to reduce leachate and methane gas migration problems in landfills. A negative characteristic of balefilling operations, however, is that special expensive baling machinery is required to handle corrosive, mixed refuse. In addition, baling discourages energy and materials recovery.
Balers are classified by direction of compressor movement. Vertical downstroke balers are manually loaded and capable of handling small volumes of materials. Vertical upstroke balers are also manually loaded but can handle greater quantities than vertical downstroke balers. Horizontal balers handle the greatest volumes and may be automatically fed by conveyor. Large capacity horizontal balers are the most expensive and energy-consumptive.

Shredders include all equipment used for size reduction: grinders, chippers, rasp mills, hammermills, wet pulpers, shears, and other devices. Hammermills are the most commonly used shredders in the United States. Shredders reduce waste volume by as much as 90 percent and can handle virtually any material. Shredding of waste is often required in energy and materials recovery systems. In addition, shredding waste is advantageous in landfilling operations. Shredded waste has greater density and fewer voids when compacted, generates less odors, does not attract vermin and extends landfill life. Shredders would be very useful in the disposal of high volumes of a single type of item such as tires. Problems associated with shredders include generation of dust and small debris, component wear, materials handling and loading problems, and occasional fires or explosions.

Applicability to Monroe County

Volume reduction processing has worthwhile application to Monroe County. Compactors may be used in collection trucks and future transfer facilities. Balers may be used to compact corrugated boxes, paper, ferrous and non-ferrous metals, textiles and newspapers discarded by commercial and industrial businesses. Balers could also be used in future recycling and landfill operations. Shredders could potentially be used in future energy and materials recovery systems or composting operations.

VOLUME REDUCTION

Description	- processing to reduce waste volume and/or to prepare it for handling by other solid waste systems
Requirements for Implementation	- mechanical equipment
	- processing may be required prior to material recovery or energy recovery
	- sufficient volume of waste required to make equipment purchase cost-effective
	- incinerators or mixed waste processors may be regulated by State
Advantages	- volume reduction: more than 50%
	- decreased transportation cost
	- saves landfill space
	- easier handling
	- may increase sale value of some recyclable materials
Disadvantages	- processing equipment is expensive
	- some processes (i.e., balers) may discourage energy and materials recovery
Alternatives	- compactors (trucks; transfer facilities)
	- balers (at businesses, institutions or landfills; for some recyclable materials)
	- shredders (grinders, chippers, rasp mills, hammermills, wet pulpers, etc.)
	- incinerators (energy recovery should be considered if volume is greater than 25 tons per day)

EDUCATION

The success of a solid waste management program for Monroe County will be greatly influenced by the adequacy of education programs designed to inform the general public, commercial businesses and industries about various management strategies. Changes in consumer behavior, manufacturing practices and attitudes about recycling will be required in order to implement many proposed waste management alternatives.

Waste Reduction Education Program for Consumers and Businesses

Education efforts aimed at reducing the amount of waste generated can be employed where there is excessive product packaging, where reusable goods are thrown away and where excessive waste products are part of a production or manufacturing process. A few examples of possible education efforts targeted at consumers, business and government are identified in the Integrated Solid Waste Management Strategy for the Ann Arbor Area Waste Shed.[1] These examples include:

- developing consumer information and labeling systems regarding the types of products and packaging on store shelves
- encouraging consumers to purchase products with the least amount of packaging
- consider the usefulness of second hand retail markets where goods may be taken for resale or reuse
- consider the use of garage sales and flea markets for selling/giving away used items
- publicizing ways of getting off junk mail lists (e.g. writing the direct marketing association can reduce the amount of new junk mail you receive by up to 75%)
- developing school curricula on environmental packaging for elementary, high school and college levels
- encouraging the use of cloth diaper service and discouraging the use of disposable diapers
- launching a waste reduction ad campaign on radio, cable, in news, etc.

Educational efforts targeted at business, non-profit and government organizations could include:

- developing award programs honoring organization with exemplary waste reduction practices
- developing a repair mall or center where a number of repair businesses are operated in a single, convenient location

[1]Conklin and Associates, Inc. Integrated Solid Waste Management Strategy for the Ann Arbor Waste Shed. November, 1987.

- developing waste conscious packaging guidelines for business and promoting businesses who use them

- developing design guidelines and recommendations for recycling locations

- considering state and federal level packaging legislation

- providing waste stream evaluations for businesses to identify means of reducing waste within their basic operations. The recommendations would save each participating establishment money by reducing waste hauling and disposal costs. The evaluations would also identify areas where recycling or composting alternatives could be incorporated, or where the generation of hazardous materials could be reduced

- promoting waste exchanges between local establishments. This involves matching the waste products of one organization with the resource needs of another

- promoting and encouraging the participation of local organizations such as the Great Lakes Waste Exchange. This organization facilitates waste exchange activities through the Great Lakes region

Applicability to Monroe County

Many of the above strategies are long term and will require statewide or national assistance. They will also require a change in attitude on the part of the residents in how they view solid waste disposal. Monroe County can facilitate this change of view through local education and through a public information campaign which informs the public about the serious problems facing Monroe County in the disposal of its solid waste.

Description	involves efforts to inform the general public, local governments, commercial businesses and industry about various waste reduction and recovery strategies.
Requirements for Implementation	local government, public institutions and or private organization committed to establishing and promoting waste reduction and recovery education
	availability of local, statewide and national monies for implementation of educational efforts
Advantages	educational efforts will help to change attitudes about solid waste disposal, which will facilitate other waste management strategies
Disadvantages	difficult to change behavior without providing incentives or regulations
Alternatives	educational efforts targeted at consumers and business
	educational efforts targeted at non-profit organizations, public institutions and government

WASTE MINIMIZATION STRATEGIES

The increasing scarcity and cost of landfill disposal demands a serious investigation of alternative solid waste strategies that include waste reduction, reuse, recycling, and composting. The primary purpose of these strategies is to remove useable material from the waste stream that would otherwise be landfilled or incinerated.

Waste reduction involves reducing the amount of waste actually generated by consumers and businesses. Bulk purchasing, variable can fees, double-sided photocopying, and individual composting all effectively reduce the amount of solid waste actually created.

Waste reuse involves the reuse of final consumer and business products that would otherwise enter the waste stream. Charitable organizations, thrift shops, secondhand stores, flea markets, garage sales, and waste exchanges all exist for the purpose of reusing clothes, appliances, furniture, bottles and many other household and commercial products. Reverse sides of once used paper can be used for other purposes. Michigan's returnable deposit beverage containers is another example.

Waste recycling involves the conversion of waste material into industrial inputs that replace all or part of a product's virgin inputs. Paper, glass, metals, and plastics can all be removed from the waste stream, recycled, and sold as inputs to product manufacturers.

Waste composting, a form of recycling, biologically decomposes organic matter into a viable soil fertilizer. Yard waste, leaves, most food scrap and similar organic materials can be transformed into useful products for groundskeepers, farmers, gardeners, landscapers, and others.

These approaches are complementary. Waste reduction decreases the overall volume of material available for the waste stream. Waste reuse removes additional material before it enters the waste stream. Waste recycling and composting then remove the usable materials that are in the waste stream. While results vary from community to community, aggressive and effective promotion, development, and implementation of these strategies has been shown to reduce the overall waste stream by 50%.

Waste Reduction and Reuse

Waste reduction and reuse limit the amount of solid waste by reducing the generation of waste material and reusing finishing products that would otherwise be discarded into the waste stream. As a growing number of communities are realizing, both strategies offer significant potential savings since each ton kept completely out of the waste stream needs not be collected, processed, or disposed.

Waste reduction is accomplished primarily by encouraging producers to use less materials to manufacture and package their products, and by encouraging consumers to adopt "waste conscious" purchasing behavior. Public education, technical support to firms, and legislation at local, state, and national levels offer the most promising vehicles for achieving effective waste reduction.

While reuse systems already exist, they can be strengthened. Consumers can be encouraged to purchase and contribute more reused goods. Industry can be better informed and encouraged to participate in waste exchanges and similar programs. It is estimated that increased development of these reuse markets can divert an additional 5-10% of the current total waste stream.

Waste Recycling

Recycling has very quickly emerged as the primary waste minimization alternative as communities recognize that recycling can divert 25% or more of the municipal waste stream. Thousands of communities have voluntary recycling programs and a growing number are adopting mandatory recycling ordinances.

Recycling systems remove selected materials from the waste stream, process the materials into usable goods, and then sell the materials as inputs to second-use markets. Old newspapers, office paper, mixed paper, cardboard, glass, and metals are the most commonly recycled materials. Newspaper has and continues to be the most popular residential recyclable, and corrugated cardboard is the most frequently recycled commercial-industrial material.

The effectiveness of recycling systems is determined by two general elements: system design and participation. Both will determine how successfully material is collected and then what is done with it.

System Design: The recycling system must meet the needs of the community in a cost-effective manner, and yet remain within the means of the community. It must be appropriately designed, implemented, and operated, using efficient material collection and processing, adequate quality control and must have access to reliable second-use markets.

Participation: A recycling system requires the cooperation of community residents and businesses. Convenience, education, and regulations are the primary determinants of participation. Other factors influencing participation include: income level, education level and the level of environmental awareness.

Recyclable Materials in the Waste Stream

Approximately fifty-seven percent of the Monroe County waste stream is composed of potential recyclables. The basic recyclable materials are paper, glass, and metal products. Plastic and yard wastes are also being viewed increasingly as recyclable products.

Paper Products: Newspaper, cardboard, office paper, and mixed paper comprise approximately 46% of Monroe County's solid waste, nearly all of which is potentially recyclable.

Newspaper: Monroe County will generate an estimated 30,600 tons of newspaper per year by 1990. Old newsprint has been and continues to be the most commonly recycled residential item, and almost all newspaper is collected, baled and taken to mills that use the pulp fibers to make paperboard and newsprint.

Corrugated Cardboard: An estimated 20,200 tons of cardboard will be generated in Monroe County in 1990. Cardboard, which can make up a majority of the wastes from food and retail establishments has a long recycling history in the private sectors. Larger firms including major grocery stores chains typically recycle cardboard using in-house baling equipment and recycling brokers to market the material. The recycled cardboard is used to make a variety of paper products.

Office Paper: Approximately 9,250 tons will be generated in 1990, primarily by Monroe County service firms and institutions. Though prices have approached $100.00 per ton, only 13% of office paper waste generated is recycled county-wide. However, office recycling programs are quickly increasing in popularity. Recycled office paper is used for its long fibers to make other paper products.

Mixed Paper: Perhaps 20% of the municipal waste stream, old books, magazines, etc. can be recycled into low-grade paper materials, like insulation. This material usually has lower market prices and is often not collected.

Glass Products: About 7,300 tons of glass containers (jar, bottles, etc.), about 5% of the total waste stream, will be generated in Monroe County by 1990. Though the bottle bill already recycles about 5% of the waste stream, non-deposit container glass (as well as glass from Ohio) continues to enter local landfills. Clear, brown, and green glass is ground into cullet and used to make other glass containers and fiberglass materials. For most markets, green,amber, and clear glass must be handled separately to avoid contamination problems.

Metal Products: Steel cans, "white goods," scrap metal, and other miscellaneous metal products make up about 5% of Monroe County's solid waste.

Steel Cans: Steel cans are generated in both the commercial and residential waste streams. While the value of recycled steel is quire high, steel cans tend to pose a problem because most are coated with tin. Where possible, cans may be de-tinned and both the steel and tin recycled. The high value tin is sold to chemical manufacturers and the steel used for low-strength iron or in the process of making low-grade copper ore.

White Goods: Appliances, called "white goods" because they are often coated with enamel, usually contain a significant percentage of steel. They can be shredded in auto shredders for recycling, or taken to a reuse facility to be repaired and redistributed. PCB's are often leaked to grounds in recycling centers. Proper storage and handling requirements must be followed.

Ferrous Metal: Next to white goods, ferrous and non-ferrous metal objects make up the most significant portion of the metal in the waste stream. Iron castings, structural steel, forgings, and mixed sheet steel are disposed of as building materials (sinks, bathtubs), auto parts (mufflers, alternators), machine parts, or miscellaneous household and business discards (siding, bicycles, swing sets, office furniture). Aluminum, copper, brass, bronze and other specialty metals make up the remainder of the scrap metal waste stream.

Aluminum Cans: Due to the deposit law, aluminum makes up a relatively small amount of the waste stream, approximately 0.4%. However, because it is much more cost efficient to use recycled aluminum than to use the raw material, it is worth consideration. Aluminum can still be recovered in the form of foil, food trays, furniture such as lawn chairs, etc.

Yard Waste: Approximately 16,300 tons, or 13% or Monroe County's waste stream, is compostable yard waste. Processed in residential backyards or community composting facilities, yard waste and other biodegradable materials can be an ideal organic input for use by local citizens, municipalities, nurseries, and others.

Recycling Systems: Collection -- Processing -- Marketing

Nearly all recycling systems involve three critical functions: the collection of recyclable materials from the generator, the processing of this material into a form usable and acceptable to a buyer, and the marketing of the processed material to the buyer. Typically, materials must be **sorted** and **stored** during the collection and processing of the material.

These collection, processing and marketing systems must be tailored to the specific and unique conditions in a particular county or municipality. Different methods of collection, such as buy back centers, recycling depots, curbside source separation and others may or may not be applicable to a particular municipality. In turn, the collection systems that are put in place will depend on the type of processing capacity that is available or planned for development. Markets, the "end use" for the materials, dictate what can and cannot be recovered from the waste stream and determine what processing is necessary after collection.

A wide variety of recycling and composting systems are used in communities throughout the nation to gather, process, and market materials of residential, commercial, and industrial generators.

Materials are sorted by the generator and are collected using residential curbside programs, drop-off containers, and recycling centers. The collected material is then stored and shipped unprocessed or "loose" to a processing facility that will then crush and bale the materials before delivery to markets.

Collection Systems

Recycling collection systems are designed to remove recyclable materials from general refuse and direct them to where they can then be processed or marketed. Collection systems can generally be divided into residential and commercial/industrial collection systems. The particular requirements of a collection system will depend upon a variety of demographic and system design factors, characterized below.

Demographics

1. Generator Type: Different kinds of generators have varying requirements and must be serviced accordingly. A collection system for single family homes will differ significantly from a system for a major office building.

2. Generator Concentrations: Generally, collection systems will be more complex and intensive in more populated areas, or businesses and institutions with a larger staff.

System Design

1. Recyclable Materials: Collection systems must be geared to the availability and characteristics of recyclable materials. For example, residential systems would focus on newspaper, which is dense and must be kept dry, while food service systems would focus on tin cans and cardboard, which is bulky and lighter in weight by volume than newspapers.

2. Processing and Marketing Systems: The collection system must fit with the larger recycling system. If pickups are infrequent, storage might be of special consideration as

a component of the collection system. Many collection systems include sorting because this is not handled further in the process (i.e. at the processing facility). Whether or not materials are presorted by the generator will determine if the materials must be separated in processing and the extent to which they can be co-mingled.

Residential Collection Systems

Refuse from households contributes roughly half of the total waste stream for Monroe County; of this, approximately 50% is potentially recyclable. While households generate nearly all recyclable products, newspaper, glass, cans, and plastic are the primary products.

Residential collection systems have historically been supervised by local volunteers and non-profit organizations. Residential collection by the private sector is a relatively recent and growing practice. Many residential collection systems collect newspaper only, although an increasing number are also collecting glass, cans and other materials.

There are generally three kinds of residential collection systems: Curbside collection, Multi-family collection, and Drop-off collection. Each of these systems targets different generators, incurs different costs, and enjoys different benefits. A greater success is achieved with the addition of each complementary system, with overall participation increasing as well.

1. Curbside Collection

Curbside collection is a system in which the generator puts recyclables on the curb, often along with the garbage, and the material is picked up by a hauler who takes the material for processing. Materials are collected on a weekly, bi-weekly, or monthly schedule by the municipal, private or non-profit haulers. Residents are asked to separate recyclable materials from garbage and put them into different collection receptacles. Putting glass in a separate box from cans and bundling newspapers or putting them in brown paper bags, for example, will help to facilitate bi-weekly or monthly scheduled pick-up by municipal, private, or non-profit haulers.

Participation: Public participation depends heavily upon convenience, education and the local waste disposal laws. An effective curbside program can divert more than 20% of the residential waste stream. Participation rates tend to increase if residents are provided with containers to store recyclable materials at low or no cost. Color coded containers work especially well. In some communities Block Coordinators also work well to enhance participation. Mandatory participation is now more frequently being used across the country for curbside collection programs.

System Design: Curbside systems get higher participation and volume collection rates than other collection systems; they are also relatively more expensive than other collection systems due to the needs of special curbside collection equipment, and economical only in areas where population density is high. The actual capital investments required depend upon the number of items handled, the processing system available, and market demands.

2. Multi-family Dwellings

Many communities have large numbers of people in multi-family dwellings, such as apartment complexes, that are not serviced by curbside programs.

Participation: Successful programs usually have general collection containers placed next to garbage disposal areas. Reported success rates are 12-100%, with the greatest difficulty being getting tenants involved who realize no financial gain as a result of their participation. Multi-family residents are often transients who see no financial gain. Collection tends to be easier in dwellings where residents must take care of their own trash. Other aids include: making recycling as convenient as possible, organizing block or floor coordinators, publicizing, educating, and providing financial incentives.

System Design: Multi-family collection can be added to a curbside route or provided separately, with pick-up done on a regular schedule or by demand. It should also be noted that while relatively more work may be required to implement a multi-family dwelling collection system, the operation of these systems is usually more efficient than curbside collection systems because the volume per stop is greater.

3. Drop-off Collection

This is the most wide-spread residential collection system. Drop-off collection systems require the generator to take their recyclables to a location where there are recycling containers. Well placed drop-off depots are an important component of most residential collection programs. Drop-off collection can service those not serviced by a curbside program; it is particularly cost-effective in areas with low population densities, and is an important supplement to curbside systems. Drop-off collection is accomplished with unstaffed drop-off depots and with staffed drop-off centers.

Drop-off Depots

The use of unstaffed drop-off depots is particularly common and cost-effective where large sectors of the population are not serviced by curbside programs.
Participation: Without good siting, education, and strong publicity, use of drop-off depots is generally quite low. This system tends to work better in areas where residents must haul and/or pay private garbage haulers. Participation also increases when depots are attractive and multi-colored, and when residents are given recycling containers for their homes.

System Design: Ideally, depots should be placed next to garbage-deposit sites and in central, convenient locations. They can be serviced with varying regularity or periodically by a variety of collection trucks and the material can be taken to a storage facility, a processor, or the market.

Quality control occasionally becomes a problem since depots are unguarded. However, while some contamination is unavoidable, the depots can be designed to reduce the probability of contamination.

Drop-off Centers

These staffed stations provide a central location where generators drop off their recycled materials and where materials from remote depots can be received. Most drop-off centers ship their collection to processors, although some have processing facilities on site.

Participation: Though generally quite low, good siting, education, and strong publicity can significantly increase a center's participation level.

System Design: Drop-off centers can be started with minimal capital investment and are usually inexpensive to operate. The staff also assure quality control is superior to drop-off depots. Some centers operate with volunteer staffing.

In many states, especially those without deposit container laws, aluminum is handled by recycling centers that "buy-back" recyclable materials from generators. The buy-back models are also common in the business world for scrap materials and cardboard. Providing generators with money for recyclable materials adds a significant incentive to recycle. Buy-back centers are most easily operated in urban areas and can provide economic development resources.

Commercial/Institutional/Industrial Collection

Service companies, retail stores, non-profit organizations, educational and governmental institutions, and other non-manufacturing businesses contribute up to half of the municipal waste stream. Their primary recyclable products are office paper, cardboard, metal cans, other scrap metals, and plastics to some extent.

1. Office Paper (Service offices such as banks, institutions)

Office paper is material with a recovery opportunity that is low cost, low risk, high return and quickly being tapped. Office paper is the most valued paper product which comprises roughly 75% of the typical office waste stream and as much as 90% for banks and insurance companies. Photocopy machines and computers ensure that this trend will continue. Detroit Edison has had an office paper recycling program in their downtown headquarters since 1978.

Office paper collection systems are not very complex. Each desk has one or more desk-top containers for paper. The generator or custodian empties the containers in centrally located containers, then the containers are taken to a collection point to be hauled away.

Participation: Participation varies greatly with the level of support given generators. Office paper programs tend to be more successful in offices where white paper only is collected, where management provides commitment, in-house coordination, and educational sessions, and where employees share in the savings.

System Design: Simplicity is important for implementation, particularly at first. While separating grades of office paper and including other products such as beverage cans would cut more from the waste stream, they are usually not worth while. Problems usually surface in office buildings with multiple or different offices, in settings where there are no financial incentives to the generators. However, larger organizations especially universities and governments should be able to implement multi-material office programs effectively because they tend to be highly structured systems with greater working capital.

2. Cardboard (Retailers, wholesales, manufacturers)

Corrugated cardboard comprises over half the wastes for many grocery stores, convenience stores, restaurants, wholesalers, manufacturers, and other commercial establishments. While cardboard recycling itself is not new, it generally is restricted to the larger establishments. Indeed, many of them are called "at source processors" because they have their own packing or baling equipment and market their cardboard, usually with backhauls of their delivery trucks.

Participation: Participation is mostly a problem with smaller generators. Financial incentive is less because they generate a smaller quantity and have less storage space. For these small generators, making pick up as convenient as possible is crucial to achieve high participation.

System Design: Pick-up convenience and frequency is most important. Successful collection programs exist where collectors service generators on a regular or on-demand schedule. Clear communication between collector and generator about quality, sorting, and breaking down boxes is also very important for successful programs.

3. Construction and Demolition Debris

Particularly in areas of high growth, construction and demolition debris can contribute a significant part to the waste stream. However, very little construction or demolition debris is recovered for any purpose. While wood, metal, glass, and other used construction or demolition materials are recyclable, salvage markets for these products are very limited.

4. Food Wastes, Glass and Tin Cans (Food Establishments)

Food establishments generate large quantities of wastes that can be composted or recycled, but this potential is largely untapped. However, some communities with nearby processing facilities do have stand-alone glass collection from bars and restaurants.

Processing Systems

Recyclable materials typically must be processed in some manner before they are acceptable to the second-market buyer. Processing can include sorting, shredding, crushing, compacting, baling, or granulating, and is finished when market specifications are met.

1. Transfer Facilities

Collected materials are often brought to and stored at transfer facilities which may vary from an open container at a landfill to a staffed recycling center. Little processing takes place, though there may be some sorting and quality control. Transfer stations are relatively inexpensive because little capital investment is required, management is minimal and security needs are relatively few.

2. Material Recovery Facilities

This is a more substantial facility where recyclable materials are delivered from collectors and transfer stations, processed and prepared for market. Again, sorting may be needed if it was not done at the collection stage. Processing can be capital intensive, with equipment requirements depending upon volumes, materials, and market needs. Sorting may be accomplished using magnets, blowers, screens, or by hand. Compactors or balers are needed for paper, granulators for plastics, crushers for glass, chippers for wood products, shredders for all materials. Storage areas for unprocessed and processed materials are also needed.

3. Central Processing Facilities

Central Processing Facilities receive mixed waste and then separate and process the recyclables after removal from the mixed stream. Central processing facilities often work well with current waste management practices, are complementary with source separation programs and can significantly increase the total volume of material recovered.

Material recovery at these facilities is accomplished with a variety of technologies -- including manual and mechanical separation and processing systems such as magnets, blowers, shredders, sorting screens, air classifiers, etc.

Hand sorting of materials is not typically cost-effective because it is labor intensive and labor is expensive. Human error is a further limitation if high purity of recovered materials is required. However, hand separation of large items, such as tree waste or large metal scrap, may be desirable on a limited basis. This action often is necessary due to container size limitations at a transfer facility, or to accomplish proper landfilling.

Separation by screening is a proven technology, but impurities in recovered material typically result. Large capital investment in preprocessing and screening equipment and difficulties in marketing materials with impurities result in low cost-effectiveness for this method.

Separation of materials by specific gravity or bulk density may be accomplished by floatation, air classification, inertial separation, heavy media separation, or vibrating tables. Large materials, which cannot be handled by the equipment, must be sorted from the collected waste. Preprocessing by grinders or shredders is required to reduce materials to particles of a similar size which are subsequently separated by differences in density. Like screening techniques, recovered materials have low purity, markets are limited, and total recovery is not possible.

Magnetic separation is a well-proven technology, which is compatible with most other disposal processes. It is most cost-effective when accomplished in conjunction with an energy recovery (incineration) system. This can be explained by the fact that ferrous metals comprise a relatively small portion of the processable waste stream. A substantial portion of the waste stream is comprised of large bulky items, which are difficult to recover, by magnetic separation system.

Optical techniques can be used to separate glass from opaque materials and clear from colored glass. This technology is under development and is unproven in solid waste applications at the present time.

Mixed waste processing techniques are most feasible in urban areas with large quantities of solid waste where potentially large volumes of recoverable materials help offset high implementation and operation costs.

Applicability of Waste Minimization Strategies to Monroe County

It is estimated that aggressive pursuit of reduction, reuse, recycling and composting strategies can help reduce Monroe County's waste stream by 50%. Reduction efforts can address at least 5% of the waste stream. Reuse efforts focusing on textiles, wood products, white goods, and other metal materials can yield an additional 5% in volume reduction. The impact of composting will vary with program design and support.

ENERGY RESOURCE RECOVERY

Energy resource recovery is the use of processable solid waste to produce energy. Energy recovery may be accomplished by:

- incineration;
- using solid waste as a supplemental fuel in boilers; or
- producing solid refuse derived fuels (RDF).

All these processes use the organic portion of the solid waste stream. Inorganic materials may or may not be recovered, depending on whether a materials recovery system is incorporated into the design.

The two primary types of incineration systems are mass burn incinerators and modular incinerators. Mass burn incinerators are centrally located and designed to handle large volumes (generally more than 600 tons per day) of solid waste. Site built systems with capacities as low as 200 tons per day have been constructed while modular units offer sizes considerably smaller.

Steam or electricity is commonly recovered with most operations. Mass burn systems are proven systems with capital costs which typically exceed $20 million. Steam and/or electricity is commonly recovered. Backup systems may be constructed to ensure a constant energy supply is available. Operation and maintenance costs are also high. Mass burn systems require a constant volume and composition of solid waste for efficient operation. Detailed analysis of energy markets and solid waste characteristics must be accomplished and long-term contracts must be negotiated to ensure that adequate volumes of waste and a continuous energy market are available.

The mass burn incinerators offer a number of different technologies. They all involve a combustion process and increase the systems overall efficiency. These include:

- Waterwall incinerator - boiler is part of combustion chamber
- Refractory - lined incinerator - boiler is separate from the combustion chamber
- Spreader stoker - moving grate for uniform burn
- Fluidized-bed - combustion air and inert material added to aid combustion

In recent years, increasing amounts of solid waste have been used as supplemental fuels in boilers. Major markets have included electric utility boilers, industrial boilers, and district heating systems. Solid refuse derived fuels (RDF) can be prepared as fine shredded refuse, coarse shredded refuse, or as a densified pellet. These fuels can replace 20 to 30 percent of conventional fuel requirements. Solid RDF can only be burned in boilers which have been modified to handle the residue. Coal burners are often most easily modified. In some instances, a new boiler must be purchased. The high cost of purchasing equipment to produce RDF and difficulties in locating markets have prohibited the widespread use of this practice. However, increasing energy costs and reduced landfill volumes are likely to increase the attractiveness of this option in the future.

Incinerators and RDF have several common requirements. First, a market for the energy or fuel must exist. Secondly, a constant, reliable supply of processable solid waste must be available, preferably with a constant composition and high percentage of combustible materials. Finally, a landfill is required to dispose of residue and ash.

An energy recovery system has both advantages and disadvantages. Energy recovery systems are compatible with materials recovery systems (ferrous recovery and source separation) as well as composting operations. Waste quantities are reduced 85 percent by volume and 70 percent by weight, thus, conserving landfill space. Energy recovery also reduces waste of natural resources and extends the life of our domestic energy supplies. In addition, minimal land is required.

There are disadvantages. Energy recovery is not an ultimate disposal process. A landfill is still required to dispose of residues and ash. Ash may also contain significant amounts of lead, cadmium, and other contaminants. This could require disposal in special landfill areas. In addition, only organic material is recovered, though ferrous metals may be recovered if magnetic separation is incorporated into facility design. Potential air pollution is also a concern. A new system will require elaborate air pollution controls which will add costs to the project and decrease the overall environmental suitability.

Applicability to Monroe County

In 1986, a Waste-to-Energy Feasibility Study for Monroe County, was conducted by Gershman, Brickner and Bratton, Inc. The study concluded that a waste-to-energy facility is viable for Monroe County. A detailed analysis of cost and design parameters was provided for three alternative waste-to-energy options.

The options included: 1) an all electric producing incinerator system; 2) a cogeneration system (steam and electricity); 3) an RDF project (sale of fuel to another facility). These options by no

means include all available waste-to-energy systems. They are, however, the more common options which would be most viable for Monroe County.

Each of these alternatives were assessed in detail with special emphasis given to an analysis of economic factors. A life cycle comparison of the above mentioned disposal options compared to typical landfill disposal was also developed.

ENERGY RESOURCE RECOVERY

Description

- use of processable solid waste to recover energy. Steam is most common form of energy recovered, although electricity can also be generated

Requirements for Implementation

- ultimate user of energy must exist
- auxiliary fuel to maintain combustion
- backup system to provide energy during downtime or low volume periods
- landfill to dispose of residual materials and ash
- cost of energy produced must be equal to conventional sources

Advantages

- number of proven systems available
- reduces volume of solid waste to be disposed by 85%
- land requirements minimal compared to landfill
- fairly high energy recovery
- can be integrated with materials recovery and composting programs
- facilities greater than 600 tons per day will in part provide for a regional solution

Disadvantages

- does not handle entire waste stream - some landfilling necessary
- fluctuations in volume and composition can effect system efficiency
- generally high operation and maintenance costs
- system efficiency highly operator-dependent
- air quality must be closely monitored
- ash must be disposed and can be contaminated with heavy metals

INSTITUTIONAL ARRANGEMENTS

Institutional arrangements are agreements which provide for public or private operation of solid waste collection, processing or disposal systems. Institutional arrangements for collection and processing/disposal systems are discussed separately. Multi-jurisdictional approaches are also included as a separate topic.

Collection Systems

Collection service in urban and rural areas is typically provided through one of three arrangements:

- public collection;
- private firms under contract from a governmental unit; or
- private firms in open competition.

Public collection firms have potential advantages in that they are tax free, non-profit, and have the ability to achieve economies of scale. In addition, management and policies are continuous over time which promotes long-term planning and record keeping. A municipality is also able to maintain administrative control and institute mandatory collection and source separated collection for recycling. However, financing and operation may be influenced by political constraints. Public collectors lack incentive to maximize collection efficiency. Labor pressures may result in inefficient labor practices or strikes. Equipment maintenance and replacement may be affected by budget constraints.

Private firms under contract with a municipality are an acceptable alternative to public collection. Competitive bidding keeps prices down, but a municipality maintains administrative control and can institute mandatory door-to-door and/or source separated collection. This alternative is particularly attractive in rapidly growing or newly incorporated communities, or when a community wants to avoid the administrative details of operating a collection system.

Private firms in open competition (i.e., under contract with individual generators) are sometimes viewed as an unacceptable practice because a municipality has no administrative control and overlapping routes waste fuel. In addition, it is difficult to institute source separated pickup such as recyclables and to enforce mandatory collection ordinances. However, this arrangement works well for commercial and industrial waste generators, and does provide freedom of choice to residents in rural areas who do not have municipal collection service. In addition, this arrangement is self-financing, and stiff competition may reduce collection costs.

Combinations of public and private systems are also possible in two arrangements:

- municipal system with private operator under contract; and
- competition between municipal system and private firms

The first arrangement, municipal system with private firms under contract, is particularly attractive. Advantages are that competition helps keep prices down, the municipality maintains administrative control, and that separate collection for recycling and mandatory collection can be instituted. Competition between a municipal system and private firms is an unacceptable alternative primarily because of inefficiencies, overlapping routes, and fuel waste. Although competition would keep prices down, mandatory collection and separate collection for recycling could not be enforced under this arrangement.

If a community decides to contract with a private firm, the local government must administer the bidding process and monitor and enforce the contract. Contract specifications must encourage a number of firms to apply but discourage incompetent or disreputable firms. To accomplish this, contract specifications may require that a performance bond be submitted with each bid. Small firms may be encouraged to bid if sufficient time is provided between the contract award and the beginning of the contract period. This time period would permit small firms with a winning bid to obtain additional equipment. Incentives for improving or maintaining efficiency may be included in contract specifications, and source separation collection may be stipulated.

It is also important to consider the number of areas into which a given jurisdiction will be divided. More collectors can be supported if there is a greater number of areas (contracts). However, an area must be large enough to support a collector. It is also desirable to stagger the bidding for contracts so that competition is more intense. In addition, the number of contracts which can be held by a single firm must be limited so that the total number of collection firms in the area will not be reduced. Such limits must not be so severe that the competitive spirit is diminished.

The EPA recommends a contract period of three to five years. This period is long enough to amortize collection equipment, but not so long that the collector loses incentive to provide quality service.

Processing and Disposal Facilities

Processing and disposal facilities may also be owned and/or operated by private or public groups. However, the reasons for choosing one over the other differ from those involved in collection systems. This is because processing/disposal plants often involve sophisticated technologies and are costly to construct.

Public agencies are tax free, non-profit, organizations and able to obtain low interest rates or grants to finance capital-intensive systems. Public employees may also be available to operate a facility. However, a public entity may lack the expertise needed to operate a sophisticated system and to advertise its availability. Restrictive budget policies may affect equipment replacement and maintenance.

Private firms are advantageous when the borrowing power of a community is limited, voter approval for bond issues is unavailable or if a community lacks the necessary expertise. A community does not have to raise capital or bear the entire risk associated with a new technology. However, if only private disposal facilities are available, a community may have no control of fees. In addition, a private firm may make decisions on the basis of financial reward rather than community needs. A private operator of a landfill, for example, may have as an objective to collect as much refuse as possible to fill a landfill site in the shortest period of time. Consequently, the expected life of the landfill site would be shortened.

Combinations of public/private ownership and operation are also possible. Possible combinations include public ownership and private operation, and private ownership and public operation. Private management of a public facility is advantageous if a community lacks the necessary technical and management expertise. Public operation of a private facility is an uncommon arrangement, but can take place under a leveraged lease agreement. In a leveraged lease agreement, a private investor finances a facility and leases it to a municipality. The private owner reaps tax advantages from this arrangement, while a municipality does not need to raise capital.

Multi-Jurisdictional Approaches

Regional approaches to solid waste management provide communities with an opportunity to accomplish together what they cannot do alone. Regional agreements frequently lead to lower prices, and there may be environmental, aesthetic or financial advantages associated with a single, well run regional facility. Regional agreements are also necessary to develop waste-to-energy plants of economical size and to guarantee that adequate volumes of waste are available.

Several types of multi-jurisdictional arrangements may be made, including: contractual agreements; joint operation; or authority or special district.

One unit of government may provide a service to another unit of government under a contractual agreement. In this way, a community may provide its residents with a service otherwise not financially possible. Such an arrangement also eliminates the duplication of staff, expenditures, and services. The number of small inefficient operations is reduced. In addition, operational procedures and budgets are more easily planned. Contracts are flexible, predictable and enforceable, and do not require reorganization of basic governmental structures. A disadvantage of contracts is that all participants must come to an agreement every time an issue arises. Raising capital may also be more difficult because each unit of government must arrange financing individually. Contracts should be issued for a five-year period so that sufficient capital is committed to purchase necessary equipment or develop facilities.

Local units of government may agree to perform certain public services jointly. In general, Michigan communities can negotiate joint agreements to perform any function each governmental unit can perform individually. Financing techniques available to an individual community can be used in a joint agreement, including user fees, special assessments, or funds from tax levies.

A final form of multi-jurisdictional arrangement is the establishment of an overall operating district, authority, or utility. Although arrangements may vary in form and function, an organization is generally supervised by a board of directors, and day-to-day operations are controlled by a manager and staff. This option should be considered with caution and after other arrangements have been considered and rejected. Adding another layer of bureaucracy is often unnecessary and burdensome.

Two organizational options, which combine several features of the previous arrangements may be satisfactory. First, responsibilities may be divided among governmental units along functional lines. For example, a regional agency could be formed to operate large solid waste facilities. Local units would operate collection services and other strictly local functions. Such an approach would require intergovernmental agreements to designate responsibilities, financing arrangements, and operations. A second alternative would be the establishment, through an intergovernmental agreement, of a utility with maximum authority to operate an integrated solid waste management agency.

Applicability to Monroe County

The only public collection system in Monroe County is operated by the Department of Public Works in the City of Milan. The remainder of the County is served by 20 private haulers under municipal contract or under contract with individual residents. In the latter instance, two or more private haulers are sometimes in operation in open competition in a single municipality. This

lack of coordination is inefficient and results in overlapping routes and fuel waste. Improved coordination among municipalities in the provision of collection service is desirable.

Over the past few years, municipally controlled contracts with private haulers for residential collection has developed a number of advantages. These advantages include reduced duplication of service, and ability to impose mandatory recycling/composting collection. This type of contract would be especially valuable in many of the township areas outside of the City of Monroe where there are low and moderate residential densities.

Economic conditions and the stringent regulations of Part 115 will force municipalities within Monroe County and the entire region to explore cooperative arrangements and involvement of the private sector in the operation of solid waste processing and disposal facilities. The appropriate institutional strategy is dependent on the character of the selected solid waste management plan. However, it does appear that formal joint intergovernmental contracts for the operation of solid waste collection systems and facilities are more desirable.

INSTITUTIONAL ARRANGEMENTS

Description

- public, private and/or multi-jurisdictional agreements which provide for ownership and operation of solid waste collection systems and processing and disposal facilities

Requirements for Implementation

- legal authority to enter into agreements
- public support
- technical, administrative, and financial capability to operate system
- acceptable firm(s) must be available for private operation

Advantages

- public
  - Public system is tax free, nonprofit, able to achieve economies of scale
  - municipality maintains administrative control
  - management and policies are continuous, producing experienced personnel and permitting long range planning
- private
  - competition may reduce costs
  - municipality may maintain administrative control
  - private groups have technical and operational expertise
  - local government does not need to raise capital
  - community does not bear entire risk associated with new technology

Disadvantages

- public
  - public agency may lack incentive to maximize efficiency
  - public agency may lack necessary expertise
  - financing and operations may be influenced by political constraints
  - restrictive budget policies may affect equipment replacement and maintenance
  - labor pressures may result in inefficient practices or strikes
- private

- danger of collusion in bidding
- cutthroat competition may result in business failures and service interruptions
- public agency must still regulate contractors
- if only private facilities are available, municipality may have no control over fees
- operator may base decision on financial reward rather than community needs

Alternatives

- public agency
- private firms
- combination public/private arrangements
- multi-jurisdictional arrangements

Applicability to Monroe County

- all are feasible
- appropriate arrangement depends on chosen plan

EVALUATION AND RANKING OF ALTERNATIVE PLANS

For each of the six alternatives a numerical value between 1 and 10 was given in response to individual criterion. A high value, such as 9 or 10 indicates a positive response to a given criterion. Alternative No. 1, for example, receives a value of 9 in response to technical feasibility because the status quo option would not require extensive technical expertise to carry out. In contrast, a low value, such as 1, 2 or 3 indicates an alternative negatively responds to a given criterion. For instance, Alternative No. 1 is given a low value for materials recovery and energy recovery criteria. This is because the status quo option does not promote recycling efforts or waste-to-energy options.

The assigned values for each alternative are multiplied by the importance factor given to each criterion. For each alternative, the multiplied values are added to arrive at an overall total score. The alternative receiving the highest total score is considered to be the best overall alternative.

It should be noted that the assignment of values and importance factors is a somewhat subjective process. This evaluation process, however, does help to identify and evaluate issues or criteria which are not easily quantifiable, such as public and political acceptability issues.

Five-Year Evaluation

For the 5-year period, Alternative No. 1, "Status Quo," is feasible in all categories and continues to represent the selected alternative. It is questionable, however, whether other counties will continue to allow Monroe County solid waste to be disposed of in out-county landfills. For this reason, this alternative is only seen as a short-term solution. In addition, Alternative No. 1 is valued the lowest among all of the alternative plans in its response to public health issues and the conservation of natural resources.

EVALUATION OF NON-SELECTED SYSTEMS

Alternative No. 2-A `BASE LEVEL RECYCLING, COMPOSTING, WASTE REDUCTION AND LANDFILLING.

This alternative offers a combination of relatively inexpensive-to-implement voluntary recycling/composting programs. A commitment by local governments and residents, however, will be required for the successful operation of recycling/composting programs. The wate reduction component of this alternative would require extensive educational efforts and significant commitment by business, industry and residents. Alternative No. 2-A may be technically and economically feasible and could be an excellent 5-year alternative to handle the short term solid waste needs of Monroe County.

Alternative No. 2-B FULL SCALE RECYCLING, COMPOSTING, WASTE REDUCTION AND LANDFILLING

The full scale recycling/composting program proposed in Alternative No. 2-B would be more costly to implement than Alternative No. 2-A, however, materials recovery would be greater. Obtaining public support for full scale recycling/composting programs would be more difficult in the short run compared with base level efforts. The implementation of Alternative No. 2-B would be more technically and economically feasible following the successful implementation of Alternative No. 2-A.

Alternative No. 3 WASTE-TO-ENERGY WITH LANDFILLING

The evaluation of Alternative No. 3 determined that the development of a waste-to-energy facility without a waste processing component would be capital intensive and would receive low public and political support. Costs and environmental issues are also a concern. Alternative No. 3 also received a low value in terms of public health because of the potential pollutants produced by a waste-to-energy facility.

Alternative No. 4 WASTE PROCESSING AND WASTE-TO-ENERGY

Alternative No. 4 could be considered economically, technically, publicly and politically acceptable for the 5-year plan if a cost effective energy sales agreement can be made viable. The associated waste processing facility and the full scale recycling/composting programs proposed would result in a cleaner and less costly burn of waste materials. This alternative may be more practical in the future due to the development of better pollution control equipment.

Alternative No. 5 INTEGRATED SOLID WASTE MANAGEMENT SYSTEM

Alternative No. 5 offers an integrated approach to solid waste management. From a technical standpoint, the various components of this alternative are acceptable. Implementation of all of the components within a 5-year period, however, would make this alternative very costly in the short term.

In summary, while the least expensive alternative for the 5-year plan would appear to be Alternative No. 2-A it requires county-wide implementation of some level of composting and recycling. Because these services are provided primarily by the private sector, the County can only encourage such programs within communities. This alternative would be technically feasible and publicly acceptable. Alternative 2-A, however, would rely heavily upon landfill disposal. Because recycling and composting are voluntary and because of the heavy dependence on landfilling, this alternative should not be viewed as a long term solution to Monroe County's solid waste disposal needs. This alternative is distinguished from the status quo in that it relies on voluntary recycling and composting program development.

Twenty-Year Evaluation

Over the 20-year period, Alternative Nos. 4 and 5 become more feasible. With these alternatives, it is believed that waste-to-energy technology will be further developed, and in particular, effective pollution control equipment will likely make this option more desirable. It is also believed that typical landfill disposal cost will rise and the price differential of tipping fees between landfill disposal and waste processing/incineration will be less. This will make waste processing/incineration options less expensive and more feasible.

Five-Year Evaluation Matrix
Alternative Solid Waste Management Plans

Solid Waste Management Plans	(Rank Importance Value)	Alternative No. 1 (Status Quo)	Alternative No.2-A base level Recycling Composting/Waste Reduction and Landfilling	Alternative No. 2-B Full Scale Recycling/composting/Waste Reduction and Landfilling	Alternative No. 3 Waste to Energy with Landfillling	Alternative No. 4 Waste Processing/ Waste to Energy	Alternative No. 5 Integrated Solid Waste Management
Public Health	(10)	3/30	7/70	8/80	5/50	6/60	8/80
Technical Feasibility	(10)	9/90	8/80	8/80	6/60	6/60	6/60
Economic Feasibility							
- Capital Costs	(10)	9/90	8/80	6/60	4/40	5/50	4/40
- Operation & Mtce.	(10)	9/90	8/80	7/70		5/50	
- Collection Costs	(8)		7/56				
Environmental Impacts							
- Construction	(6)	9/54	9/54	9/54	9/54	9/54	9/54
- Operation, Mtce. & Collection	(8)	5/40	7/56	8/64	5/40	7/56	7/56
Access to Land/Trans.							
- Land Area Required	(4)	6/24	7/28	8/32	8/32		8/32
- Road Improvements	(6)	5/30	7/42	8/48	8/48	8/48	8/48
- Central Location	(8)	4/32	5/40	7/56	8/64	8/64	7/56
Energy Consumption							
- Collection & Transportation	(6)	5/30	6/36	7/42	7/42	7/42	7/42
- Disposal					8/32	9/36	9/36
Natural Resources Conservation							
- Materials Recovery/ Composting	(8)	3/24	8/64	9/72	5/40	9/72	8/64
- Energy Recovery	(6)		5/30	6/36	9/54	9/54	8/48
Public Acceptability	(8)	7/56	8/64	5/40	6/48	7/56	7/56
- Public Support							
- Political Acceptability	(8)	6/48	7/56	5/40	5/40	6/48	6/48
- Compliance w/Act 641, other laws	(10)	6/60	7/70	7/70	7/70	7/70	7/70
TOTAL		792	934	916	820	908	896

Twenty-Year Evaluation Matrix
Alternative Solid Waste Management Plans

Solid Waste Management Plans	(Rank Importance Value)	Alternate No. 1 (Status Quo)	Alternate No.2-A Base Level Recycling Composting/Waste Reduction & Landfilling	Alternate No.2-B Full Scale Recycling/Composting/ Waste Reduction & Landfilling	Alternate No. 3 Waste to Energy/w Landfilling	Alternate No.4 Waste Processing/ Waste to Energy	Alternate No.5 Intergr Solid V Management
Public Health	(10)	3/30	7/70	8/80	5/50	6/60	8/80
Technical Feasibility	(10)	9/90	8/80	8/80	7/70	7/70	7/70
Economic Feasibility							
- Capital Costs	(10)	9/90	8/80	6/60	5/40	6/60	6/60
- Operation & Mtce.	(10)	9/90	8/80	7/70		6/60	
- Collection Costs	(8)		7/56				
Environmental Impacts							
- Construction	(6)	9/54	9/54	9/54	9/54	9/54	9/54
- Operation, Collection & Mtce.	(8)	3/24	5/40	6/48	5/40	7/56	7/56
Access to Land /Trans.							
- Land Area Required	(4)	4/16	6/24	7/28	8/32	8/32	8/32
- Road Improvements	(6)	5/30	7/42	8/48	8/48	8/48	8/48
- Central Location	(8)	4/32	5/40	7/56	8/64	8/64	7/56
Energy Consumption							
- Collection & Trans.							
- Disposal	(6)	5/30	6/36	7/42	7/42 8/32	7/42 9/36	7/42 9/36
Natural Resources Conservation							
- Materials Recovery/Composting	(8)	3/24	8/64	9/72	5/40	9/72	9/72
- Energy Recovery	(6)		5/30	6/36	9/54	9/54	9/54
Public Acceptability							
- Public Support	(8)	5/40	7/56	6/48	6/48	8/64	8/64
- Political Support	(8)	6/48	7/56	6/48	5/40	7/56	8/64
- Compliance w Act 641 & other Laws	(10)	6/60	7/70	7/70	7/70	7/70	7/70
TOTAL		752	906	912	850	954	974

Summary of Solid Waste Management Systems
and Their Applicability to Monroe County

Key H- High M- Moderate L- Low	TRANSFER FACILITY					ENERGY RECOVERY				
	Type A	Type B	Composting	Source Separation	Site Separation	RDF	Mass Burn Incinerator	Modular Incinerator	Waste Processing	Type II Landfilling
Technical Feasibility	H	H	H	H	H	M	H	H	H	H
Economic Feasibility	H	H	H	M	M	L	L	M	L-H	M
Volume Reduction	M	M-L	M	M	M	H	H	H	M	L
Resource Recovery			M	M	M-H	H	H	H	M	
Energy Conservation	M	M	M	M	M	H	H	M	M	
Product Marketability			M	M	M	M	M	M	M	
Environmental Constraints	L	L	L	L	L	M	M	M	L	M
Public Health Impacts	L	L	L	L	L	M	M	M	L	M
In Use in the County at present time?	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES
Overall Applicability to Monroe County	H	H	H	H	H	L	M	M	M	H

Appendix C

THE MONROE EVENING NEWS
20 West First Street
P.O. Box 1176
MONROE, MICHIGAN 48161-6176

(734) 242-1100
FAX (734) 242-3175

INVOICE AND

ACCOUNT NO	DATE
TAY91	10/31/98

MONTH ENDING

MONROE CO SOLID WASTE COORD
ATTN MAUREEN PFUND
29 WASHINGTON ST
MONROE MI 48161

DUE AND PAYABLE 10TH. BALANCES NOT PAID ARE SUBJECT TO A 1 1/2% LATE CHG

AMOUNT ENCLOSED $ _____

RETURN THIS PORTION WITH PAYMENT

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
		PREVIOUS BALANCE →		.00
10/27/98	4"	43.60		43.60

RECEIVED
NOV 03 1998
MONROE CO. HEALTH DEPT.
Environmental Health Div.

PUBLIC NOTICE

In August 1997, the Monroe County Board of Commissioners filed a letter of intent to update the Monroe County Solid Waste Management Plan. A committee was formed and has released the Draft Plan for a 90 day Public Comment Review Period. Public comments on this plan will be taken until January 15, 1999. Submit comments to Maureen Pfund, Monroe County Solid Waste Coordinator, 29 Washington St., Monroe, MI 48161. Copies of the Draft Plan can be viewed at all Monroe County Libraries, Monroe County Planning Department and the Environmental Health Division of the Monroe County Health Department.

October 27, December 1, 1998

CURRENT	1 MONTH	2 MONTHS	3 MONTHS	4 MONTHS	
43.60	.00	.00	.00		.00
					43.60

THE MONROE EVENING NEWS

PLEASE PAY THIS AMOUNT

MONROE COUNTY
MANAGEMENT PLANNING COMMITTEE

Monroe County has completed the written draft of the Monroe County Solid Waste Management Plan update: it is currently in the 90-day comment period. Within this period, a hearing shall be scheduled to hear testimony from concerned municipalities and citizens regarding this update. The Public Hearing is scheduled for December 3, 1998 at the Monroe County Community College, 1555 S. Raisinville Rd., Monroe, 7:00 pm, Room 173 C-D. Should you have any questions regarding this hearing please contact the Monroe County Solid Waste Coordinator at 734-243-7155.

The complete draft of the Plan is available for review at all Monroe County Libraries, Monroe County Planning Department/Commission, Environmental Health Division of the Monroe County Health Department and the Monroe County Clerk's Office. Written commends will be accepted until January 15, 1999, all written comments shall be directed to Maureen Pfund, Monroe County Solid Waste Coordinator at the address below.

Maureen Pfund
Solid Waste Coordinator
29 Washington St.
Monroe, MI 48161

PUBLISH: November 19, 1998
The Guardian

Application for Fire Tower — The Guardian

PUBLIC NOTICE

In August 1997, the Monroe County Board of Commissioners filed a letter of intent to update the Monroe County Solid Waste Management Plan. A committee was formed and has released the Draft Plan for a 90 day Public comment Review Period. Public comments on this plan will be taken until January 15, 1999. Submit comments to Maureen Pfund, Monroe County Solid Waste Coordinator, 29 Washington St., Monroe, MI 48161. Copies of the Draft Plan can be viewed at all Monroe County Libraries, Monroe County Planning Department and the Environmental Health Division of the Monroe County Health Department.

PUBLISH: October 29, 1998
November 19, 1998
The Guardian

APPENDIX C

PUBLIC PARTICIPATION

AND APPROVAL

The following summarizes the processes which were used in the development and local approval of the Plan including a summary of public participation in those processes, documentation of each of the required approval steps, and a description of the appointment of the solid waste management planning committee along with the members of that committee.

PUBLIC INVOLVEMENT PROCESS: A description of the process used, including dates of public meetings, copies of public notices, documentation of approval from solid waste planning committee, County board of commissioners, and municipalities.

Attached is a copy of all the agendas from the Solid Waste Management Planning Meeting, notices for all meetings were mailed to all Monroe County municipalities, notices were printed in the Monroe Evening News, and placed on the local public access cable station.

** Minutes of all meeting are on file with the Monroe County Solid Waste Coordinator.

Monroe County
Solid Waste Management Planning Committee
Mailing Address: 29 Washington Street, Monroe, Michigan 48161

AGENDA

Monroe County Solid Waste Management Planning Committee

June 16, 1999
7:00 P.M.
Monroe County Court House Annex
Commissioners Committee Room
125 East Second Street

PLEASE PLAN ON ATTENDING YOUR VOTE AND INPUT IS IMPORTANT

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes (February 3, 1999)
5. Old Business
   A. Monroe County Draft Solid Waste Management Plan
      1. Changes to the Siting Mechanism
6. Citizens Time
7. New Business
   A. Action requested on the Solid Waste Management Plan; this will allow the Plan to be forwarded to the Monroe County Board of Commissioners and the local communities for approval.
8. Citizens Time
9. Adjourn Meeting

Monroe County
Solid Waste Management Planning Committee
Mailing Address: 29 Washington Street, Monroe, Michigan 48161
(313) 243-7155

AGENDA

Monroe County Solid Waste Management Planning Committee
February 3, 1999
7:00 p.m.
Monroe County Court House Annex
Commissioners Committee Room
125 East Second Street

1. Call meeting to Order
2. Roll Call
3. Approval of Agenda
4. Old Business
5. Citizens Time
6. New Business

   A. Letter to Roger Homrich and Committee Members from the Monroe County Board of Commissioners
   B. Minutes from the Public Hearing
   C. Discussion regarding the written comments received during the public comment period.
      - Browning Ferris Industries
      - Jaffe, Raitt, Heur & Wiess
      - DEQ?
      - Dorothy Bailey – Citizens Pollution Control Association of Monroe County, Inc.
      - Bins Disposal
      - Staff Comments

   D. Approval of Solid Waste Management Plan by Committee

7. Adjourn Meeting

Monroe County
Solid Waste Management Planning Committee
Mailing Address: 29 Washington Street, Monroe, Michigan 48161
(313) 243-7155

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday August 26, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of minutes from 7-29-98 meeting
5. Review Draft Monroe County Solid Waste Management Plan
6. Correspondence
7. Citizens Time
8. Adjourn Meeting

Maureen Montmorency, R. S.
Monroe County Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington Street, Monroe, Michigan 48161-2234
Telephone: (313) 243-7156 • FAX: (313) 243-3776

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday July 29, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of minutes from 6-3-98 meeting
5. Review Draft Monroe County Solid Waste Management Plan
6. Correspondence
7. Citizens Time (3 min. per person)
8. Adjourn Meeting

Maureen Montmorency, R. S.
Monroe County Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington Street, Monroe, Michigan 48161-2234
Telephone: (313) 243-7155 • FAX: (313) 242-3776

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday June 3, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes (4/22/98)
5. Old Business - Review Siting Mechanism
6. New Business
   A. Seth Phillips - Chief, Solid Waste Management Unit
   *Please come prepared to ask any questions regarding the Plan Up date
   B. Plan preparation update
7. Correspondence
8. Citizens Time (3 minutes per person)
9. Adjourn Meeting

Maureen Montmorency, R. S.
Monroe County Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington Street, Monroe, Michigan 48161-2234
Telephone: (313) 243-7155 • FAX: (313) 242-3776

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday April 22, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes (3/25/98)
5. Old Business - None
6. New Business
   A. Siting Mechanism
7. Correspondence
   A. Washtenaw County Solid Waste Planning Committee Minutes
8. Citizens Time (3 minutes per person)
9. Adjourn Meeting

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday March 25, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes (2/25/98)
5. Old Business - Review new language for Goals and Objectives
6. New Business
   - A. Review the Siting Mechanism
   - B. Inter - County Waste Flow
7. Correspondence
   - A. Letter regarding inclusion in Monroe County Solid Waste Plan: Standard Environmental Services, Inc., Jack's Lawn Service, Inc., Consumers Energy JR Whiting Plant
   - B. Letter from - Holnam, Inc. Update - Staff
   - C. Washtenaw County Solid Waste Planning Committee Minutes
8. Citizens Time (3 minutes per person)
9. Adjourn Meeting

Maureen Montmorency, R.S.
MONROE COUNTY SOLID WASTE COORDINATOR
Monroe County Environmental Health Division
20 Washington Street, Monroe, Michigan 48161-7234
Telephone: (734) 243-7335 • Fax: (734) 242-5770

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday February 25, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes (12/28/98)
5. Old Business - none
6. New Business
   - A. Description of Solid Waste Planning Update Process - Handout
   - B. Schedule - Handout
   - C. Review Goals & Objectives Existing Plan
   - D. Goals & Objectives Current Plan Update
7. Correspondence
   - A. Agenda and Minutes from Washtenaw County Solid Waste Planning Committee
   - B. Technical Review Panel - Holnam, Inc. Update - Staff
8. Citizens Time (3 minutes per person)
9. Adjourn Meeting

Maureen Montmorency, R. S.
Monroe County Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington Street, Monroe, Michigan 48161-2234
Telephone: (313) 243-7155 • FAX: (313) 242-3776

Monroe County Solid Waste Planning Committee

7 p.m. Wednesday January 28, 1998

106 East First St., Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes (11/20/97)
5. Old Business
6. New Business
   A. Interviews Solid Waste Management Firms
   B. Discussion
   C. Recommendation to the Monroe County Board of Commissioners for a Solid Waste Planning Consultant
7. Correspondence
8. Citizens Time (3 minutes per person)
9. Adjourn Meeting

Monroe County Solid Waste Planning Committee

7 p.m. Thursday November 20, 1997

125 East Second St. Monroe County Commissioners Committee Room

Meeting Agenda

1. Call Meeting to order
2. Introduction of staff members
3. Roll Call of Committee Members
4. Approval of Agenda
5. Old Business

   Slide Show of Previous Planning Efforts

6. New Business

   Election of Officers
   - Chairperson
   - Vice-Chairperson

   Approval of by-laws

   Mailing List

   Meeting Notices

   Minutes

   Date & Time of next Meeting

   Regular Meeting Schedule for 1998

7. Correspondence
8. Citizens Time
9. Adjourn Meeting

Monroe County
Solid Waste Management Planning Committee
Mailing Address: 29 Washington Street, Monroe, Michigan 48161
(313) 243-7155

MEMORANDUM

TO: Solid Waste Management Planning Committee Members

FROM: Maureen Pfund, Solid Waste Coordinator

DATE: October 19, 1998

SUBJECT: Public Hearing on Draft Solid Waste Management Plan

On October 15, 1998, the Draft Plan was released for a 90 day public comment review period. During this period, a public hearing has to take place. Therefore, I am notifying you of the time, date and location. I would like as many committee members present as possible if you cannot make this hearing please let me know.

December 3, 1998
7:00 P.M.
Monroe County Community College
1555 South Raisinville Rd.
Room 173 C-D

Should you have any questions please do not hesitate to contact me at 734-243-7155 or Fax 734-242-3776. Thank you.

Maureen Montmorency, R.S.
MONROE COUNTY SOLID WASTE COORDINATOR
Monroe County Environmental Health Division
70 Washington Street, Monroe, Michigan 48161-2234
Telephone: (734) [illegible] • Fax: (734) [illegible]

MEMORANDUM

DATE: October 15, 1998

TO: Michigan Department of Environmental Quality, Adjacent Counties, Monroe County Municipalities, Designated Solid Waste Management Planning Agency

FROM: Maureen Pfund, Monroe County Solid Waste Coordinator MP

SUBJECT: Public Comment Draft of the Monroe County Solid Waste Management Plan

In August 1997 Monroe County filed with the Michigan Department of Environmental Quality a letter of intent to update the Monroe County Solid Waste Management Plan as required by P.A. 451 of 1994. After many months, the appointed Solid Waste Management Planning Committee has released the Public Comment Draft, for your review.

Any comments that you may have regarding this draft plan should be submitted within ninety days. Please submit all comments in writing to the address below. All comments should be received by January 15, 1999 to be taken under consideration to be included into this plan. A public hearing will be conducted on this plan, you will be notified as to when and where.

Should you have any questions please do not hesitate to contact me at 734-243-7155.

Direct all written comments to:

Maureen Pfund
Monroe County Solid Waste Coordinator
29 Washington St.
Monroe, MI 48161

MONROE COUNTY
BOARD OF COMMISSIONERS
125 EAST SECOND STREET • MONROE, MICHIGAN 48161-2197
TELEPHONE: (313) 243-7016 • FAX: (313) 243-7107

CHAIRMAN
DALE W. ZORN
DISTRICT 2
VICE-CHAIRMAN
LEHR KOK
DISTRICT 1

October 29, 1997

Monroe County Board of Commissioners
125 E. Second Street
Monroe, MI 48161

Dear Board Members:

On August 12, 1997, the Board authorized the Notice of Intent to prepare the Monroe County Solid Waste Management Plan Update. The first step in preparing this plan is to appoint a Solid Waste Management Planning Committee. The following are individuals who have agreed to serve on this committee.

Representatives from Solid Waste Management Industry

Stephanie Glysson - Browning Ferris Industries
Roger Homrich - Regulated Resource Recovery
Dawn New - City Environmental, Inc.
Patrick Duggan - Standard Environmental Services

Representative from Industrial Waste Generator

Steve Rowe - Holnam, Inc.

Representatives from Environmental Interest Groups

Jack Sturn - Michigan Recycling Coalition
Mike Andro - East Michigan Environmental Action Council

Representative from County Government

Gail Hauser-Hurley - District 8, Monroe County Board of Commissioners

Representative from Township Government

Daniel Bonkoski - Erie Township Supervisor
or designee of elected official

Representative from City Government

C.D. Cappuccilli - Mayor, City of Monroe
or designee of elected official

Representative from Regional Solid Waste Planning Agency

John Amberger, SEMCOG Executive Director
or designee of Executive Director

Representative from the General Public

Rick Kliensmith
Barry Kinsey
William Terry

Ad Hoc Committee members are:

Kurt Erichsen - TMACOG
Charles Bushart - Farm Bureau

Thank you for your consideration in this matter.

Sincerely,

Dale W. Zorn, Chairman
Monroe County Board of Commissioners

DWZ/pjl

PLANNING COMMITTEE

Committee member names and the company, group, or governmental entity represented from throughout the County are listed below.

Four representatives of the solid waste management industry:

1. Patrick Duggan, Standard Environmental Services
2. Stephanie Glysson, Browning Ferris Industries
3. Roger Homrich, Regulated Resource Recovery
4. Dawn New, City Environmental Services

One representative from an industrial waste generator:

1. Steve Rowe, Holnam Cement

Two representatives from environmental interest groups from organizations that are active within the County:

1. Mike Andro, East Michigan Environmental Action Council *
2. Jack Sturn, Michigan Recycling Coalition

One representative from County government. All government representatives shall be elected officials or a designee of an elected official.

1. Gail Hauser Hurley, County Commissioner, District 8 **

One representative from township government:

1. Daniel Bonkoski, Vice Chairperson, Erie Township Supervisor

One representative from city government:

1. Betty Hall, Designee City of Monroe

One representative from the regional solid waste planning agency:

1. Bill Parkus, SEMCOG

Three representatives from the general public who reside within the County:

1. Barry Kinsey
2. Rick Kleinsmith
3. Bill Terry

Ad Hoc Members: Kurt Erichsen, Toledo Metropolitan Area Council Of Governments; Charles Bushart, Maybee, Michigan.

- * Replaced by Rodney Blanchard – Monroe County Land Conservancy
- ** Replaced by Dave Roberts – County Commissioner District 6

Appendix D

ATTACHMENTS

APPENDIX D

Plan Implementation Strategy

The following discusses how the County intends to implement the plan and provides documentation of acceptance of responsibilities from all entities that will be performing a role in the Plan.

The County has a dedicated, full time position responsible for implementation of the County Solid Waste Management Plan – the County Solid Waste Coordinator. A position description is included at the end of this section.

County of Monroe

SOLID WASTE COORDINATOR

General Summary:

As the Solid Waste Coordinator, this person has the responsibility for implementation of the Monroe County Solid Waste Management Plan, updates to the plan as required by state statute, and the coordination of recycling and composting activities within Monroe County.

Essential Functions:

1. Promote coordination and cooperation between the public and private sectors, and among the municipalities in Monroe County regarding solid waste disposal.

2. Assess and monitor progress toward implementation of the Monroe County Solid Waste Management Plan at the local and regional levels.

3. Report to the Board of Commissioners on progress in implementing the Monroe County Solid Waste Management Plan.

4. Implement recycling/composting strategies as outlined in the Monroe County Solid Waste Management Plan.

5. Coordinate recycling/composting activities.

6. Monitor economical and technical changes related to recycling and resource recovery.

7. Assess plans for waste-to-energy facilities and incineration.

8. Assist efforts on the siting of new solid waste disposal facilities in conjunction with the Technical Review Panel per procedure as established by Monroe County Solid Waste Management Plan.

9. Ensure that ultimate use plans for new solid waste facilities are developed and implemented.

10. Periodically evaluate the Monroe County Solid Waste Management Plan in the context of Solid Waste Management Plans for other counties.

11. Administer plan revisions or amendment requests per the procedure established by Act 641, 1978, as amended.

12. Provide educational materials to citizens and other interested groups.

13. Inform the Monroe County Board of Commissioners whenever changes are made pertaining to the definition of Type II or Type III waste, or changes to Act 641, 1978, as amended.

This list may not be inclusive of the total scope of job functions to be performed. Duties and responsibilities may be added, deleted or modified at any time.

Employment Qualifications:

Education: Bachelor's Degree in Environmental Health, Planning or related fields; Master's Degree in Environmental Health, Planning or related fields may be substituted for two years experience.

Experience: 3 years experience in Solid Waste Management or Recycling; Master's Degree in Environmental Health, Planning or related fields may be substituted for two years experience.

The qualifications listed above are intended to represent the minimum skills and experience levels associated with performing the duties and responsibilities contained in this job description. The qualifications should not be viewed as expressing absolute employment or promotional standards, but as general guidelines that should be considered along with other job-related selection or promotional criteria.

Physical Requirements *[This job requires the ability to perform the essential functions contained in this description. These include, but are not limited to, the following requirements. Reasonable accommodations will be made for otherwise qualified applicants unable to fulfill one or more of these requirements]:*

PAID PUBLIC NOTICE

MONROE COUNTY, MICHIGAN
MONROE COUNTY
SOLID WASTE DISPOSAL FACILITY
FEE ORDINANCE

An ordinance to require the payment of fees at Monroe County solid waste disposal facilities; to set the amount of fees; to set the method of payment of fees; and to require that the use of such fees will promote resource recovery activities which promote the general health, safety and welfare of the community.

ARTICLE I — SHORT TITLE

This ordinance shall be known and may be cited as the Monroe County Solid Waste Disposal Facility Fee Ordinance.

ARTICLE II — PURPOSE

The Monroe County Board of Commissioners finds that solid waste disposal facilities in Monroe County constitute a land use which renders large areas of land unsuitable for many uses and which may be considered a nuisance due to potential surface and groundwater pollution, truck traffic, noise, odors, air pollution, litter, soil erosion and other similar negative social and/or environmental impacts.

The Board also finds that waste reduction and resource recovery efforts can extend the life of landfills by keeping out recyclable materials, compostable materials, and household hazardous wastes, thereby reducing the need for more landfills and protecting the health, safety and welfare of the community through the prevention of environmental health hazards and nuisances.

Accordingly, it is determined that the collection of fees as authorized herein for the maintenance of county-wide resource recovery activities, as well as programs to prevent disease and control environmental health hazards, is desirable and appropriate.

ARTICLE III — DEFINITIONS

COMPOSTING

The technique of organic waste reduction.

GARBAGE

Rejected food wastes, including waste accumulation of animal, fruit, or vegetable matter used or intended for food or that attends the preparation, use, cooking, dealing in, or storing of meat, fish, fowl, fruit, or vegetable.

NEW FACILITY

A disposal area that is proposed for construction after the effective date hereof, or an expansion, enlargement, or alteration of an existing disposal area after the effective date hereof beyond the horizontal or vertical boundaries indicated in the construction permit issued prior to the effective date of this ordinance.

RECYCLING

The technique of removing selected materials from the solid waste stream for reprocessing to second use.

RESOURCE RECOVERY ACTIVITIES

Any task performed that results in the prevention of disease and the control of environmental health hazards through the recouping of material or energy from solid waste, thus reducing the volume of solid waste.

RUBBISH

Non-putrescible solid waste, excluding ashes, consisting of both combustible and non-combustible waste, including paper, cardboard, metal containers, yard clippings, wood, glass, bedding, crockery, demolished building materials, or litter of any kind that may be a detriment to the public health and safety.

SANITARY LANDFILL

A tract of land developed, designed, and operated for the disposal of solid waste. Sanitary landfills shall be classified into one of the following types:

1) "Type II" means an on-land disposal facility designed and operated to accommodate general types of solid waste, including, but not limited to, garbage and rubbish, but excluding hazardous waste.

2) "Type III" means an on-land disposal facility designed and operated to accommodate large volumes of certain solid waste having minimal potential for groundwater contamination.

SITE GENERATED WASTE

Solid waste generated that is disposed of at a solid waste disposal facility located on or contiguous to the site of generation.

SOLID WASTE

Garbage, rubbish, ashes, incinerator ash, incinerator residue, street cleanings, municipal and industrial sludges, solid commercial and solid industrial waste, and animal waste but does not include human body waste, liquid or other waste regulated by statute, ferrous or non-ferrous scrap directed to a scrap metal processor or to a re-user of ferrous or non-ferrous products, and slag or slag products directed to a slag processor or to a re-user of slag or slag products.

SOLID WASTE COORDINATOR

A person charged with furthering the goals and objectives of the Monroe County Solid Waste Management Plan

SOLID WASTE DISPOSAL FACILITY

A solid waste transfer facility, incinerator, sanitary landfill, processing plant, or other solid waste handling or disposal facility utilized in the disposal of solid waste.

SOLID WASTE INCINERATOR

A tract of land, building, unit or appurtenance of a building or unit or a combination of land, buildings, and units that is used for the combustion of solid waste.

SOLID WASTE PROCESSING PLANT

A tract of land, building, unit, or appurtenance of a building or unit, or a combination of land, buildings, and units that is used or intended for use for the processing of solid waste or the separation of material for salvage or disposal, or both, but does not include a plant engaged primarily in the acquisition, processing, and shipment of slag or slag products.

SOLID WASTE TRANSFER FACILITY

A tract of land, building, unit, or appurtenance of a building or unit or combination of land, buildings, and units that is used or intended for use in the re-handling or stor... of solid waste incidental to the trans... of the solid waste. A solid waste ... does not include a tract ... ers on the land, if the ... of 10 cubic yar... tract of la... the co... or l... solid ... ciden...

(a) ... and op... from m...

(b) ... and oper... cial solid ...

188/403
2004

Section ... ...osal facilities to which the or... ...

A. Any s... ...ste disposal facilities which meet any of the following shall be affected by this ordinance.

1. Landfills which are considered as Type II landfills under P.A. 641 of 1978, The State of Michigan Solid Waste Management Act.

2. Landfills which are considered as Type III landfills under P.A. 641 of 1978, The State of Michigan Solid Waste Management Act.

3. Any Type A solid waste transfer facility as defined in this ordinance.

4) Any solid waste disposal facility as defined by this Ordinance.

B. Those site generated wastes, solid waste that is disposed of at a solid waste disposal facility located on or contiguous to the site of generation shall be exempt from this surcharge for the generated waste. Solid waste transported to these sites but generated elsewhere shall be subject to a surcharge.

Section 2. Fees, Method of Collection

A. A fee shall be assessed at all solid waste disposal facilities that are located in Monroe County as described in ARTICLE III of this ordinance.

The fee shall be set by the Monroe County Board of Commissioners from time to time as recommended by the Monroe County Solid Waste Management Plan.

B. Waste entering the solid waste disposal facility which is diverted by either recycling or composting shall be exempt from the fee.

C. Fees collected by solid waste disposal facility operators shall be paid to the Monroe County Health Department on a monthly basis, and deposited in a resource recovery fund and used for purposes as described in this ordinance, along with a report containing the following information:

1. The amount of solid waste entering the solid waste disposal facility area.

2. The amount of solid waste diverted from disposal in the solid waste disposal facility by recycling or composting.

3. The amount of solid waste disposed of in the solid waste disposal facility.

ARTICLE V
USE OF FEES COLLECTED
BY MONROE COUNTY

Section 1. Placement of Fees. The Monroe County Treasurer shall place all fees collected as a result of this ordinance into a Resource Recovery Fund.

Section 2. Use of Resource Recovery Fund. The Resource Recovery Fund may be used for the following activities:

A. Prevention of disease and environmental health hazards as well as related nuisances.

B. Resource recovery education

C. Promotion of recycling, composting and waste reduction efforts.

D. Household hazardous waste collection programs.

E. Financing recycling and/or composting centers.

F. Salaries, fringe benefits, overhead and supplies necessary for operation for the Monroe County Solid Waste Coordinator and for the implementation of the Monroe County Solid Waste Management Plan.

G. Other programs, projects, or activities which are consistent with the goals of the Monroe County Solid Waste Management Plan as authorized by the Monroe County Solid Waste Coordinator and as approved by the Monroe County Board of Commissioners.

ARTICLE VI — PENALTIES

Any person, firm or entity who shall fail to comply with any provision herein shall be deemed guilty of a misdemeanor and on conviction thereof shall be punished by a fine not exceeding the sum of five hundred dollars ($500.00) and/or by imprisonment in the Monroe County Jail not exceeding ninety (90) days and shall pay the tipping fee provided for herein. In case of continued violation, each day's violation shall constitute a separate offense. In addition, any facility or entity adjudicated guilty of this ordinance shall be deemed to be in non-compliance with the Monroe County Solid Waste Management Plan and the Michigan Department of Natural Resources shall be notified as to such.

ARTICLE VII — SEVERABILITY:

If any section, paragraph, clause, phrase or part of this ordinance is for any reason held invalid by any court of competent jurisdiction, such decisions shall not affect the validity of the remaining provisions of this ordinance or of the Monroe County Solid Waste Management Plan; and the application of those provisions to any persons or circumstances shall not be affected thereby.

ARTICLE VIII — EFFECTIVE DATE

This ordinance shall become effective sixty (60) days from the date of publication subsequent to the date of its adoption by the Monroe County Board of Commissioners

CERTIFICATE OF COUNTY CLERK

STATE OF MICHIGAN
SS.
COUNTY OF MONROE

I, WARREN J. LABEAU, certify that I am Clerk of the County of Monroe, Michigan, and that:

1. Attached hereto entitled

MONROE COUNTY
SOLID WASTE DISPOSAL
FACILITY FEE ORDINANCE

is a true and complete copy of the Monroe County Solid Waste Disposal Facility Fee Ordinance duly adopted by a vote of a majority of all members of the Board of Commissioners of the County of Monroe at a Regular Meeting thereof held in the Chambers of the Board of Commissioners, Monroe County Courthouse, on the day of , 1991, at o'clock, .m., Eastern Daylight Time, at which meeting a quorum was continually present and acting. The original Monroe County Solid Waste Disposal Facility Fee Ordinance has been duly recorded in the minutes of said meeting, which are on file in my office, and the said Monroe County Solid Waste Disposal Facility Fee Ordinance shall become effective pursuant to the terms thereof.

WITNESS my official signature and the official seal of the County of Monroe, Michigan, this day of , 1991.

WARREN J. LABEAU
County Clerk
County of Monroe, Michigan

JULY 7, 1991

Resolutions

The following are resolutions from County Board of Commissioners approving municipality's request to be included in an adjacent County's Plan.

Listed Capacity

Documentation from landfills that the County has access to their listed capacity.

ATTACHMENT II

Recycled paper

BROWNING-FERRIS INDUSTRIES

GREAT LAKES DIVISION

May 31, 1994

Ms. Amy Gibson
Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington St.
Monroe, MI 48161

Dear Ms. Gibson:

This letter is to confirm to Monroe County that BFI Arbor Hills Landfill, located in Washtenaw County, will coordinate efforts with our Vienna Junction Landfill, with the proposed expansion to guarantee a total of 20 years of capacity for the type II and type III solid waste generated in your county.

Attached you will find a copy of the import authorization available in the Washtenaw County Plan for Monroe County. Our estimated capacity at Arbor Hills is currently in excess of 25 years.

If there are any questions, please feel free to contact Mr. Robert Line of our office at 810-349-3215.

Very truly yours,

Jeff M. Harris

Jeff M. Harris
Divisional Vice President
BFI Great Lakes Division

JMH/cb

STANDARD
ENVIRONMENTAL SERVICES, INC.

March 2, 1998

Ms. Maureen Montmorency
Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington Street
Monroe. MI 48161

Dear Ms. Montmorency:

Standard Environmental Services (SES), Inc. is submitting this letter as a request for inclusion of its Type III Rockwood Landfill located in Berlin Township in the Monroe County Solid Waste Management Plan. The facility was included as the only publicly availalable type III facility in the last plan under the name Wayne Disposal, Inc. SES acquired the site from Wayne Disposal in September 1997 and it committed to providing the county with type III waste disposal throughout the next plan period. Any questions or concerns may be addressed by contacting me at (313) 379-0774. Thank you for your consideration and we look forward to working with your office and the county in the years to come.

Sincerely,

Patrick S. Dugan
Site Manager

cc: Mr. Jim Neorr, MCHD
Mr. Jim Vaslo, Berlin Twsp

9450 U.S. Turnpike • Newport, Michigan 48166 • (313) 379-4624 • Fax (313) 379-0775

LAW OFFICES
JAFFE, RAITT, HEUER & WEISS
PROFESSIONAL CORPORATION
SUITE 2400
ONE WOODWARD AVENUE
DETROIT, MICHIGAN 48226
SOUTHFIELD
TELEPHONE (313) 961-8380
TELEFACSIMILE (313) 961-8358

July 20, 1998

RECEIVED
JUL 21 1998
MONROE CO. HEALTH DEPT.
Environmental Health Div.

Maureen Montmorency, RS
Monroe County Solid Waste Coordinator
29 Washington Street
Monroe, MI 48161-2234

Dear Ms. Montmorency:

This letter is being sent to you on behalf of the Adrian Landfill, Inc. ("ALI"), which was formerly known as Laidlaw Waste Systems (Adrian), Inc. As you may know, Laidlaw underwent a corporate acquisition, which explains the name change of the corporation that owns the landfill. Because this was merely a name change, Adrian Landfill, Inc. is the same corporation as Laidlaw Waste Systems (Adrian), Inc.

ALI would like to assist the Monroe County Solid Waste Planning Committee with ensuring that the Monroe County Solid Waste Plan update reflects the current legal and practical status of the ALI landfill, located in Lenawee County, thereby assisting Monroe County in developing a Plan that will both meet the needs of the County and obtain all of the approvals necessary to be effective.

A. <u>History</u>

In March of 1996, Laidlaw and Lenawee County extended a pre-existing agreement, enhancing some of the benefits granted to both sides. The new agreement remains in effect until August 31, 2006, or until the Landfill's airspace is exhausted, whichever occurs first. The Agreement defines the airspace by reference to the property owned by the Landfill. In paragraph 13 of the Agreement, the County agreed to incorporate the relevant terms of the Agreement into all future amendments or updates of the Lenawee County Solid Waste Plan.

Without trying to modify or repeat all of the terms of the Agreement, of particular import are the following:

- The Landfill is authorized to accept up to an average of 6,600 tons of municipal solid waste per week over each six month period from Ohio, Indiana and Ontario, Canada or from Monroe County in addition to a number of other specified Michigan counties which make up the regional wasteshed.

- The Landfill is authorized to accept up to an average of 6,600 tons of "special waste" per week over each six month period from outside of Michigan or from any county in the State of Michigan. Special waste is defined in the agreement as solid waste which is not generally considered residential or commercial waste and which is generally homogenous in nature and generated in bulk, including, but not limited to: contaminated soil, construction and demolition debris, foundry sand, sludges, street sweepings, fly ash, bottom ash, slag, auto fluff and agricultural wastes.

B. Current and Future Disposal Capacity

ALI currently has an estimated 1,540,000 cubic yards of disposal capacity available to it, which, at current rates of receipt would mean an anticipated life of seven years. This includes receipts from outside Lenawee County. Recently, ALI applied for MDEQ approval of a construction permit for an expansion that would allow the acceptance of an additional 3,650,000 cubic yards of waste, which translates into an anticipated additional life of 16 years, for a total of 23 years. While ALI has not projected beyond that point, it does have substantial additional land reserves at the same location.

The current Lenawee County Solid Waste Plan identifies Monroe County as an approved source of waste for disposal in Lenawee County. *See* enclosure. Section VII of the current Monroe County Solid Waste Management Plan authorizes the disposal of Monroe County waste in Lenawee County.

ALI is working with the Lenawee County Solid Waste Planning Committee and fully expects that its 1996 agreement will be incorporated into the Lenawee County Solid Waste Plan Update.

C. Proposal

Therefore, ALI has and will have disposal capacity available to the residents and businesses of Monroe County and requests that its facility in Lenawee County, Michigan be incorporated into the Monroe County Solid Waste Plan Update. We believe that it is appropriate to, and ALI requests that your Committee, include Lenawee County as an approved location for disposal of Monroe County waste.

We believe that this proposal is consistent with and satisfies the requirements of Michigan Environmental Code Part 115 sections 11533(1), 11538(1)(a), 11538(1)(i), and 11538(2) and Michigan Administrative Code Rules R 299.4711(e)(iii), all of which specify the content of every county's solid waste management plan.

I will be the primary contact and will be responsible for providing any information that the Monroe Solid Waste Planning Committee requires. I look forward to working with the Committee to ensure a smooth transition between the old and new Plans and to ensure that Monroe County has a safe, secure and environmentally sound waste management program for years to come.

If you have any questions, please feel free to call me. My telephone number is (313) 961-8380. I hope the above assists the Committee with its project.

Sincerely,

JAFFE, RAITT, HEUER & WEISS
Professional Corporation

Arthur H. Siegal

AHS/vlp/0568396.01
Enclosure
cc: Mr. William Cramb, ALI

The Detroit Edison Company
2000 2nd Ave., Detroit, MI 48226-1279

Detroit Edison

March 13, 1998

Ms. Maureen Montmorency
Monroe County Solid Waste Coordinator
29 Washington Street
Monroe, MI 48161

Dear Ms. Montmorency:

In response to your letter dated February 26,1998, the Detroit Edison Company is pleased to advice you that its Monroe Power Plant Coal Ash Basin remains an existing, licensed, Type III landfill and should continue to be designated as such in any updates to the Monroe County Solid Waste Plan.

Please contact me at 313-235-8714 if you have any questions regarding this facility.

Sincerely,

Dennis Leonard
Environmental Management and Resources

DL/plm

Consumers Energy

A CMS Energy Company

Environmental & Technical
Services Department
1945 West Parnall Road
Jackson, MI 49201-8643

Fax: 517 788 2329

March 5, 1998

Ms. Maureen Montmorency, R.S.
Monroe County Solid Waste Coordinator
Monroe County Environmental Health Division
29 Washington Street
Monroe, MI 48161-2234

6E0108
RE: County Plan: Whiting Ash Areas

RE: INCLUSION OF JRWHITING SOLID WASTE DISPOSAL AREA (COAL ASH, TYPE III LOW HAZARD INDUSTRIAL WASTE) IN THE UPDATE OF THE MONROE COUNTY SOLID WASTE MANAGEMENT PLAN

Dear Ms. Montmorency

As we discussed in today's telephone conversation, Consumers Energy asks that the current JRWhiting Solid Waste Disposal Area and future Cell 7 continue to be included in the Monroe County Solid Waste Management Plan.

The existing 151 acre facility consists of cells 1 through 6 and is located in Sections 11 and 14 of T8S, R8E, of Erie Township in the City of Luna Pier. The future cell, cell 7, consists of 40 acres immediately west of Cell 6. This site was previously approved in the Monroe County Solid Waste Management Plan; its boundaries remain unchanged.

Please contact me at (517) 788-2432 if you have any questions regarding this submittal.

Sincerely

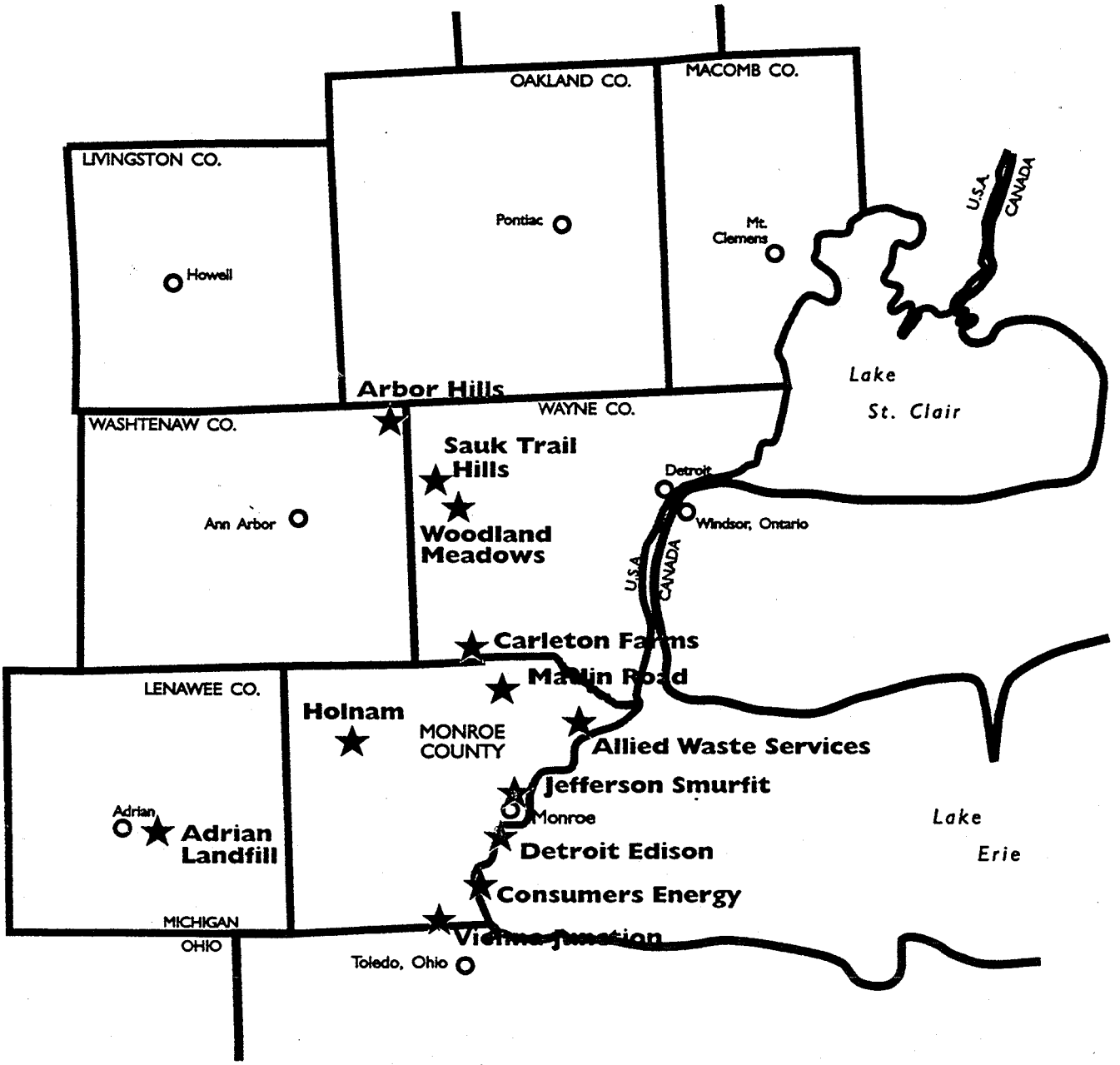
Gary A. Dawson

Gary A. Dawson, Ph.D.
Senior Environmental Planner

WHTMON.SWP

Maps

Maps showing locations of solid waste disposal facilities used by the County.



Inter-County Agreements

Copies of Inter-County agreements with other Counties (if any).

Special Conditions

Special conditions affecting import or export of solid waste.

Appendix E

FEED THE EARTH COMPOST

All About Composting

Maureen Montmorency
Monroe County Solid Waste Coordinator
29 Washington Street • Monroe, Michigan 48161
(313) 243-7155

-Composting Questions-

Q. ***What happens if an odor problem occurs?***

A. This may be caused by having too many greens and not enough browns. Add more brown material such as autumn leaves, dry grass or straw. You may also add lime and small amounts of crushed eggshells to neutralize acids. Use your pitch fork to mix well.

Q. ***Can I compost pet waste?***

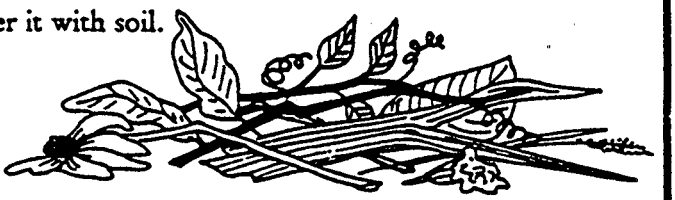
A. Never add pet waste to your compost pile. Feces may contain organisms that can cause disease in humans.

Q. ***Can I add meat scraps, fat, bones, fish and dairy products?***

A. Adding these types of scraps may attract vermin: *if this happens you should discontinue and start over.*

Q. ***How can I discourage flies?***

A. When adding food waste, dig into your pile and cover it with soil.



Q. ***The center of my pile is dry?***

A. Not enough water; add water to the pile then turn.

Q. ***Do I need a container?***

A. The composting process will happen with or without a container, however using a container will allow the pile to heat up and retain water.

Q. ***Are there any special garden tools that I will need to buy?***

A. Many composters use a pitch fork or a tool called a compost turner. These are used to turn and aerate the pile.

-The Four Essential Ingredients For Successful Composting-

NITROGEN

(Fresh cut grass & kitchen waste)

OXYGEN

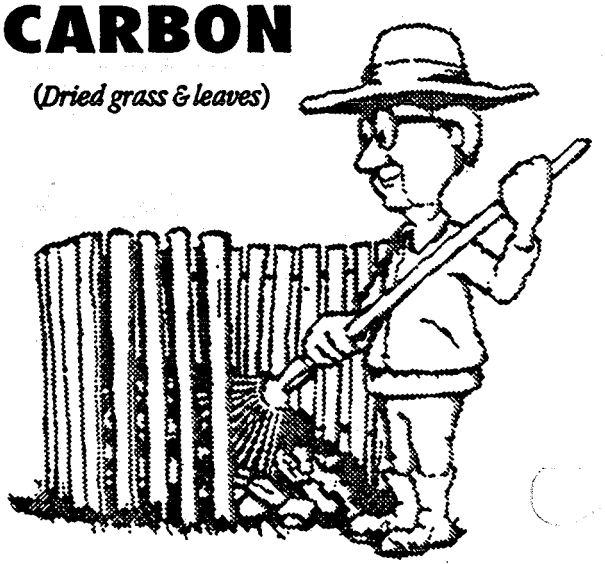
(Keep mixing and turning your pile)

WATER

(Keep moist, like a well wrung sponge)

CARBON

(Dried grass & leaves)



ALWAYS REMEMBER, NO MATTER WHAT YOU DO, YOU CAN NOT FAIL BECAUSE

Compost Happens!

-Natures Way-

Composting is nature's way of recycling. Through this natural process material decays easily and naturally without harming the environment. Over 30% of our waste stream is material that can be composted: grass clippings, leaves, garden waste, coffee grounds, fruit and vegetable peelings, seedless weeds, wood chips and fireplace ashes. In a landfill this organic waste decomposes very slowly, taking up valuable landfill space. Therefore Michigan has banned yard waste from landfills and promotes composting as an alternative to dealing with the yard waste issue. The following will explain the composting process, what tools are needed, a recipe for compost, how to build your own compost bin and answers to common composting questions.

-How It Happens-

Composting is a biological process of decomposition and recycling of organic material into a high quality end product that is a naturally healthy plant food. What is needed to promote the composting process: **CARBON**, **NITROGEN**, **WATER**, **HEAT**, **OXYGEN** and **TIME**.

EXAMPLES:

Materials high in CARBON
(BROWN WASTE)
Autumn Leaves
Mixed Paper
Newspaper
Cardboard
Sawdust
Dead Brown Plants
Straw
Wood Chips
Tree Bark

Materials high in NITROGEN
(GREEN WASTE)
Vegetable Scraps
Fruit Scraps
Grass Clippings
Coffee Grounds
Manure

* *never place cooked foods, meats scraps, pet manure, milk or dairy products, oils or peanut butter into the compost pile. Such materials cause odors and may attract pests such as flies, rats, mice and skunks.*

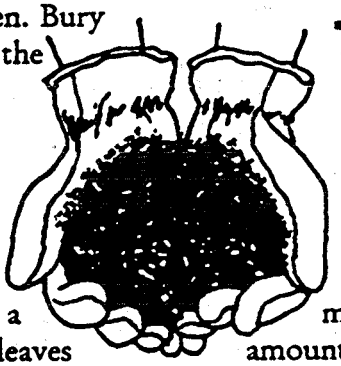
-Composting Options-

Soil Incorporation

If yard wastes are minimal, soil incorporation becomes the easiest way to compost. Kitchen scraps minus meat, bones and fatty foods along with the yard wastes, are placed directly into the garden. Bury the scraps at least six to eight inches below the surface.

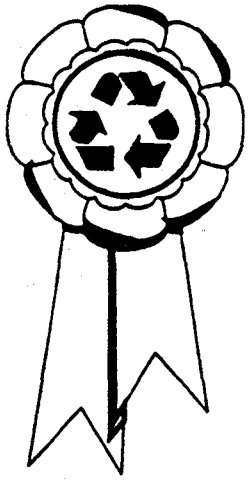
Mulching

Mulching is another way of utilizing yard waste. Grass clippings can be mulched right back into the lawn with the use of a mulcher or they can be combined with leaves and woody materials to be spread under ornamentals. Initially, the materials act as mulch but over time they will decompose and become a soil amendment.



Turning & Holding Bins

Turning and holding units consist of three or more bins that allow wastes to be mixed on a regular basis. The turning of the decomposing material allows proper amounts of oxygen and moisture to reach all areas of the pile. This method proves most beneficial to the gardener with a large amount of yard waste and the desire to make high quality compost.



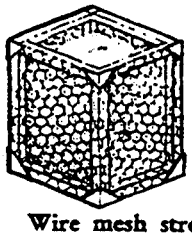
-A Blue Ribbon Recipe-

Now that you have been saving materials to add to your compost pile, "*Lets get cookin*". With many variations to composting, here is a basic recipe to get you started.

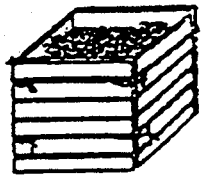
- Start layering one part *green waste* materials with two parts *brown waste* materials.
- Sprinkle a half inch of soil or manure compost every few layers to provide the microorganisms necessary for the decomposition process.
- Add water to keep the pile as damp as a wrung out sponge.
- Mix or turn periodically with a pitch fork. Microorganisms need oxygen and small particle size.

REMEMBER ONE PART GREEN AND TWO PARTS BROWN, MAKES THE COMPOST TURN TO GROUND. ADD SOME WATER AND SOME SOIL. TURNING IS THE ONLY TOIL.

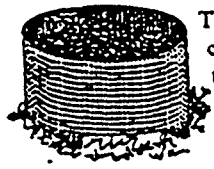
-Your Own Backyard Project-



Wire mesh stretched on a wooden frame makes an effective bin.

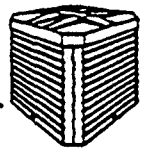


Four wooden pallets may be tied together to build a free recycled unit.

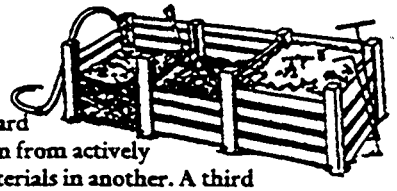


Twelve feet or more of chicken wire can be tied into a corral. Optional hooks or clips make it easy to open.

An open pile blends into the landscape of a garden or semi-wooded site.



Plastic structures do not decompose. Note that several commercial bins are smaller than recommended *(less than 3'x3'x4')*.



Multiple units separate fresh yard wastes in one bin from actively composting materials in another. A third unit holds mature compost until used.

-Backyard Composting Resources-

Monroe County Solid Waste Coordinator • (313) 243-7155
Monroe County Cooperative Extension Service • (313) 243-7113

If you would like to become a Master Composter call the above numbers for more information

Thank You For Being Part Of The Solution!

How much time/energy do you want to devote to a compost project?

What area do you have available for composting?

What materials do you have to compost?

There's a method that will work for you!

Join us for a two hour program

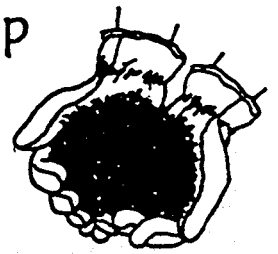
on

October 25, 1997

at the

Monroe County Cooperative Extension Service
963 South Raisinville Road
Monroe, MI 48161

to demystify the compost process and help get you confidently started on the adventure of creating your own supply of *"black gold"*!



This Basic Composting class can serve as an introduction to the Master Composter Program November 1 and 8 in which you can become a compost expert.

Phone 313/243-7113
for reservations or questions!

It's time to get your

EARTH MACHINE

only $37.10
Tax included
$80.00 VALUE

- Convenient, "no turning required" • Easy snap-together assembly
- Enclosed design, locking lid • Ten year warranty
- Easy harvesting through sliding door • 1,000,000 now in use

Sponsored by:

MONROE COUNTY SOLID WASTE COORDINATOR

Order by: May 4, 1998

The County of Monroe
and the
Monroe County Board Of Commissioners
invite you to.....

Join forces with Captain Monroe and become an official

EnviroRanger

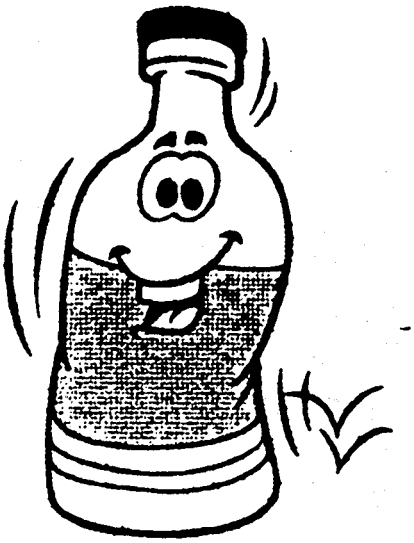
I, _____
promise to support **Captain Monroe** by doing my best as an **EnviroRanger** and help keep the Earth clean and beautiful. I will Recycle whenever I can and properly dispose of things that can't be recycled. I will encourage all my friends and family to do the same.

This promise made:

_____, 199__

Your Friend,
Captain Monroe

Printing & Graphic services compliments of the Monroe County Board of Commissioiners



Please join us for
"Fantastic Plastic Day"

See our efforts for the "Bottles to Benches" Program.

Niedermeier Elementary
8400 S. Newport Road
Newport, Mi

Monday, February 10, 1997
9:30 a.m.

Debbie Boudrie 586-2424

TIRE COLLECTION DAY

Monroe County Board of Commissioners

and the

Monroe County Solid Waste Coordinator's Office

Maureen Montmorency, Solid Waste Coordinator

For More Information About Our Programs Or *FREE* Literature Call (313) 243-7155

EXETER TOWNSHIP TIRE COLLECTION DAY

OCTOBER 19, 1996 AT THE TOWNSHIP HALL 6158 SCOFIELD RD.

8:00 AM TO 4:00 PM

PASSENGER TYPE TIRES ONLY

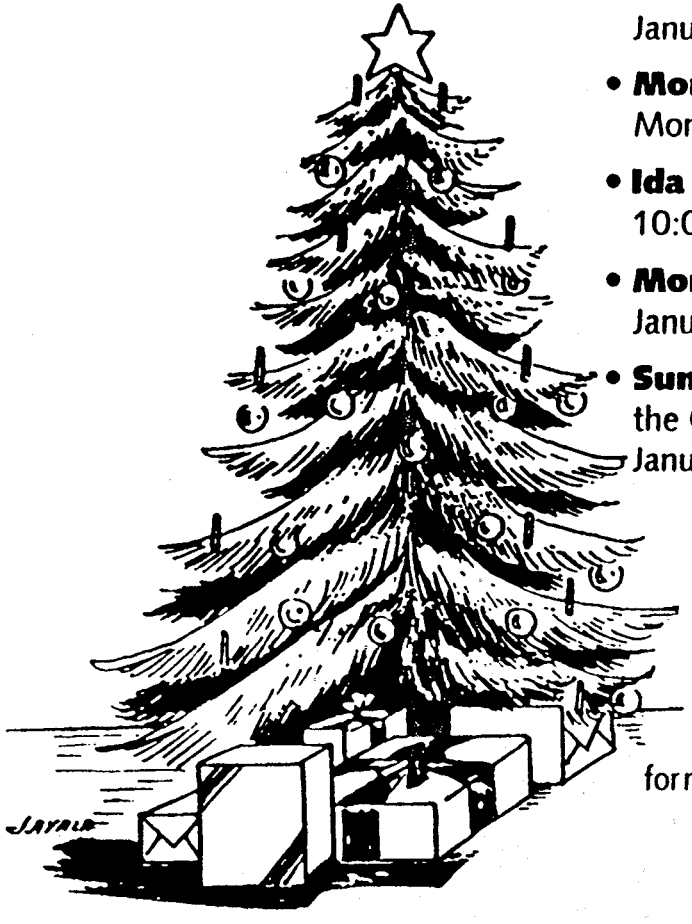
PRE-REGISTATION REQUIRED !!!

CALL TO REGISTER MONROE COUNTY SOLID WASTE COORDINATOR 313-243-7155 1ST COME 1ST SERVED !!!

THIS HOLIDAY SEASON PLEASE PARTICIPATE IN OUR ANNUAL

1998-99 CHRISTMAS TREE CHIPPING PROGRAM

-Christmas Tree Chipping Locations-



- **Bedford Township Hall**, 8100 Jackman Road, Temperance • (734) 847-6791 • January 2-10, 1999 • 10:00 a.m. - 1:00 p.m.
- **Monroe County Cooperative Extension Service**, 963 South Raisinville Road, Monroe • (734) 243-7113 • January 2-10, 1999 • 9:00 a.m. - 4:00 p.m.
- **Ida Township Hall**, 3016 Lewis Avenue, Ida • (734) 269-3045 • January 2- 10, 1999 • 10:00 a.m. - 4:00 p.m.
- **Monroe Charter Township Hall**, 4925 West Dunbar Road • (734) 241-5501 • January 2-10, 1999 • 10:00 a.m. - 4:00 p.m.
- **Summerfield Township** and **City of Petersburg** *(residents only)* • bring trees to the City of Petersburg Waste Water Treatment Plant, 24 East Center Street, Petersburg • January 2-10, 1999.

-PLEASE NOTE-

This program is for disposal of trees only.
•NO DECORATIONS •NO TREE STANDS
•NO PLASTIC BAGS •NO TINSEL

for more information on times and locations, as well as other available recycling programs please call:

Maureen Pfund

Monroe County Solid Waste Coordinator at (734) 243-7155

This program sponsored by the Monroe County Board of Commissioners

PRINTED ON RECYCLED PAPER

May - August 2000

RecycleNOW

Printed On Recycled Pa

It's time to get your EARTH MACHINE Backyard Composting Bin

$37.00 $80 Value

$37.00 $80 Value

When: Saturday, May 20, 2000

Where: Monroe County Community College Health Education Parking Lot

Time: 9:00 a.m. - 3:00 p.m.

• Easy to use • Easy snap-together assembly • No turning required • • Ten year warranty • Easy harvesting • 1,000,000 now in use •

Sponsored by the Monroe County Solid Waste Coordinator

For more information please call: 734.240.7677

Questions & Answers

Maureen Pfund, R.S.
Monroe County
Solid Waste Coordinator

Have a Question you would like answered in a future issue of RecycleNow? Please call Maureen Pfund at 734.240.7677

E-mail: maureen.pfund@monroemi.org

Q. I have 7 gallons of latex paint. How can I dispose of it?

A. Find an area away from children, pets and rain. Remove the lid and allow the liquids to evaporate. Depending on the quantity, it can take several days or several months. Partial cans of paint can be solidified in the original containers by mixing some absorbent such as cat litter, shredded newspapers or dirt. When thoroughly dry, the material can be discarded with your regular trash. In this form the material is stable and unlikely to seep through a landfill into the groundwater below.

PLEASE DROP-OFF RECYCLABLE MATERIALS ONLY AT THE SCHEDULED TIMES & LOCATIONS

BFI Waste Systems
Browning-Ferris Industries

See back cover For Information On Preparing Recyclables & Restrictions

Newspapers will be collected on Saturday only!

County of Mon

Spring 1996

The WasteLINE Newsletter

Monroe County, Michigan

How Can You Make Earth Day Every Day?

Here Are 20 Things That You Can Do.....

1. Walk, bicycle, or ride the bus to reduce pollution and save energy.
2. Bring a reusable bag or knapsack when you shop.
3. Take shorter showers to save water.
4. Don't use aerosol spray cans - *protect the ozone layer.*
5. Recycle things that are recyclable in your area - *newspapers, glass, cans, and more.*
6. Use both sides of a piece of paper before recycling it.
7. Turn off the light when you leave the room.
8. Don't release balloons into the air - *they can hurt wildlife.*
9. Return bottles that have deposits.
10. Give away or sell useable items that you don't need anymore.
11. Plant a tree, and then take care of it.
12. Plant a garden, and eat vegetables from it.
13. Pack your lunch in a lunch box.
14. Bring a thermos, not a juice box or throw-away bottle or can.
15. Recycle used motor oil - *don't dump it down the drain or on the ground.*
16. If you have the space, start a compost pile in your backyard.
17. Write a letter to Congress supporting environmental legislation.
18. Don't buy things that you don't need.
19. When you are choosing between buying two equal items, pick the one that has less packaging.
20. Get two friends or family members to do any of the things on this list!

Printed on 100% Recycled Paper

BFI Waste Systems
Browning-Ferris Industries

JANUARY - APRIL 1999

RecycleNOW

See Back For Information On Preparing Recyclables & Restrictions

NEWSPAPERS WILL BE COLLECTED ON SATURDAY ONLY!

PRINTED ON RECYCLED PAPER!

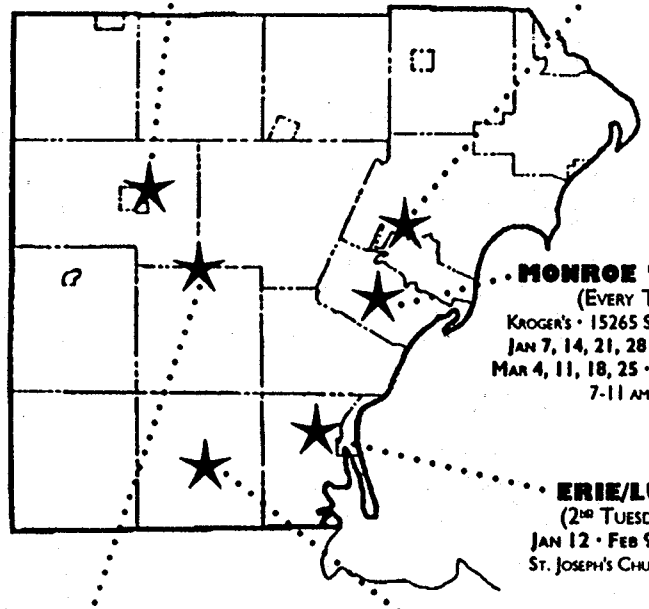
PLEASE DROP-OFF RECYCLABLE MATERIALS ONLY AT THE SCHEDULED TIMES AND LOCATIONS

WEEKDAY LOCATIONS

(RECYCLE GLASS · TIN · ALUMINUM · PLASTIC)

DUNDEE (1st Tuesday of Month)
Jan 4 · Feb 2 · Mar 2 · Apr 6
Foodtown · M-50, Dundee · 7am-11 am

FRENCHTOWN (Every Wednesday)
Meijer's · 1700 North Telegraph Road
Jan 6, 13, 20, 27 · Feb 3, 10, 17, 24
Mar 3, 10, 17, 24, 31 · Apr 7, 14, 21, 28
7am-11 am & 1pm-4 pm



MONROE TOWNSHIP
(Every Thursday)
Kroger's · 15265 South Dixie Highway
Jan 7, 14, 21, 28 · Feb 4, 11, 18, 25
Mar 4, 11, 18, 25 · Apr 1, 8, 15, 22, 29
7-11 am & 1-4 pm

ERIE/LUNA PIER
(2nd Tuesday of Month)
Jan 12 · Feb 9 · Mar 9 · Apr 13
St. Joseph's Church, Erie · 7am - 4 pm

IDA (1st Tuesday of Month)
Jan 4 · Feb 2 · Mar 2 · Apr 6
Township Hall · Lewis Avenue, Ida · 1pm-4 pm

BEDFORD (2nd Tuesday of Month)
Jan 12 · Feb 9 · Mar 9 · Apr 13
9100 Lewis Avenue, Temperance · 7am - 4 pm

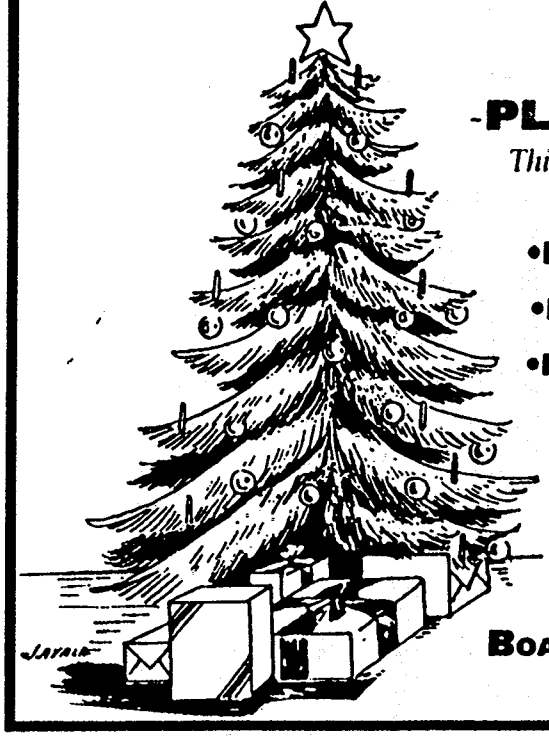
ANY QUESTIONS? Please call MAUREEN PFUND, R. S.
Monroe County Solid Waste Coordinator at (734) 243-7155

This Holiday Season Please Participate In Our Annual

1998-99 Christmas Tree Chipping Program

for more information on times and locations,
as well as other available recycling programs please call:

Maureen Pfund
Monroe County Solid Waste Coordinator at
(734) 243-7155



-PLEASE NOTE-

This program is for disposal of trees only

- **NO DECORATIONS**
- **NO TREE STANDS**
- **NO PLASTIC BAGS**
- **NO TINSEL**

This program sponsored by the
Monroe County Board of Commissioners

Preparing your RecycleNOW Materials....

1) **CLEAR GLASS** - Bottles and jars only. Remove lids/caps. Rinse containers, labels may remain.
NO CERAMIC, PYREX, MIRRORS, WINDOW GLASS, etc.

THE FOLLOWING MATERIALS MAY BE CO-MINGLED (put in one bin) **TOGETHER.**

2) **COLORED GLASS** - Please follow the same instructions as clear glass.
TIN/ALUMINUM - Cans only! Rinse, flatten if possible, labels may remain.
PLASTICS - Milk jugs, bottles and containers labeled as follows: *(located on bottom of container)*

1 **PET** *or* 2 **HDPE**

Discard caps, rinse and flatten if possible.
NO PLASTIC BAGS, MOTOR OIL CONTAINERS, PESTICIDE CONTAINERS.

3) **NEWSPAPERS** - *(SATURDAY DROP-OFFS ONLY!)* - Please, do not put in plastic bags. Glossy inserts may remain. **NO CATALOGS, TELEPHONE BOOKS, TEXT BOOKS, etc.**

·OTHER MATERIALS·

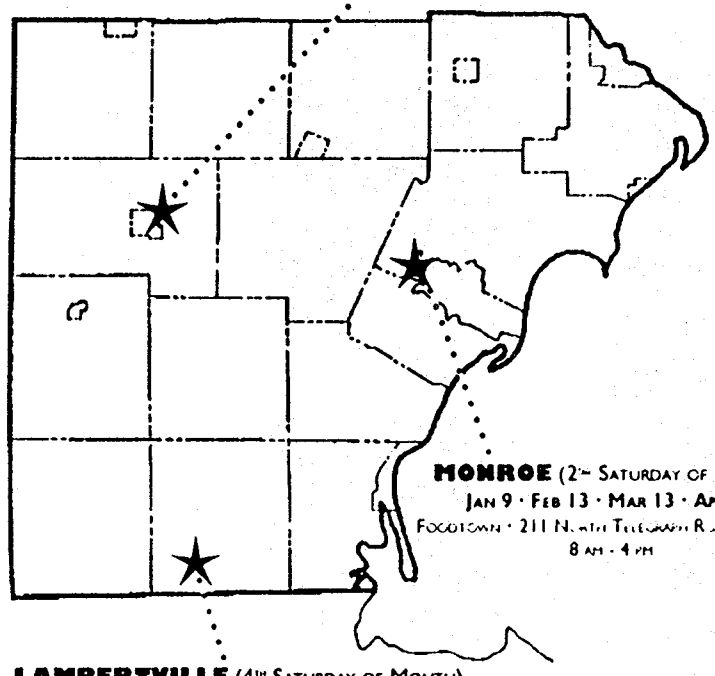
UNLESS OTHERWISE NOTED, THE ITEMS LISTED BELOW ARE RECYCLABLE ONLY AT THE FOLLOWING LOCATIONS.

APPLIANCES:	PLEASE CONTACT **MAUREEN PFUND**, MONROE COUNTY SOLID WASTE COORDINATOR AT (734) 243-7155
HOUSEHOLD BATTERIES:	ALL MONROE BANK & TRUST LOCATIONS
NEWSPAPERS:	CITY OF MONROE WASTEWATER TREATMENT PLANT, 2205 EAST FRONT STREET, MONROE, MI 48161 - (734) 241-5926 MONDAY-SATURDAY *(SUNRISE TO SUNSET)*
MAGAZINES:	CITY OF MONROE WASTEWATER TREATMENT PLANT, 2205 EAST FRONT STREET, MONROE, MI 48161 - (734) 241-5926 MONDAY-SATURDAY *(SUNRISE TO SUNSET)*
MIXED OFFICE: *(PAPER & COMPUTER PAPER)*	CITY OF MONROE WASTEWATER TREATMENT PLANT, 2205 EAST FRONT STREET, MONROE, MI 48161 - (734) 241-5926 MONDAY-SATURDAY *(SUNRISE TO SUNSET)*
PAPER BOARD: *(CEREAL BOXES)*	CITY OF MONROE WASTEWATER TREATMENT PLANT, 2205 EAST FRONT STREET, MONROE, MI 48161 - (734) 241-5926 MONDAY-SATURDAY *(SUNRISE TO SUNSET)*
PLASTIC BAGS:	FOODTOWN SUPER MARKETS *(ALL MONROE COUNTY LOCATIONS DURING NORMAL BUSINESS HOURS)*
MOTOR OIL:	LIGHTNING LUBE, 1451 NORTH MONROE STREET, MONROE, MI 48162 - (734) 243-9033 LIGHTNING LUBE, 626 SOUTH TELEGRAPH ROAD, MONROE, MI 48161 - (734) 243-2323 MURRAY'S DISCOUNT AUTO STORE, 1293 NORTH TELEGRAPH ROAD, MONROE, MI 48162 - (734) 457-1800 TRACTOR SUPPLY CO. (TSC), 2492 NORTH TELEGRAPH ROAD, MONROE, MI 48162 - (734) 241-6633 WAL-MART, 2159 NORTH TELEGRAPH ROAD, MONROE, MI 48162 - (734) 242-2298 VICTORY LANE, 7166 LEWIS AVENUE, TEMPERANCE, MI 48182 - (734) 847-7777 *(TEMPERANCE LOCATION ONLY)*
ANTI-FREEZE:	LIGHTNING LUBE, 1451 NORTH MONROE STREET, MONROE, MI 48162 - (734) 243-9033

SATURDAY LOCATIONS

(RECYCLE GLASS · TIN · ALUMINUM · PLASTIC · NEWSPAPERS)

DUNDEE (3rd SATURDAY OF MONTH)
JAN 16 · FEB 20 · MAR 20 · APR 17
FOODTOWN · M-50, DUNDEE · 8 AM - 4 PM



MONROE (2nd SATURDAY OF MONTH)
JAN 9 · FEB 13 · MAR 13 · APR 10
FOODTOWN · 211 NORTH TELEGRAPH ROAD, MONROE
8 AM - 4 PM

LAMBERTVILLE (4th SATURDAY OF MONTH)
JAN 23 · FEB 27 · MAR 27 · APR 24
FOODTOWN · 7375 SECOR ROAD, LAMBERTVILLE · 8 AM - 4 PM

Please report any complaints or problems to:

Maureen Pfund, R. S.
Monroe County Solid Waste Coordinator
at **(734) 243-7155**

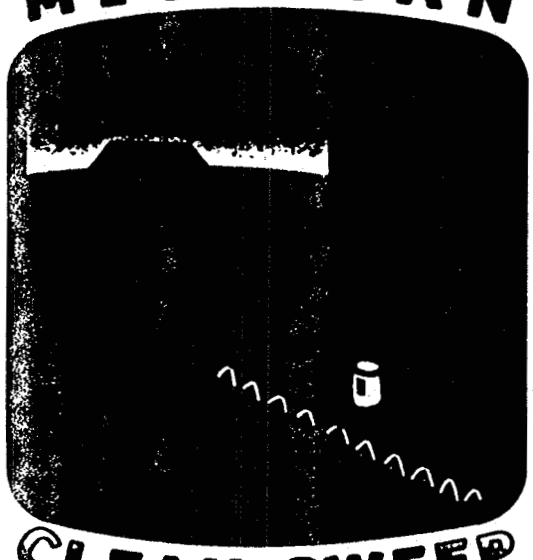
Please address all correspondence to:

Monroe County Solid Waste Coordinator
c/o Monroe County Environmental Health Division
29 Washington Street · Monroe, Michigan 48161-2234

THIS PUBLICATION PROVIDED COMPLIMENTS OF THE
MONROE COUNTY BOARD OF COMMISSIONERS
GRAPHIC DESIGN & PRINTING SERVICES PROVIDED BY THE
MONROE COUNTY PLANNING DEPARTMENT · ROYCE R. MEYER, AICP, DIRECTOR

Dispose of Unwanted Pesticides

MICHIGAN



CLEAN SWEEP

Clean Sweep is a *free, non-regulatory* program to help you safely dispose of banned and/or unusable pesticides.

For more information contact:

Sponsored by:

And Win $1,000!

See Other Side For Details!

Get Charged Up!

Grasp The Power Of A MB&T Visa or MasterCard!

When you drop off your used batteries, apply for a Monroe Bank & Trust bankcard and let MB&T put the power of Visa or MasterCard in your hands! You'll enjoy the convenience, security and purchasing power of the world's most accepted charge cards.

Come home to MB&T.

MONROE BANK & TRUST

Monroe's oldest and only locally-owned bank.

FDIC An Equal Opportunity Lender

RECYCLE RECYCLE RECYCLE

4-H RECYCLES

1996 Monroe County Fair

MONROE COUNTY HOUSEHOLD HAZARDOUS WASTE COLLECTION DAY!!!

JUNE 22, 1996

8:00 AM TO 1:00 PM

LOCATION CITY OF MONROE

**** BY APPOINTMENT ONLY****

COLLECTION FOR THE FOLLOWING MATERIALS

** PESTICIDES * WEED KILLERS*

** CLEANERS & POLISHES * AEROSOLS*

** WOOD PRESERVATIVES*

** PAINT PRODUCTS * FLAMMABLES*

** HOME REPAIR PRODUCTS*

PLEASE DO NOT BRING EXPLOSIVES,RADIOACTIVE MATERIALS,MOTOR OIL,MEDICAL WASTE,SMOKE DETECTORS,ANTIFREEZE,PRESCRIPTION DRUGS

BY APPOINTMENT ONLY

CALL MAUREEN MONTMORENCY, MONROE COUNTY SOLID WASTE COORDINATOR 313-243-7155

SPONSORED BY THE MONROE COUNTY BOARD OF COMMISSIONERS

HOUSEHOLD BATTERY COLLECTION PROGRAM

Co-Sponsored By:

MONROE BANK & TRUST

"Monroe's oldest and only locally owned bank"

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MONROE COUNTY BOARD OF COMMISSIONERS

in cooperation with the

MONROE COUNTY SO[illegible] WASTE COORDINATOR'S OFFICE

Telephone: (313) 243-7155
Fax: (313) 242-3776

MONROE COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION

29 Washington Street, Monroe, Michigan 48161

FAX TRANSMITTAL

To: Lynn D. EQ Solid Waste From: Maureen Pfund

Date: 6/26/2000 Fax No. 734-240-7683

Company: Monroe Co.

Number of Pages (including this page): 7 pages.

Comments/Instructions: You should find the Action regarding 90 day Comment Period & Action to the board —

Both are found on last page of minutes.

MP

PLEASE CALL IMMEDIATELY IF YOU DO NOT RECEIVE ALL PAGES

[redacted]

MONROE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MINUTES

Monroe County Board of Commissioners Committee Room

Wednesday, August 26, 1998

Members Present:	Mike Andro Daniel Bonkoski Kurt Erichsen Stephanie Glysson Roger Homrich	Barry Kinsey Bill Parkus Steve Rowe Jack Sturn William Terry
Members Excused:	Patrick Dugan Gail Hauser-Hurley	Rick Kleinsmith Dawn New
Members Absent:	Charles Bushart	Betty Hall
Staff Members Present:	Royce Maniko Maureen Pfund	

Roger Homrich, Chairman, called the meeting to order at 7:05 p.m.

Roll call was taken with a quorum being present.

Motion by Bill Parkus, supported by Stephanie Glysson, to approve the agenda as presented. **MOTION PASSED UNANIMOUSLY.**

Motion by Bill Parkus, supported by Daniel Bonkoski, to approve the minutes of the July 29, 1998 meeting. **MOTION PASSED UNANIMOUSLY.**

OLD BUSINESS

None.

NEW BUSINESS (Review of Draft Monroe County Solid Waste Management Plan)

All Solid Waste Management Planning Committee members had previously been mailed copies of the revised plan for their review. Maureen Pfund, Solid Waste Coordinator, passed out a list of proposed changes to the draft plan. A copy of Ms. Pfund's proposed changes is attached to these minutes and made a part hereof. Each item was discussed, some in greater detail than others. Flo

McCormack will create the final draft plan from these proposed changes and distribute to the committee members at least one (1) week prior to when it is presented for the public comment period.

One proposed changes that was discussed at length is as follows:

111-3 Stephanie Glysson found "A" & "B" to be very vague and questioned why they were included at all. Ms. McCormack explained the importance of having "A" & "B". She will rewrite so that both are easier to read and understand. In regards to "C" John Meyers of BFI commented that he was told by DEQ that all plans currently being updated are now being prepared more consistently with the state policy. Further, DEQ recommends committees be set up to look to documentation for the various elements to be implemented into the plan.

Several other minor changes were discussed to the proposed change list handed out by Ms. Pfund. Ms. McCormack made notes and will make the revisions as discussed.

Chairman Roger Homrich commented that the plan is very difficult to read. He suggested more footnotes to aid the reader. It was noted that there are several blank tables throughout the proposed plan. The information to complete these tables will be provided to Ms. McCormack by Stephanie Glysson and Dawn New.

Bill Terry was excused at 8:45 p.m. Before leaving, he commented that he will contact Maureen Pfund if he has any mark-ups or comments regarding the proposed plan. Along this vein, Ms. McCormack further instructed anyone who has mark-ups or comments to leave them for her after the meeting.

Flo McCormack questioned the committee members as to whether or not they felt they are ready for the proposed plan to go out for public comment. She explained that there will be a public presentation and hearing and that the plan will then be submitted to the Board of Commissioners for their approval. Roger Homrich requested that the final draft be mailed to each committee member and suggested one (1) week for his or her comments before placing the plan up for public comment. Ms. McCormack agreed with the one (1) week review time for the committee members. She also explained that she will send along "cliff notes" to explain the changes that were made. If there are no glaring changes, she will send it out for public comment after the week has expired. She anticipates this public comment period to take place from the end of September through the end

of December. Maureen Pfund will write to MDEQ to give them this schedule. Ms. McCormack explained that she can still receive comments during the public comment period from September through December.

Motion was made by Barry Kinsey to move forward with the final draft and public comment period as outlined above. Bill Parkus seconded motion. **MOTION PASSED UNANIMOUSLY.**

CORRESPONDENCE

None.

CITIZEN'S TIME

None.

ADJOURN MEETING

It was moved by Jack Sturn, supported by Kurt Erichsen, to adjourn the meeting. **MOTION PASSED UNANIMOUSLY**. The meeting was adjourned at 8:55 p.m.

Respectfully submitted,

Carole G. Snider
Recording Secretary

MP

MONROE COUNTY SOLID WASTE MANAGEMENT PLANNING COMMITTEE MINUTES

Monroe County Board of Commissioners Committee Room

Wednesday, June 16, 1999

Members Present:	Bonkoski, Daniel Dugan, Patrick Hall, Betty Homrich, Roger Kinsey, Barry	Myers, John New, Dawn Parkus, Bill Roberts, David Terry, William
Members Excused:	Erichsen, Kurt Rowe, Steve Sturn, Jack	
Members Absent:	Kleinsmith, Rick	
Staff Members Present:	Maureen Pfund Rob Peven	

The meeting was called to order at 7:02 p.m. by Roger Homrich, Chairman.

Roll call was taken and the Recording Secretary noted the presence of a quorum.

APPROVAL OF AGENDA

Motion by Daniel Bonkoski, supported by Bill Parkus, to approve the agenda as presented. **MOTION PASSED UNANIMOUSLY.**

APPROVAL OF MINUTES OF FEBRUARY 3, 1999 MEETING

Motion by Betty Hall, supported by Barry Kinsey, to approve the minutes of the February 3,1 999 meeting. **MOTION PASSED UNANIMOUSLY.**

OLD BUSINESS

Chairman, Roger Homrich, explained that copies of a Summary of changes made to the Draft Plan had been prepared by Solid Waste Coordinator, Maureen Pfund (see copy attached). He then asked Ms. Pfund to address each issue. Before doing so, Ms. Pfund introduced new committee member, John Myers of B.F.I., to those present, explaining that he is replacing Stephanie Glysson who resigned. She also noted that Mike Andro had also resigned, but the Board of Commissioners had not yet approved a replacement. She expects that appointment in the very near future.

mp

Executive Summary: Objective 2.3 was added and much discussion was held regarding the wording, specifically the word "new". Chairman Homrich expressed concerns that the wording creates a burden on industry because the Department of Environmental Quality considers a "new" facility any alteration of an existing disposal area that was not part of the original construction permit. Therefore, this would include any expansion of an existing facility.

Because this objective raised concerns regarding the County of Monroe to trigger the siting mechanism, discussion then turned to the statement on Page III-40, the "Siting Review Procedures". Chairman Homrich feels that the siting mechanism puts all the power in the Board of Commissioners' hands. Betty Hall agrees with Chairman Homrich and feels that this would not let the local municipality have input.

After much discussion regarding the above Objective 2.3 and the siting mechanism, William Terry moved to accept the Executive Summary, Goal 2, on Page I-7, Objective 2.3, amending the wording to change "5 years" to read "66 months". Dave Roberts supported this motion. A roll call vote was taken with the following results: Yes-7, No-3. **MOTION PASSED.**

Data Base: Discussion was then held on the "Data Base" section. Many of the changes are mainly "housekeeping" changes that were recommended by the MDEQ in their written comments. A motion was made by Dawn New to accept the "Data Base" changes. Support by Barry Kinsey. **MOTION PASSED UNANIMOUSLY.**

Selected Systems: Ms. Pfund reviewed all the changes and noted again that some of these changes are being made due to the written comments of the MDEQ. More discussion was held on the siting review procedures, specifically the boxed text on Page III-40-43.

Bill Terry suggested that a statement be added clarifying that under Part 115 Administrative Rules, Section 11537a, the County Board " ... could refuse to utilize its siting mechanism ...".

Bill Parkus suggested that we approve the changes as they have been printed but urged staff to contact the MDEQ and review the TRP with them and address any concerns they may have.

A motion was made by Dave Roberts to approve the Selected Systems section. Support by Dawn New. **MOTION PASSED UNANIMOUSLY.**

MP

Monroe County Solid Waste Management Planning Committee Minutes
Page Two
June 16, 1999

CITIZEN'S TIME
None.

NEW BUSINESS
A motion was made by Bill Terry to forward the draft plan to the Monroe County Board of Commissioners for their review and appropriate action. Daniel Bonkoski seconded this motion. **MOTION PASSED UNANIMOUSLY.**

CITIZEN'S TIME
None.

ADJOURNMENT
A motion was made by Daniel Bonkoski, supported by Barry Kinsey to adjourn the meeting. **MOTION PASSED UNANIMOUSLY.** Meeting adjourned at 8:45 p.m.

Respectfully submitted,

Carole G. Snider
Recording Secretary

Monroe County
Board of Commissioners
125 East Second Street • Monroe, Michigan 48161-2197
Telephone: (734) 240-7003 • Fax: (734) 240-7266

Chairman
Dale W. Zorn
District 2
Vice-Chairman
Lehr Roe
District 1

November 30, 1999

Maureen Pfund
Solid Waste Coordinator

Dear Maureen:

At a Regular Meeting of the Monroe County Board of Commissioners held on Tuesday, November 9, 1999, the Board approved the Solid Waste Management Plan.
Sincerely,

Geri Allen

Geri Allen, Clerk
Monroe County Board of Commissioners

xc: Royce Maniko, Planning Director

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township of Bedford Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Nabcy J. Tienvieri, Clerk of the Township of Bedford, do hereby certify that the above captioned resolution was adopted by the Township Board on April 4, 2000.

SIGNED: Nancy J. Tienvieri, CMC, Bedford Township Clerk

yeas: 7 nays: 0

absent: 0 abstain: 0

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township Board of Berlin Township Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Sharon D. Lemasters, Clerk of the Township of Berlin, do hereby certify that the above captioned resolution was adopted by the Township Board on February 14, 2000.

SIGNED Sharon D. Lemasters

yeas: Masserant, Reaume, Vaslo, Niedermeier, Blanchett, Lemasters, Lindquist

nays: NONE

absent: NONE

abstain: NONE

RESOLUTION

RECEIVED
MAR 3 0 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township of Dundee Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Janet M. Salenbien, Clerk of the Township of Dundee, do hereby certify that the above captioned resolution was adopted by the Dundee Township Board on March 28, 2000.

SIGNED: Janet M. Salenbien

yeas: Juckette Goetz Williams Salenbien Briggs

nays:

absent: None

abstain:

RESOLUTION

RECEIVED
FEB 17 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township Board of Erie Township Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Gayle A Burlen, Clerk of the Township of Erie, do hereby certify that the above captioned resolution was adopted by the Erie Township Board on February 8, 2000.

SIGNED: Gayle A Burlen
Gayle A. Burlen

yeas: 4 nays: 0

absent: 1 abstain: 0

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township Board of Frenchtown Charter Township Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Peggy L. Barton, Clerk of the Township of Frenchtown Charter, do hereby certify that the above captioned resolution was adopted by the Frenchtown Charter Township Board on March 14, 2000.

SIGNED: Peggy L. Barton

yeas: Seven (7) nays: Zero (0)

absent: none abstain: none

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the TOWNSHIP of IDA Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, DONALD APPLEMAN, Clerk of the TOWNSHIP of IDA, do hereby certify that the above captioned resolution was adopted by the IDA TOWNSHIP BOARD on Tuesday, February 1, 2000.

SIGNED: Donald Appleman

yeas: 5 nays: none

absent: none abstain: none

RESOLUTION

RECEIVED
APR 05 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township of LaSalle Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Patricia Perna, Clerk of the Township of LaSalle, do hereby certify that the above captioned resolution was adopted by the LaSalle Township Board on March 21, 2000.

SIGNED: Patricia Perna

yeas: Five

nays: None

absent: None

abstain: None

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township of London Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Pamela Stralnic, Clerk of the Township of London, do hereby certify that the above captioned resolution was adopted by the Township Board on March 13, 2000.

SIGNED: Pamela Stralnic

yeas: 5 nays: 0

absent: 0 abstain: 0

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Township of Milan Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Emily M. Bowerman, Clerk of the Township of Milan, do hereby certify that the above captioned resolution was adopted by the Milan Township Board on March 8, 2000.

SIGNED: Emily M. Bowerman

yeas: 5 nays: 0

absent: 0 abstain: 0

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Charter Township of Monroe Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Betty Surber, Clerk of the Charter Township of Monroe, do hereby certify that the above captioned resolution was adopted by the Monroe Charter Township Board on February 15, 2000.

SIGNED: Betty Surber

yeas: 7 nays:

absent: abstain:

RECEIVED
MAR 07 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

RECEIVED
FEB 08 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the TOWNSHIP of RAISINVILLE Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Janet Kuehnlein, Clerk of the Township of Raisinville, do hereby certify that the above captioned resolution was adopted by the Raisinville Township Board on February 01, 2000.

SIGNED: Janet Kuehnlein

yeas: 4 nays: 0

absent: 1 abstain: 0

RECEIVED
MAR 29 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the SUMMERFIELD TOWNSHIP BOARD of MONROE COUNTY
Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, MARILYN GOODIN, Clerk of the TOWNSHIP of SUMMERFIELD, do hereby certify that the above captioned resolution was adopted by the SUMMERFIELD TOWNSHIP BOARD on MARCH 27, 2000.

SIGNED: Marilyn Goodin

yeas: Lucas, Wiederhold, Wahl, Newell, Goodin

nays:

absent:

abstain:

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the TOWNSHIP of WHITEFORD
Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, LEROY BUNGE, Clerk of the TOWNSHIP of WHITEFORD, do hereby certify that the above captioned resolution was adopted by the TOWNSHIP BOARD on TUESDAY, 15 FEBRUARY 2000.

SIGNED: LeRoy Bunge

yeas: FIVE (5) nays: NONE (0)

absent: NONE (0) abstain: NONE (0)

MAYOR
GARY D. SMOTHERMAN
CLERK
ROSE M. LADERACH
TREASURER
MARY K. LARROW
PHONE
AREA (734) 848-6495
AREA (734) 848-8120

CITY ATTORNEY
BRAUNLICH, RUSSOW & BRAUNLICH, PC
111 S. MACOMB STREET
MONROE, MICHIGAN 48161
PHONE
AREA (734) 241-8300

4357 BUCKEYE STREET
LUNA PIER, MICHIGAN 48157

RESOLUTION NO. 643

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final.

NOW, THEREFORE BE IT RESOLVED that the Mayor and Council of the City of Luna Pier hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115

Roll call Vote:
Ayes: Councilmembers Kruzel, Bally, K. Derbeck, Liechty, Deal, R. Derbeck and Mayor Smotherman.
Nays: None.
Absent: None. Motion carried.

STATE OF MICHIGAN)
) ss:
COUNTY OF MONROE)

I, Rose M. Laderach, City Clerk, hereby certify that the foregoing is a true and correct copy of a Resolution adopted by Council of the City of Luna Pier at a regular meeting held this 10th day of February, 2000.

Rose M. Laderach, Clerk
City of Luna Pier

RESOLUTION NO. 2000-4

A RESOLUTION TO APPROVE THE COUNTY-WIDE PLAN COMPLETED BY THE COUNTY OF MONROE FOR THE COLLECTION AND DISPOSAL OF NONHAZARDOUS SOLID WASTE

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of non-hazardous solid waste generated in the county; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE, BE IT RESOLVED, that the City of Milan hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

Motion by Hancock, supported by Swope to adopt Resolution No. 2000-4

ROLL CALL VOTE:

AYES:	Six
NAYS:	None
ABSENT:	One
ABSTAIN:	None

Motion carried unanimously.

DAVID P. LUDWIG, MAYOR

I, Sherry L. Steinwedel, Clerk-Treasurer of the City of Milan, having custody of the records and proceedings of the Milan City Council, do hereby certify that I have compared this resolution adopted by the Milan City Council at the meeting of March 27, 2000, with the original minutes now on file and of record in the office and that this resolution is true and correct.

SHERRY L. STEINWEDEL, CLERK-TREASURER

RESOLUTION **R2000-012**

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final;

NOW, THEREFORE BE IT RESOLVED, that the Mayor and City Council of the City of Monroe hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

RESOLUTION DECLARED ADOPTED

I, Charles D. Evans, City Clerk-Treasurer of the City of Monroe, County of Monroe, State of Michigan, do hereby certify that the foregoing is an exact copy of a Resolution adopted by the City Council of said City, at a regular meeting thereof held on the 7th Day of February 2000.

Charles D. Evans
City Clerk-Treasurer

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the City Council of Petersburg Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Patricia A. Hurst, Clerk of the City of Petersburg, do hereby certify that the above captioned resolution was adopted by the City Council on February 7, 2000.

SIGNED: P A Hurst

yeas: Cilley, Degner, Hurst, Kirby, McFellin, Burguard

nays:

absent: Weber

abstain:

RESOLUTION

RECEIVED
MAR 28 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Village of Carleton
Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Shelly Ratz, Clerk of the Village of Carleton, do hereby certify that the above captioned resolution was adopted by the Village Council on March 16, 2000.

SIGNED: Shelly K. Ratz

yeas: 4 nays: 0

absent: 2 abstain: 0

RECEIVED
JUN 1 2 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

RESOLUTION #2000-20

VILLAGE OF DUNDEE, COUNTY OF MONROE

Minutes of a Regular Meeting of the Village Council of the Village of Dundee, County of Monroe, State of Michigan, held in the Village Council Chambers on March 21, 2000.

PRESENT: President Powell, Clerk Miller, Trustees Craft, Meehling, Massingill, Bunch & Roe

ABSENT: Trustee Heinlen

The following resolution was offered by Trustee Roe and supported by Trustee Craft:

WHEREAS: there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS: the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS: the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS: the solid waste plan has been completed in accordance with Public Act 45a, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED THAT:

RECEIVED
MAR 16 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

RESOLUTION

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Village of Estral Beach
Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Carol A. Kozlowski, Clerk of the Village of Estral Beach, do hereby certify that the above captioned resolution was adopted by the Village Council on March 7, 2000.

SIGNED: Carol A. Kozlowski

yeas: ALL nays: NONE

absent: NONE abstain: NONE

RESOLUTION

RECEIVED
FEB 14 2000
MONROE CO. HEALTH DEPT.
Environmental Health Div.

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Village of Maybee
Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Karen L. Crossman, Clerk of the Village of Maybee, do hereby certify that the above captioned resolution was adopted by the Village Council on February 9, 2000.

SIGNED: Karen L. Crossman

yeas: 6 nays: 0

absent: 0 abstain: 0

VILLAGE OF SOUTH ROCKWOOD
RESOLUTION
2000-4

WHEREAS, there exists in the County of Monroe, for reasons of public health, the protection of the environment, and the requirements of state law, a need to have a County-wide plan to provide for the collection and disposal of nonhazardous solid waste generated in the County; and

WHEREAS, the County of Monroe has undertaken the update of said plan, as required by the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), Part 115, Solid Waste Management, and its Administrative Rules, of a solid waste management plan; and

WHEREAS, the solid waste management plan calls for the reduction of solid waste requiring disposal through implementation of recycling, composting, and educational programs; and

WHEREAS, the solid waste plan has been completed in accordance with Public Act 451, as amended, Part 115, approved by the Board of Commissioners of the County and is now submitted to all municipalities within the County, and if approved by 67% thereof and thereafter by the Director of the Michigan Department of Environmental Quality, shall be final, and if not so approved, the Director shall prepare a plan for the County which will be final:

NOW, THEREFORE BE IT RESOLVED that the Village of South Rockwood Hereby approves the Monroe County Solid Waste Management Plan prepared under the requirements of PA 451 part 115 as amended, as approved and submitted by the County as required by Act 451, Part 115.

I, Willene Harold, Clerk of the Village of South Rockwood, do hereby certify that the above captioned resolution was adopted by the Village Council on March 20,2000.

SIGNED: Willene Harold

yeas: Beaudrie, Chapman, Huseman Ludke, Matusik, VanWassehnova
nays: None
absent: None
abstain: None

Maureen Pfund, R.S.
MONROE COUNTY SOLID WASTE COORDINATOR
Monroe County Environmental Health Division
29 Washington Street • Monroe, Michigan 48161-2234
Telephone: (734) 240-7677 • Fax: (734) 240-7683

June 21, 2000

Mr. Seth Phillps
Michigan Department of Environmental Quality
Waste Management Division
Solid Waste Management Unit
Hollister Building
Lansing, MI 48909-7741

JUN 23 2000

RE: Monroe County Solid Waste Management Plan

Dear Mr. Phillips:

Please find enclosed locally approved copies of the Monroe County Solid Waste Management Plan – Update. The appointed planning committee has worked very hard and has overcome some very sensitive as well as political issues in the preparation of this plan. Monroe County feels that this plan will take us into the next phases of planning and waste reduction. This plan will meet our solid waste management needs for the next 5 years.

All municipalities during the local approval process were afforded the opportunity to approve or disapprove the plan. Enclosed are resolutions from all municipalities except for Ash Township, which took no action.

Should you have any questions regarding this plan do not hesitate to contact this office at 734-240-7677 or via E-mail maureen_pfund@monroemi.org

Sincerely,

Maureen Pfund R.S.

Maureen Pfund, R.S.
Monroe County Solid Waste Coordinator

Encl.