



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

June 7, 2013

Mr. Dan Koorndyk, Chair
Kent County Board of Commissioners
300 Monroe Avenue NW
Grand Rapids, Michigan 49503

Dear Mr. Koorndyk:

The locally approved amendment to the Kent County Solid Waste Management Plan (Plan Amendment) received by the Department of Environmental Quality (DEQ) on March 8, 2013, is hereby approved.

The Plan Amendment creates the following changes:

- New goals and objectives including supporting actions.
- An updated facility description for the Kent County Waste-to-Energy Facility.
- Added authorization to import institutional waste from all municipalities and State or Federal Departments.
- Additional consistency criteria were added.
- Language was added, for informational purposes only, to the Solid Waste Management Components Section regarding potential county ordinance provisions.
- Additional areas of regulation that are approved without further authorization from or amendment to the Plan.
- Language indicating that any potential ordinance intended to regulate the location, development or operations of solid waste disposal areas shall be done through a properly promulgated plan amendment.
- Adds failure to comply with a county solid waste management ordinance or any other requirement of the Plan as a Plan violation.

The DEQ would like to thank Kent County for its efforts in addressing its solid waste management issues. If you have any questions, please contact Ms. Rhonda S. Oyer, Chief, Sustainable Materials Management Unit, Solid Waste Section, Office of Waste Management and Radiological Protection, at 517-373-4750; oyerr@michigan.gov; or DEQ, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Elizabeth M. Browne, Chief
Office of Waste Management and
Radiological Protection
517-373-9523

cc: Senator Dave Hildenbrand
Representative Winnie Brinks
Representative Brandon Dillon
Representative Rob VerHeulen
Mr. Dennis Kmiecik, Kent County
Mr. Douglas Wood, Kent County
Mr. Dan Wyant, Director, DEQ
Mr. Jim Sygo, Deputy Director, DEQ
Ms. Maggie Datema, Legislative Affairs, DEQ
Mr. Fred Sellers, DEQ
Ms. Rhonda S. Oyer, DEQ
Mr. Steve Sliver/Ms. Christina Miller, DEQ Kent County File

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Secretary

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GARY ROLLS
DAVE BULKOWSKI
RICHARD VANDER MOLEN

DOUGLAS G. WOOD
Director



Board of Public Works

March 6, 2013

Ms. Christina Miller
Solid Waste Management Coordinator
Department of Environmental Quality
Constitutional Hall, Atrium North
PO Box 30241
Lansing, MI 48909

Re: Kent County Solid Waste Management Plan Amendment/Final Approval

Dear Ms. Miller:

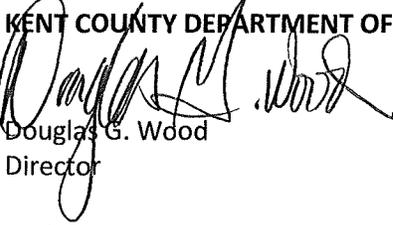
On behalf of the Kent County Board of Public Works, serving as the designated planning agency, enclosed is a copy of the Kent County Solid Waste Management Plan Amendment which was prepared in compliance with Section 11539a of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended.

The amendment will become Appendix F of the current plan which was approved in April 2000 by the Michigan Department of Environmental Quality. Enclosed is the amendment with all changes noted by page and section (Section 1). On November 8, 2012, the Kent County Board of Commissioners approved the Plan Amendment (Section 3). The Plan was then distributed to the 35 local units of government within Kent County for their approval (67%). The resolutions approving the Plan are located in Section 6. For the final step in the approval process, Kent County is requesting final review and approval of the Plan Amendment.

Please contact Dennis Kmiecik at 616-336-4369 or email Dennis.Kmiecik@kentcountymi.gov if you have any questions.

Best regards,

KENT COUNTY DEPARTMENT OF PUBLIC WORKS


Douglas G. Wood
Director

Enclosures

AMENDMENT TO KENT COUNTY ACT 451
SOLID WASTE MANAGEMENT PLAN
December 2011

The Kent County Act 451 Solid Waste Management Plan (May 1999) is hereby amended as follows:

Amendment to: Section I.2, pages I-3 thru I-6

The following Goals and Objectives replace those in the Plan Amendment dated August 25, 2009

Policy Statement:

The Kent County Solid Waste Management Plan works toward the goal of utilizing 50% of the Municipal Solid Waste (MSW) generated in Kent County by 2015, as defined by the Michigan Solid Waste Policy 2007. Kent County will strive to make continuous improvements toward this goal by establishing and implementing systems that take into consideration the economic vitality, ecological integrity, and social equity of the management of MSW. All systems established and managed within these principles will foster the ultimate goal of a sustainable Solid Waste Management Plan.

This policy statement will guide the following goals and objectives:

Goal 1: Maintain a sustainable solid waste management system centered on the protection of public health and the environment.

Objective 1: Ensure long-term disposal capacity is available for Kent County residents and businesses.

Action 1: Evaluate each year the long-term availability of final disposal capacity for solid waste that includes in the evaluation solid waste facilities owned and operated by Kent County and regional disposal facilities.

Action 2: Obtain agreements or a contract as needed with public or private entities to make certain long-term (20-year) solid waste disposal capacity is available.

Objective 2: Ensure maintenance and operation of a waste management system that includes the Waste-to-Energy Facility, South Kent Landfill, Material Recovery Facility, North Kent Transfer Facility, recycling drop-off centers, household hazardous waste facilities and resource recovery programs in accordance with federal, state and local laws, rules and regulations.

Action 1: Prepare a feasibility analysis decision-making tool for expansion of the Waste-to-Energy Facility that includes examination of service area, capital requirements and legal requirements.

Action 2: Evaluate, recommend and/or implement the usage of long term disposal contracts with existing landfill companies in lieu of expanding the South Kent Landfill.

Action 3: Complete expansion plan for South Kent Landfill into Allegan County that includes additional properties needed, economic analysis, cooperative partnership with Allegan County concerning long-term disposal requirements for both Counties, implementation schedule, sustainable development and environmental accounting considerations above those required by rule, regulation or law.

Objective 3: Evaluate, recommend and/or implement an economic financing plan that provides support for solid waste management services.

Action 1: Evaluate long-term legacy costs for closed landfills.

Action 2: Develop equitable financing plan for solid waste management services.

Objective 4: Examine and evaluate alternative solid waste technologies for management of recoverable materials and organic wastes.

Action 1: Form a technical work group and partnerships by 2015 to research organic waste technologies that may include anaerobic digestion

Action 2: Form a technical work group by 2015 to research recovery material technologies that may include unseparated commercial and industrial waste sources.

Goal 2: Develop, maintain and expand public education programs and marketing and public relations materials which showcase, support & explain the Solid Waste and Resource Recovery services to increase participation in all programs by 5% per year.

Objective 1: Increase participation in the Earth Day Recycle Challenge and similar outreach programs.

Action 1: Utilize the Kent ISD courier service to send information

Action 2: Establish a database of schools & organizations that participate in tours/presentations to send program information by direct mail.

Action 3: Increase budget to provide incentives for participants.

Action 4: Research potential corporate sponsors or partners for the Recycle Challenge, Random Recycling Rewards, Waste & Recycling Guide, West MI Take Back Meds and other outreach programs.

Objective 2: Utilize the education center at the Materials Recovery Facility for a variety of community activities and continue to expand availability of services.

Action 1: Establish a schedule that includes preplanned activities

Action 2: Evaluate the feasibility of hosting fee-based private functions

Action 3: Develop signage to enhance comprehension on self- and staff-guided tours

Action 4: Develop a display area to be open to the public with exhibits promoting recycling and resource recovery

Action 5: Evaluate opening the education center for a limited amount of "public hours", including weekends and evenings.

Objective 3: Maintain a separate webpage for emphasizing recycling and other waste reduction techniques and maintain the information to be accurate and timely.

Action 1: Review all printed materials to ensure logos and web addresses are listed

Action 2: Evaluate websites to ensure they are user-friendly

Action 3: Increase exposure of websites by asking partner/community organizations to post links on their websites

Objective 4: Establish a composting education program by 2015.

Action 1: Research potential community partners – both corporate sponsorships and program partnerships to avoid duplication of community programs.

Action 2: Research available programs to promote backyard composting through at-cost sales of compost bins

Action 3: Create an educational program to teach and promote backyard composting

Action 4: Research the options for incentives for residents to compost yard wastes and food wastes (where allowed)

Objective 5: Develop new and continue to update timely marketing materials and media releases that promote new and established Resource Recovery programs and Solid Waste services.

Action 1: Continue to promote the Household Hazardous Waste program and find new resources for promotion of the program

Action 2: Continue the Household Waste Guide production with yearly updates

Action 3: Maintain online version of the Household Waste Guide & update as needed throughout the year

Action 4: Continue to produce handouts for distribution at recycling drop off centers

Action 5: Distribute and update the information/press kit that highlights all aspects of DPW to be used for promotional opportunities

Action 6: Purchase promotional gifts – magnets, etc.

Action 7: Utilize social media to increase outreach

Objective 6: Increase the educational opportunities available for schools

Action 1: Establish education kits that teachers can borrow for use in the classroom

Action 2: Create lesson plans for new presentations on specific topics that can be brought to a school or presented in the Materials Recovery Facility Education Center.

Action 3: Correlate lesson plans & tour content to the Michigan State Grade Level Content Expectations

Action 4: Encourage recycling in schools by researching available resources for school recycling and assisting schools in establishing and expanding recycling programs

Objective 7: Continue to assist local businesses, non-profit organizations and schools in finding outlets for recyclable materials and reducing waste generation.

Action 1: Research options for recycling and promoting options to businesses

Action 2: Develop web-based resources for non-residential waste reduction

Goal 3: Ensure Kent County residents have access to convenient, state-of-the-art technologies and cost effective access to public and private residential recycling programs.

Objective 1: Maintain Material Recovery Facility operations to reliably process recyclable materials.

Action 1: Seek to increase process amount by 1,000 tons per year until capacity is reached

Action 2: Actively pursue markets for the sale of recyclable materials

Action 3: Assess methods to improve processing efficiency, product quality and marketability of output

Objective 2: Facilitate a plan to increase public and private recycling options for multifamily dwellings, condominiums, apartment complexes, public facilities/areas, rural areas and special events by 2015.

Action 1: Work with local municipalities and planning agencies to include recycling options for facilities other than single-family residences

Action 2: Continue to analyze and promote recycling drop-off centers for rural areas

Action 3: Work with local waste companies to develop programs to expand recycling opportunities for multifamily dwellings, condominiums, apartment complexes, rural areas and special events

4: Provide more opportunities to remove hazardous materials from the waste stream.

Objective 1: Evaluate the feasibility of establishing a permanent, centrally located Household Hazardous Waste (HHW) facility.

Action 1: Seek to increase usage of the county's four appointment-based centers by 5% each year

Action 2: Evaluate the ability to eliminate disposal fees for underserved communities

Action 3: Evaluate feasibility of private sector providing HHW management services

Objective 2: Investigate and work with other programs and/or businesses for the additional collection and disposal of common hazards including compact fluorescent bulbs, electronics, batteries, motor oil, latex paint, pharmaceuticals and sharps

Action 1: Utilize partnerships to establish and promote programs

Action 2: Seek sponsorships for program support

Action 3: Participate in product stewardship initiatives that partner with manufacturers, retailers, environmental groups, federal agencies and other key stakeholders to reduce the health and environmental impacts of consumer products

Objective 3: Evaluate feasibility of providing collections for Conditionally Exempt Small Quantity Generators (CESQG) to safely dispose of hazardous materials.

Action 1: Develop criteria for participating CESQG businesses

Action 2: Develop billing and cost accounting system for participating CESQG businesses

Action 3: Evaluate feasibility of private sector providing CESQG waste management services

Objective 4: Evaluate feasibility of designing, funding and building a permanent Household Hazardous Waste (HHW) and Conditionally Exempt Small Quantity Generator (CESQG) facility.

Action 1: Service a minimum of 5,000 households annually.

Action 2: Establish "business hours" that include weekdays and weekends

Action 3: Allocate space to include a reuse/ swap center for usable materials

Action 4: Investigate the feasibility of accepting and bulking latex paint

Section II, page II-6

The following replaces sections of the Plan Update approved on April 3, 2000.

CHANGE(S):

1. Under 'Waste Types Received (check all that apply)', check box for 'other' and label as "institutional waste**"
2. Below 'Explanation of special wastes, including a specific list and/or conditions', insert the following text:
**Institutional waste includes material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities.
3. Under 'Site Size', Annual energy production: Waste-to-Energy incinerators:' delete '72/day' and add '140,000'. After 'megawatts', delete '116,000 lb. Of steam/hr'

Section III – SELECTED SYSTEM

III.2 IMPORT AUTHORIZATION Table 1-A

CHANGE(S):

1. Page III-3, below listing for 'Importing County: Kent, Exporting County: VanBuren', insert the following text:
"In addition to the import authorizations listed in Table 1-A, the County may accept institutional waste for disposal at the Waste-To-Energy Facility from municipalities located outside the County and from State or Federal Departments and Agencies." Institutional waste includes material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities.

III.5 SOLID WASTE DISPOSAL AREAS FACILITY DESCRIPTIONS – Page III-10

CHANGE(S):

1. Insert same three changes as Section II.3, page II-6

Section III.16.G, page III-44

Revise Nos. 11-13 of Section III.16.G., Consistency Criteria, to read as follows:

"11. For all proposed facilities that are Type A or Type B transfer facilities, to the extent that the solid waste coming to the transfer station is generated from within the cities of Grand Rapids, Wyoming, East Grand Rapids, Kentwood, Grandville, or Walker, the applicant shall agree to comply with the applicable city or county ordinances directing waste to the Waste-to-Energy

Facility located at 950 Market Street and shall at all times comply with such ordinances and ordinance amendments.

12. If the proposed facility is a Resource Recovery Facility, to the extent that the materials coming to the facility are generated from within the cities of Grand Rapids, Wyoming, East Grand Rapids, Kentwood, Grandville, or Walker, the applicant must agree that all residue from such materials must be disposed of in compliance with the ordinances of the six cities or the county directing waste generated to the Waste-to-Energy Facility located at 950 Market Street, and shall at all times comply with such ordinances and ordinance amendments.

13. If the proposed facility is located in Wyoming, Grand Rapids, East Grand Rapids, Kentwood, Grandville, or Walker it must submit a written statement indicating that it will operate in compliance with all applicable ordinances and amendments, in effect at the time of the consistency determination, from the areas identified above or County issued ordinances, including, but not limited to, ordinance requirements directing solid waste to designated County facilities.

Section III.17.B, page III-50

Insert the following between the second and third paragraphs of Section III.17.B, page III-51

“The County may, however, enter into amendments of the new or amended base contract with the six cities, and contracts with other local units of government if appropriate, to implement a solid waste management program as provided in Section III.17.D. As part of a solid waste management program, the County may adopt and enforce a county solid waste management ordinance as an “enforceable mechanism” authorized by this Plan. The purpose of a County ordinance is to implement the approved Kent County Solid Waste Management Plan, as amended, and as adopted pursuant to Part 115 Solid Waste Management of Public Act 451 of 1994; to protect and promote the public health, safety and welfare of Kent County residents by regulating the collection, transportation, and disposal of solid waste; to establish conditions for issuing waste hauler licenses; to provide residents and businesses an incentive to recycle, thereby reducing the volume of solid waste; to preserve and improve the environment; to promulgate solid waste management rules and regulations; to provide penalties for violations of the Ordinance; and to establish and assess a Countywide surcharge on solid waste generated for final disposal to be used to fund closed county landfills and the Household Hazardous Waste Program. A county ordinance may include, but not be limited to, licensing of waste haulers including requirements for collection, transportation, and disposal of solid waste; transportation and disposal of recyclables; promote and encourage recycling, including source-separation and anti-scavenging provisions; and any matters related thereto, including criminal penalties, sanctions for civil infractions, and other legal or equitable remedies for violations. The requirements of a county solid waste management ordinance shall be in addition to any requirements of city, township, or village ordinances.

A county solid waste management ordinance shall be considered an approved “enforceable mechanism” under this Plan. The adoption and enforcement of a county solid waste management ordinance shall be deemed to be consistent with this Plan and the Michigan Solid Waste Policy.

Section III.17.B.1, page III-51

Delete the first paragraph of III.17.B.1 (p. III-51) and replace with the following:

“Cities possess home rule powers to pass and enforce ordinances to license waste haulers, regulate the use of their streets, and establish requirements for solid waste management, transportation and disposal. Hence, in 1985, Kent County entered into contracts with six cities requiring them to pass ordinances to ensure flow of waste to the Kent County Waste-to-Energy (WTE) Facility.

By law, the County has the authority to adopt and enforce a county ordinance relating to “county affairs.” Under Part 115 of NREPA, counties are charged with the responsibility for adopting and enforcing county solid waste management plans which shall include “enforceable mechanisms” to achieve solid waste management objectives. Part 115 specifically provides that an “enforceable mechanism” under a county solid waste management plan may include county ordinances.

Section III.19, page III-57 number 3 add # 15:

15. A county ordinance to meet the stated purposes of an ordinance as set forth in section III.17.B, which ordinance may include the following:
 - a. licensing of waste haulers;
 - b. requirements for collection and transportation of solid waste;
 - c. promote and encourage recycling, including source-separation and anti-scavenging provisions; and
 - d. any matters related thereto, including criminal penalties, sanctions for civil infractions, and other legal or equitable remedies for violations.

The requirements of a county solid waste management ordinance shall be in addition to any requirements of city, township, or village ordinances. The potential ordinance is not intended to regulate the location, development or operation of solid waste disposal areas. Regulation regarding the location, development or operation of solid waste disposal areas shall be done through a properly promulgated plan amendment in accordance with the provisions of Part 115.

Section III.20, page III-57

Revise Number 4 of Section III.20, p. III-57, Plan Violations, to read as follows:

“Failure to comply with a county solid waste management ordinance.

Change original Number 4 to Number 5

“Failure of any person to comply with any other requirement of this Plan.”

Page III-57, Number 3 updated as follows:

1. Certain ancillary construction details, such as landscaping, fencing and screening
2. Hours of operation
3. Noise, litter, vibration, odor, vector control and dust control
4. Lighting
5. Facility security
6. Monitoring of wastes accepted and prohibited refers to compliance with restrictions contained in the Plan and is not an authority to regulate waste acceptance and screening requirements imposed on disposal areas through their operating license and regulated by the Michigan Department of Environmental Quality.
7. Storm water and sewer management
8. Storage of materials on site. This authority refers to enforcement of local blight and junk-related regulations and is not an authority for the county or municipalities to regulate waste piles in conflict with the Michigan Department of Environmental Quality regulatory authority under R299.4129 and R299.4130 of the Part 115 Administrative Rules.
9. Traffic patterns, roads ingress/egress, parking, curb and gutter
10. Signage
11. Emergency services, i.e., fire protection
12. Composting and recycling
13. Building or other structure height
14. A county ordinance to meet the stated purposes of an ordinance as set forth in section III.17.B, which ordinance may include the following:
 - a. licensing of waste haulers;
 - b. requirements for collection and transportation of solid waste;
 - c. promote and encourage recycling, including source-separation and anti-scavenging provisions; and
 - d. any matters related thereto, including criminal penalties, sanctions for civil infractions, and other legal or equitable remedies for violations.

The requirements of a county solid waste management ordinance shall be in addition to any requirements of city, township, or village ordinances. The potential ordinance is not intended to regulate the location, development or operation of solid waste disposal areas. Regulation regarding the location, development or operation of solid waste disposal areas shall be done through a properly promulgated plan amendment in accordance with the provisions of Part 115.



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

August 25, 2009

Mr. Roger C. Morgan, Chairman
Kent County Board of Commissioners
300 Monroe Avenue, NW
Grand Rapids, Michigan 49503-2206

Dear Mr. Morgan:

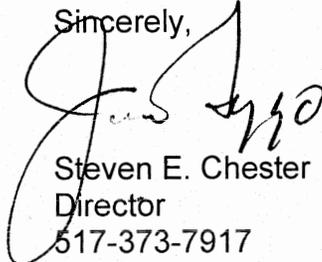
The locally-approved amendment to the Kent County Solid Waste Management Plan (Plan Amendment) received by the Department of Environmental Quality (DEQ) on March 30, 2009, is hereby approved.

The Plan Amendment creates the following changes:

- New goals and objectives including supporting actions will replace those in the existing Plan.
- Updated solid waste generation numbers, county demographic information, population growth rates, and capacity certification will be added.
- The following changes will be made to the "Solid Waste Disposal Areas" section:
 - Both the composting and recycling facilities located at the Central Sanitary Landfill in Montcalm County will be deleted from this section.
 - The Greenville Transfer Station and the Sparta Foundry Disposal Facility names will be changed.
 - The Richmond Transfer Station will be added and a complete facility description will be included.
 - Plummer's Environmental Services was added and a complete facility description will be included.
- Language indicating that Kent County has no plans to increase incineration was removed from the "Selected Alternative" and the "Resource Conservation Efforts, Waste Reduction, Recycling & Composting Program" sections.
- Changes made to the Selected System include adding additional consistency criteria, additional contract details, updated flow control information, allowances for additional rules and regulations to be set, and the Implementation Strategy will be updated to include achieving the goals in the Revised Michigan Solid Waste Policy and by updating list of responsible parties.
- Adds failure to comply with ordinances directing waste to designated facilities as a Plan violation.
- Specific names of staff, companies, and agencies will be changed or deleted to reflect current information.

The DEQ would like to thank Kent County for its efforts in addressing its solid waste management issues. If you have any questions, please contact Ms. Rhonda Oyer Zimmerman, Chief, Solid Waste Management Unit, Storage Tank and Solid Waste Section, Waste and Hazardous Materials Division, at 517-373-4750.

Sincerely,



Steven E. Chester
Director **Acting**
517-373-7917

cc: Senator Bill Hardiman
Senator Mark C. Jansen
Representative David Agema
Representative Justin Amash
Representative Robert Dean
Representative Kevin Green
Representative Dave Hildenbrand
Representative Tom Pearce
Representative Roy Schmidt
Mr. Douglas G. Wood, Kent County Department of Public Works
Mr. Jim Sygo, Deputy Director, DEQ
Ms. JoAnn Merrick, Chief of Staff, DEQ
Ms. Carol Linteau, Legislative Director, DEQ
Mr. George W. Bruchmann, DEQ
Mr. Steve Sliver, DEQ
Ms. Amy Lachance, DEQ
Ms. Rhonda Oyer Zimmerman, DEQ
~~Ms. Becky Beauregard, DEQ~~
Kent County File

SOLID WASTE DIVISION

Waste-to-Energy Facility
District Heating and
Cooling Operations
Landfill Operations
Recycling
Resource Recovery

UTILITY SERVICES DIVISION

Financing
Construction
Operation



Board of Public Works

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RICHARD VANDER MOLEN

DOUGLAS G. WOOD

Director

March 27, 2009

Ms. Christina Miller
Environmental Quality Analyst
MDEQ – Waste and Hazardous Materials Division
PO Box 30241
Lansing, MI 48909-7741

Re: Kent County Solid Waste Management Plan Amendment/Final Approval

Dear Ms. Miller:

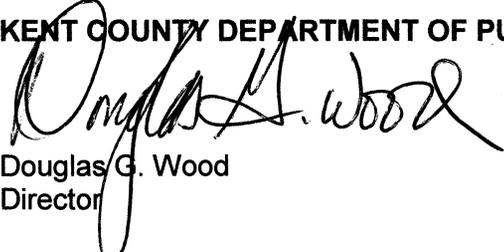
On behalf of the Kent County Board of Public Works, serving as the designated planning agency, enclosed is a copy of the Kent County Solid Waste Management Plan Amendment which was prepared in compliance with Section 11539a of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended.

The amendment will become Appendix E of the current plan which was approved in April 2000 by the Michigan Department of Environmental Quality. Enclosed is the amendment with all changes noted by page and section. On November 20, 2008, the Kent County Board of Commissioners approved the Plan Amendment. The Plan was then distributed to the 35 local units of government within Kent County for their approval (67%). The resolutions approving the Plan are located in Appendix E of the Plan. For the final step in the approval process, Kent County is requesting final review and approval of the Plan Amendment.

I can be reached at 616-336-3532 or e-mail Doug.Wood@kentcountymi.gov if you have any questions or contact Dennis Kmiecik at 616-4369 or e-mail Dennis.Kmiecik@kentcountymi.gov.

Best regards,

KENT COUNTY DEPARTMENT OF PUBLIC WORKS



Douglas G. Wood
Director

Enclosures

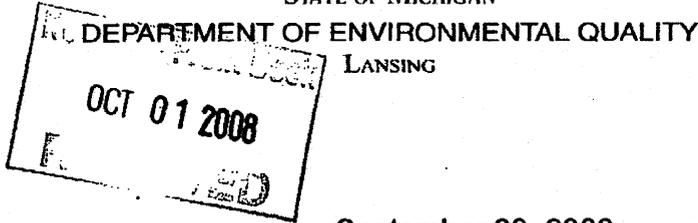
Waste & Hazardous
Materials Division

MAR 30 2009



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN



STEVEN E. CHESTER
DIRECTOR

September 29, 2008

Mr. Douglas G. Wood, Director
Kent County Board of Public Works
Earl G. Woodworth Building
1500 Scribner Avenue, N.W.
Grand Rapids, Michigan 49504-3233

Dear Mr. Wood:

SUBJECT: Kent County Solid Waste Management Plan Amendment

The Department of Environmental Quality (DEQ) has received and reviewed the documentation provided by you for the draft Kent County Solid Waste Management Plan Amendment (Plan Amendment) 90-day public comment period ending October 30, 2008. The following areas of the Plan Amendment may require revision or additional information:

Page 2 of your Plan Amendment indicates two facilities will be added to Section II.2, page II-3, Solid Waste Disposal Areas. These two facilities, Richmond Transfer Station and Plummer's Environmental Services must also have complete facility descriptions included in the Plan in Section II (please list the page numbers where these facility descriptions will be located). If the facilities will be used to provide required capacity and management needs, they must also be listed in the Solid Waste Disposal Areas on Section III.4, page III-7 and completed facility descriptions must be included in Section III.5 (please list the page numbers where these facility descriptions will be located).

If you have any questions or comments, please contact me at the telephone number below, or by e-mail at beauregardb@michigan.gov.

Sincerely,

Becky Beauregard
Solid Waste Management Unit
Storage Tank and Solid Waste Section
Waste and Hazardous Materials Division
517-373-4738

cc: Ms. Rhonda Oyer Zimmerman, DEQ
Kent County File

AMENDMENT TO KENT COUNTY ACT 451
SOLID WASTE MANAGEMENT PLAN
JULY 2008

The Kent County Act 451 Solid Waste Management Plan (May 1999) is hereby amended as follows:

1997 PLAN UPDATE COVER PAGE

- E-mail address updated to: Doug.Wood@kentcountymi.gov

Section I.1.B, page I-2

- In the second paragraph, second sentence, the date is changed to 2015 from 2010.

Section I.2, pages I-3 thru I-5

- Goals and Objectives are replaced with the following new goals and objectives: see attached pages.

Section II.1, pages II-1 thru II-2, Data Base, replaced with the following:

- The following paragraph was added beneath the line "The following database is derived from the listed sources:"
 - "To determine generation rates for solid waste in Kent County, a comparison was made of recent solid waste studies. These included the 2001 Michigan Recycling Coalition Michigan Recycling Measurement Project; The 2006 BioCycle "The State of Garbage in America" 15th Nationwide Survey by the Earth Engineering Center at Columbia University; EPA Municipal Solid Waste Generation Report for 2006 by Franklin and Associates. Figures from these sources showed solid waste generation volumes below disposal quantities reported to the State of Michigan for the years 2000, 2005, 2006 and 2007. The decision was made to keep the current generation rates for each category as reported in the 1999 Solid Waste Management Plan."
- The last paragraph of Section II.1 was changed to read:
 - The data was generated by using population and employment figures obtained from the U.S. Census Bureau and the Michigan Department of Labor and Economic Growth.
- The table in Section II.1.A has been updated to read:

**II.1.A PROJECTED SOLID WASTE QUANTITIES FOR KENT COUNTY
SOLID WASTE GENERATION (TONS PER YEAR)**

	2000	2005	2010	2015	2020
Residential	358,471	372,409	379,046	386,934	416,558
Commercial	251,541	257,282	265,338	294,845	313,627
Industrial	186,259	150,471	146,587	149,446	152,305
Total MSW	796,272	780,162	790,971	831,225	882,490
CDD & ISW	199,068	195,040	197,743	207,806	220,622
Total Solid Waste	995,340	975,202	988,714	1,039,032	1,103,112

Abbreviations: Municipal Solid Waste = MSW
 Construction Demolition & Debris = CDD
 Industrial Special Waste = ISW

(Department of Environmental Quality Solid Waste Landfill Receipt Reports for the fiscal years of 2000, 2005, 2006 and 2007, Kent County 1999 Solid Waste Management Plan, the State of Michigan Solid Waste Planning Guidebook and the State of Michigan Waste Generation Figures as reported in the Oakland County 1990 SWM.)

- The last paragraph of Section II.1.A has been updated to read (changes are underlined):
“Overall, the County does not anticipate any major uncertainty associated with managing the solid waste generated within its borders. Within Kent County, approximately 2,672 tons of solid waste is generated every day (988,713 tons/year) based on 2005 data. The Waste-To-Energy Facility incinerates an average of 488 tons/day, while the South Kent Landfill presently accepts approximately 468 tons/day for disposal. The remaining 1,300 tons of solid waste are transported to out-of-county disposal areas. This leaves a balance of approximately 300 tons of material per day for diversion. This diversion rate includes residential recycling (37 tons/day) and 279 tons per day for commercial/industrial recycling and composting. South Kent Landfill has sufficient capacity for the next 23 years at a disposal rate of 155,000 tons per year or 500 tons per day.”
- The TOTAL QUANTITY OF SOLID WASTE GENERATED (page II-2) has been updated to 988,173 Tons annually.
- The TOTAL QUANTITY OF SOLID WASTE NEEDING DISPOSAL (page II-2) has been updated to 823,746 Tons annually.

Section II.2, page II-3, Solid Waste Disposal Areas,

- Deleted the following facilities:
 - Central Sanitary Landfill – Montcalm County – Composting Facility
 - Central Sanitary Landfill – Montcalm County – Recycling Facility
- Amended the following facilities:
 - Greenville Transfer Station - Montcalm County - Type A Transfer Station (deleted “Waste Management of West Michigan”)
 - Sparta Foundry Disposal Facility was changed to Sparta Foundry Waste Facility
- Added the following facilities, *facility descriptions to be found on pages II-15 and II-16*
 - Richmond Transfer Station - Kent County - Type A Transfer Station
 - Plummer’s Environmental Services - Kent County - LIW Pretreatment Plant

Section II.6, page II-20, Demographics, was changed to the following:

- The second and third paragraphs were updated to read (changes are underlined):
“The population growth projections provide 2000 census data and population forecasts for the years 2010 and 2020. The projected rate of change between 2000 and 2010 is shown for each unit, indicating the areas that are expected to experience the most growth.

“The county’s population as a whole is expected to increase at a growth rate of 5.7% from 2000 to 2010 and 9.8% from 2010 to 2020.”

- Before the final paragraph and below the two paragraphs mentioned above, a fourth paragraph has been added, which reads:
 “The 2010 Forecast was made by using the US Census data for the rate of change in population for the years 2000-2005. This rate was used with the 2005 US Census estimated population data to forecast the populations for 2010. The 2020 Forecast was made by using the 2010 population estimate and assuming the municipality will have a similar percentage of Kent County’s total population in 2020 as forecasted by the US Census.”

Section II.6, page II-21

- Kent County Population Growth was replaced with the following: see attached pages.

Section II.8.B.5, page II-28, Selective Alternative

- Delete the sentence in the second paragraph which reads “The County has no proposal to expand incineration capacity during this plan period.”

Section III.1, page III-1

- First paragraph second to the last sentence should read Appendix A instead of B (typo error)

Sections III.2 and III.3, pages III-2 through III-6, Export Authorization

- At the bottom of the page, delete “the Attachment Section” and replace with “Appendix D-6.”

Section III.9, page III-24

- In the fourth paragraph, delete the following: “which is utilized in the District Heating and Cooling operations. Since the facility is operated at maximum capacity, an increase in incineration is not part of this Plan.”

Section III.16.G, page III-46

- Added Consistency Criteria number 14 which states the following:
 “14. The proposed disposal area shall include, but not limited to, a permanent public household hazardous waste facility, a public recycling drop-off center, and an electronics recycling collection center. These ancillary programs shall be constructed and operated in accordance with, and equal to, the criteria set forth by the Department of Public Works.”

Section III.17.A, page III-47

- In the first paragraph, fourth sentence, the city of Wyoming has been added.
- The sentence should read as follows (changes are underlined):
 “With the expansion of Kent County’s Refuse Disposal System to include the Waste-To-Energy Facility (WTE), Kent County entered into contracts with six metropolitan communities (Grand Rapids, Walker, East Grand Rapids, Grandville, Kentwood and Wyoming) in order to provide for flow of waste to the WTE Facility to ensure economical feasibility of operation.”

Section III.17.A, page III-48

- Remove the names of people, to read:
Department of Public Works: Director
 Finance Director
Resource Recovery: Solid Waste Division Director
 Resource Recovery Specialist
Waste-To-Energy: WTE Division Director
Landfill Operations: Engineering/Utility Services Director

Section III.17.A.2, page III-48

- In the last paragraph, first sentence, deleted "Ogden Martin Systems of Kent" and added "COVANTA Kent, Inc."

Section III.17.D, page III-52, Federal Government

- Changed "Department of Natural Resources" to "Department of Environmental Quality."
- After the paragraph, added the following:

"The U.S. Supreme Court ruled on April 30, 2007 in the case of *United Haulers Association, Inc., et al v. Oneida-Herkimer Solid Waste Management Authority* that a municipal ordinance that directs locally generated-wastes to publicly owned waste facilities does not discriminate against interstate commerce.

"Kent County entered into solid waste delivery agreements with private waste companies, as described in this plan, following an earlier U.S. Supreme Court ruling in the case of *C&A Carbone v. Clarkston*. The term of these agreements is through the year 2010, unless otherwise terminated for reasons as defined.

"Through this solid waste plan Kent County recognizes and has used flow control as an effective legal approach to implement an integrated solid waste management program. To the extent allowed by law and after public discussion and input from residents and businesses, and taking into consideration economic, environmental and other impacts, "flow control" may be continued or implemented in the interest of ensuring an integrated solid waste management program as defined in this plan."

Section III.19, page III-57

- Added the following: Number 14
"Directing solid waste to designated facilities in accordance with local ordinances, state and federal law."

Section III.20, page III-58, Plan Violations

- Add the following: Number 5
"Failure to comply with ordinances directing waste to designated facilities in accordance with state and federal law."

Section III.21, page III-58, Capacity Certification

- Updated the data to include the following years:

YEAR	1996	1997	1998	1999	2000	2001
TONS	162,870	137,389	135,513	165,672	163,276	170,925
YEAR	2002	2003	2004	2005	2006	2007
TONS	170,843	178,318	179,363	175,754	178,184	191,972

- Updated the last paragraph to read (changes are underlined):
“Based on the data supplied in this Plan, the South Kent Landfill has current capacity of approximately 6,030,000 tons. Using conservative data found on pages II-1, 2 and 14 of this Plan, the South Kent Landfill has sufficient capacity for the next 23 years at a disposal rate of 155,000 tons per year or approximately 500 tons per day.”

Appendix A, page A-8, Coordination Efforts

- In the fourth paragraph delete last sentence: “These delivery agreements expire in December 2002.”

Appendix C, page C-6

- In Rule 4, delete the word “Deputy”

Appendix C, page C-7, Planning Committee

- See attached page of the new list of members of the Planning Committee

Appendix D, page D-1, Plan Implementation Strategy

- Updated the second and third paragraphs to read:

“Section II recommends an offshoot of Alternative 3 from the previous Plan as the preferred solid waste management strategy for Kent County. Section I, Goals and Objectives, was updated to reflect a committed strategy to utilize 50% of the municipal solid waste generated in Kent County by 2015. This includes expansion of residential recycling services through construction of a new Materials Recovery Facility, expansion of the Household Hazardous Waste Program by construction of a full service permanent facility, expansion of all education and marketing endeavors to increase participation by 25% in all programs over the next five-year planning period. The main emphasis of the Solid Waste Management Plan is a continuation of the present system to ensure long-term disposal capacity through the Waste-to-Energy facility and South Kent Landfill after materials diversion. This system has worked well in the County during the previous Plan and no major changes are foreseen in the five-year planning period.

“The Act 451 Plan implementation and management responsibilities will be assumed by the Kent County Board of Public Works acting through the Kent County Department of Public Works. The Kent County Board of Public Works is the designated Planning Agency and is responsible for the Kent County Solid Waste Management Plan.”

Amendment to: Section I.2, pages I-3 thru I-5

The following Goals and Objectives replace those in the 1999 Plan

Policy Statement:

The Kent County Solid Waste Management Plan works toward the goal of utilizing 50% of the Municipal Solid Waste (MSW) generated in Kent County by 2015, as defined by the Michigan Solid Waste Policy 2007. Kent County Department of Public Works will strive to make continuous improvements toward this goal by establishing and implementing systems that take into consideration the economic vitality, ecological integrity, and social equity of the management of MSW. All systems established and managed within these principles will foster the ultimate goal of a sustainable Solid Waste Management Plan.

This policy statement will guide the following goals and objectives:

Goal 1: Maintain an integrated and sustainable solid waste management system centered on the protection of public health and the environment.

Objective 1: Ensure long-term disposal capacity is available for Kent County residents and businesses.

Action 1: Evaluate and prepare each year a report of the long-term availability of final disposal capacity for solid waste that includes in the evaluation solid waste facilities owned and operated by Kent County and regional disposal facilities.

Action 2: Obtain agreements or a contract as needed with public or private entities to make certain long-term (20-year) solid waste disposal capacity is available.

Action 3: Establish a work group that includes waste companies, generators, villages, townships, and cities with the goal to identify all issues and options concerning organized collection systems and develop recommendations by 2009.

Objective 2: Maintain and operate components of an integrated waste management system that includes the Waste-to-Energy Facility, South Kent Landfill, Material Recovery Facility, North Kent Transfer Facility, recycling drop-off centers, household hazardous waste facilities, resource recovery programs in accordance with federal, state and local laws, rules and regulations.

Action 1: Prepare a feasibility analysis decision-making tool for expansion of the Waste-to-Energy Facility by January 1, 2011 that includes examination of service area, capital requirements, and legal requirements.

Action 2: Complete expansion plan for South Kent Landfill into Allegan County by January 1, 2010 that includes additional properties needed, economic analysis, cooperative partnership with Allegan County concerning long-term disposal requirements for both Counties, implementation schedule, sustainable development and environmental accounting considerations above those required by rule, regulation or law.

Objective 3: Evaluate, recommend, and/or implement an economic financing plan that provides support for solid waste management, collection, transportation, and disposal services.

Action 1: Prepare an economic and financing plan by December 31, 2010, that includes integration of the landfill, transfer station, waste-to-energy facility, and ancillary waste services, including the household hazardous waste and recycling programs.

Goal 2: Develop, maintain and expand public education programs and marketing and public relations materials, which showcase, support & explain the Solid Waste and Resource Recovery services to increase participation in all programs by at least 25% by 2012.

Objective 1: Increase participation among the Kent County elementary schools in the Earth Day Recycle Challenge by 25% each year to reach 100 schools by 2012.

Action 1: Continue to utilize the Kent ISD courier service to send information.

Action 2: Establish a database of schools that participate in tours/presentations to send Recycle Challenge information by direct mail.

Action 3: Increase budget to provide rewards for 75% of participating schools and 100% of participating students.

Action 4: Research potential corporate sponsors or partners for the Recycle Challenge.

Objective 2: Include, in the planning of a new Materials Recovery Facility, the design and construction of a new education center for school and public programs, by 2012.

Action 1: Establish a "wish list" of displays & items for a new center.

Action 2: Research the feasibility of including "green" building design.

Action 3: Include an enclosed touring area for the public to view the operations of the MRF safely.

Action 4: Include a public display area to be open to the public with exhibits promoting recycling and resource recovery

Action 5: Include a flexible classroom to be used for a variety of public and school programs

Action 6: Include a media room to be used for viewing of recycling-related media & explore the possibility of a corporate sponsor for such a room.

Action 7: Research the feasibility of opening an education center for a limited amount of "public hours".

Objective 3: Establish a separate webpage for emphasizing recycling and other waste reduction techniques, by 2010.

Action 1: Establish a web address for DPW website

Action 2: Brainstorm a mascot or logo for DPW programs

Action 3: Maintain the information on the webpage to be accurate and timely.

Objective 4: Establish a composting education program by 2010.

Action 1: Research potential community partners – both corporate sponsorships and program partnerships to avoid duplication of community programs.

Action 2: Research available programs to promote backyard composting through at-cost sales of compost bins

Action 3: Create an educational program to teach and promote backyard composting

Action 4: Research the options for incentives for residents to compost yard wastes and food wastes (where allowed)

Objective 5: Develop new and continue to update timely marketing materials and media releases that promote new and established Resource Recovery programs and Solid Waste services.

Action 1: Continue to promote the Household Hazardous Waste program and find new resources for promotion of the program

Action 2: Continue the Household Waste Guide production with yearly updates.

Action 3: Maintain online waste guide & update as needed throughout the year.

Action 4: Continue to produce the Recycling cards for distribution at drop off centers

Action 5: Develop an information/press kit that highlights all aspects of DPW to be used for promotional opportunities

Action 6: Purchase promotional gifts – magnets, etc.

Objective 6: Research the feasibility of adding staff members to focus on the specific areas of public education and marketing/public relations to have the positions added by 2012

Objective 7: Increase the educational opportunities available for schools by 2010.

Action 1: Establish education kits that teachers can borrow for use in the classroom.

Action 2: Create lesson plans for new presentations on specific topics that can be brought to a school or presented in a new Education Center.

Action 3: Correlate lesson plans & tour content to the Michigan State Grade Level Content Expectations.

Action 4: Encourage recycling in schools by researching available resources for school recycling and assisting schools in establishing a recycling program.

Objective 8: Promote small business recycling to help local businesses, including non-profit organizations, find outlets for recyclable materials.

Action 1: Research options for recycling and promoting them to small businesses by 2010

Goal 3: Provide Kent County residents convenient, state-of-the-art technologies and cost effective access to residential recycling programs.

Objective 1: Expand present material recovery facility operations to include new single stream processing technology to accept wider range of recyclable materials.

Action 1: Plan, design and construct a new single stream material recovery facility in 2009.

Action 2: Continue to actively pursue markets for the sale of recycled materials.

Objective 2: Develop a plan to increase recycling options for multifamily dwellings, condominiums, apartment complexes, public facilities/areas, rural areas and special events by 2012.

Action 1: Work with local municipalities and planning agencies to include recycling options for facilities other than single residential homes.

Action 2: Continue to analyze and promote recycle drop-off centers for out-lying areas.

Action 3: Work with local waste companies to develop programs to expand recycling opportunities for multifamily dwellings, condominiums, apartment complexes, rural areas and special events by 2012

Goal 4: Provide more opportunities to remove hazardous materials from the waste stream.

Objective 1: Maintain current Household Hazardous Waste Program (HHW) until a permanent facility is established.

Action 1: Ensure services are available to serve a minimum of 3,000 – 5,000 households per year at the county's four permanent centers.

Action 2: Eliminate disposal fees to rural townships and provide a minimum of three Saturday events to serve the far northern, southern and eastern townships of Kent County.

Action 3: Dedicate 2 staff people just to the Household Hazardous Waste Program, to eliminate weekly appointment system and expand hours, i.e. 2 people per site.

Action 4: Develop at least one ad for television with periodic run times.

Objective 2: Investigate and work with other programs and/or businesses for the additional collection and disposal of the following common hazards:

Action 1: Compact Fluorescent Bulbs (CFL's) – Retailer collection sites.

Action 2: Electronics – One-day event sponsors.

Action 3: Batteries – locate more centers for automotive batteries and alkaline batteries.

Action 4: Motor oil – Purchase and distribute Do-it-Yourself containers. Locate more oil collection sites for residents.

Action 5: Latex paint – investigate Home Repair Services or other collection centers.

Action 6: Pharmaceuticals - work with local wastewater treatment plants to provide at least one pharmaceutical collection per year.

Action 7: Work with Kent County Health Department to provide dedicated sharps containers and collection of containers through either the Health Department or the HHW program.

Objective 3: Provide 3-4 collections annually for Conditionally Exempt Small Quantity Generators (CESQG) to safely dispose of their hazardous materials.

Action 1: Develop criteria for participating CESQG businesses.

Action 2: Develop billing and cost accounting system for participating CESQG businesses.

Action 3: Disposal Contractor on site.

Objective 4: By 2012 design, fund and build a 4,000-6,000 square foot Household Hazardous Waste (HHW) and Conditionally Exempt Small Quantity Generator (CESQG) facility.

Action 1: Service a minimum of 8,000 to 10,000 households annually.

Action 2: Establish "business hours" weekdays and weekends.

Action 3: Establish personnel 2-4 staff people, possible chemist on site.

Action 4: Monthly collections for CESQG businesses.

Action 5: Reuse/ Swap Center for usable materials

Action 6: Possibly accept and bulk latex paint for Reuse/Swap center.

Action 7: Transfer household batteries and electronics storage from Recycling Facility to permanent HHW facility.

Update to Section II.6, page II-21

Kent County Population Growth

<u>Cities</u>	2000 Census	2010 Forecast	2020 Forecast	% Change (2000-2010)
Cedar Springs	3,112	3,325	3,562	2.8%
East Grand Rapids	10,764	10,021	10,736	-3.5%
Grand Rapids	197,800	189,904	203,455	-2.0%
Grandville	16,263	17,179	18,405	2.8%
Kentwood	45,255	47,746	51,153	2.7%
Lowell	4,013	4,272	4,577	3.2%
Rockford	4,626	5,533	5,928	9.3%
Walker	21,842	25,106	26,898	7.2%
Wyoming	69,368	70,893	75,952	1.1%
<u>Townships</u>	2000 Census	2010 Forecast	2020 Forecast	% Change (2000-2010)
Ada	9,882	13,997	14,996	19.0%
Algoma	7,596	11,035	11,822	20.6%
Alpine	13,976	13,748	14,729	-0.8%
Bowne	2,746	3,086	3,307	6.1%
Byron	17,553	23,090	24,738	14.7%
Caledonia (balance of)	7,862	12,977	13,908	28.5%
Cannon	12,075	14,503	15,543	9.6%
Cascade	15,107	18,178	19,482	9.7%
Courtland	5,817	8,429	9,034	20.4%
Gaines	20,112	27,256	29,210	16.4%
Grand Rapids	14,056	15,556	16,671	5.2%
Grattan	3,551	3,953	4,237	5.5%
Lowell	5,219	7,375	7,904	18.9%
Nelson (balance of)	3,700	4,575	4,903	11.2%
Oakfield	5,058	6,392	6,850	12.4%
Plainfield	30,195	33,023	35,391	4.6%
Solon	4,662	6,988	7,489	22.9%
Sparta (balance of)	4,779	5,514	5,909	7.5%
Spencer	3,681	4,004	4,291	4.3%
Tyrone (balance of)	3,067	3,387	3,630	5.1%
Vergennes	3,611	4,701	5,038	14.1%
<u>Villages</u>	2000 Census	2010 Forecast	2020 Forecast	% Change (2000-2010)
Caledonia	1,102	1,482	1,589	16.0%
Casnovia	176	174	186	-0.6%
Kent City	1,061	1,087	1,165	1.2%
Sand Lake	492	533	571	4.1%
Sparta	4,159	3,925	4,206	-3.0%

COUNTY TOTALS: 574,335 607,300 (projected) 667,400 (projected) 5.7% (projected)

Sources: US Census: www.census.gov & Library of Michigan: www.michigan.gov/hal

Update to Appendix C:

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. Randy Dozeman, Waste Management of West Michigan
2. Thomas Evenhouse, Allied Waste Industries
3. Dan Strock, Arrowaste, Inc.
4. John E. VanTholen, Green Valley Disposal Services

One representative from an industrial waste generator:

1. Darwin Baas, Valley City Environmental Services

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

1. Melanie Good, Land Conservancy Nature Center
2. William A. Stough, Sustainable Development Consultant

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

1. Art Tanis, County Commissioner

One representative from township government:

1. Audrey Nevins, Supervisor Byron Township

One representative from city government:

1. Rosalynn Bliss, City of Grand Rapids Commissioner

One representative from the regional solid waste planning agency:

1. None

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

1. Tom Postmus
2. John DeWitt
3. Joyce Tuharsky

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station
 Facility Name: Richmond Transfer Station
 County: Kent Location: Town: ___Range: ___Section(s): ___ City of Grand Rapids

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes : Pitsch Sanitary Landfill
 Public Private Owner: Richmond Transfer Station

Operating Status (check)	Waste Types Received (check all that apply)
<input checked="" type="checkbox"/> open	<input checked="" type="checkbox"/> residential
<input type="checkbox"/> closed	<input checked="" type="checkbox"/> commercial
<input checked="" type="checkbox"/> licensed	<input type="checkbox"/> industrial
<input type="checkbox"/> unlicensed	<input checked="" type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure	<input type="checkbox"/> special wastes *
<input type="checkbox"/> pending	<input type="checkbox"/> other: _

* Explanation of special wastes, including a specific list and/or conditions: _____

Site Size:
 Total area of facility property: 17,000 sq. ft.
 Total area sited for use: _____ acres (information not provided)
 Total area permitted: _____ acres (information not provided)
 Operating: _____ acres (information not provided)
 Not excavated: _____ acres (information not provided)

Current capacity: N/A tons or yds³
 Estimated lifetime: N/A years
 Estimated days open per year: _____ days (information not provided)
 Estimated yearly disposal volume: _____ tons or yds³ (information not provided)

(if applicable)
 Annual energy production:
 Landfill gas recovery projects: N/A megawatts
 Waste-to-energy incinerators: N/A megawatts

Data source: Site owner, DEQ Waste Data System and FY 2007 Annual Reports of Solid Waste Landfilled
www.michigan.gov/documents/deq/deq-whm-stsw-ReportSolidWasteLandfilledFY2007_223219_7.PDF
www.deq.state.mi.us/WDSPI/Default.aspx

FACILITY DESCRIPTIONS

Facility Type: LIW Pretreatment Plant
 Facility Name: Plummer's Environmental Services, Inc.
 County: Kent Location: Town: ___ Range: ___ Section(s): ___ Byron Township

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes : South Kent Landfill

Public Private Owner: Plummer's Environmental Services, Inc.

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: _

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	6	acres
Total area sited for use:	6	acres
Total area permitted:	6	acres
Operating:	N/A	acres
Not excavated:	N/A	acres
Current capacity:	N/A	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	50	years
Estimated days open per year:	360	days
Estimated yearly disposal volume:	18,000	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	N/A	megawatts
Waste-to-energy incinerators:	N/A	megawatts

Data source: Site owner, DEQ Waste Data System and FY 2007 Annual Reports of Solid Waste Landfilled
www.michigan.gov/documents/deq/deq-whm-stsw-ReportSolidWasteLandfilledFY2007_223219_7.PDF
www.deq.state.mi.us/WDSPI/Default.aspx



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473 LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

April 3, 2000

Mr. Steven Heacock, Chairperson
Kent County Board of Commissioners
300 Monroe NW
Grand Rapids, Michigan 49503

Dear Mr. Heacock:

The Department of Environmental Quality (DEQ) received the locally approved update to the Kent County Solid Waste Management Plan (Plan) on September 23, 1999. Except for the items indicated below, the Plan is approvable. As outlined in the February 24, 2000 letter to Mr. Curt Kemppainen, Kent County Department of Public Works, from Mr. Seth Phillips, DEQ, Waste Management Division, and as confirmed by Kent County Board of Public Works Resolution Number 5-00 as transmitted from Mr. Douglas G. Wood, Kent County Department of Public Works, on February 29, 2000, to Mr. Phillips, the DEQ makes the following modifications to the Plan:

On [page III-43](#) of the Plan, "Procedure for Determination of Consistency with this Plan."

Item Number 3 lays out responsibilities and time lines for local review of disposal area proposals for consistency with the Plan. The final decision at the County level is assigned to the Kent County Board of Commissioners. However, no time frames or default actions for failing to meet time frames for this review are included in the Plan. The lack of a mandatory time frame to complete the local review leaves the procedure without any assurance that a decision will be made in a timely fashion. Section 11538(3) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, requires that a siting mechanism not be subject to discretionary acts by the local planning entity and that the procedure will guarantee a decision.

In order to resolve this issue, the following language is added:

The Kent County Board of Commissioners shall make its final determination as to consistency within 60 days of receipt of the recommendation from the Designated Planning Agency. If the Designated Planning Agency fails to make its recommendation to the Kent County Board of Commissioners within the time allotted as provided above, the Kent County Board of Commissioners shall make

its final determination within 60 days from the date that the Designated Planning Agency is deemed to have found the proposal consistent with this Plan. If the Kent County Board of Commissioners fails to make a determination within this 60-day period, the proposal will be considered consistent with the Plan by the County.

On [page III-44](#) of the Plan, Consistency Criterion 2 prohibits the siting of a disposal facility closer than 500 feet from adjacent property lines, road right-of-way, and other local features. Since the facility includes all the property at the site, all disposal areas, by definition must be immediately adjacent to property lines. Hence, this criterion as written would preclude siting of all disposal areas and cannot be approved. This criterion is revised to read, "The active work area of a solid waste disposal facility shall not be located closer than" Active work area is the legally defined term in R299.4101(g) of the Part 115 Administrative Rules, which most accurately reflects the intent of this criterion.

On [page III-45](#), Siting Criterion 3 calls for submission of a report describing how the applicant's proposal will address waste reduction, composting, and recycling issues. The criterion contains no standard for review or approval of this report and leaves the determination of consistency to the County's interpretation and discretion in violation of Section 11538(3) of Part 115. This criterion is revised by adding a sentence to read, "The submittal of the report satisfies the criterion as described."

On [page III-45](#), Siting Criterion 8 prohibits the siting of a disposal area in a groundwater recharge area as defined by the United States Geological Survey (USGS). The Plan is clarified to give objective certainty to this criterion by indicating that this definition will be based on the most recently available map from the USGS, which delineates groundwater recharge areas. The first sentence is revised to read, "The proposed facility shall not be located in an area of groundwater recharge as defined by the most current available map from the United States Geological Survey or in a wellhead protection area, as defined by the Michigan Department of Environmental Quality."

On [page III-46](#), Siting Criterion 13 requires that any disposal area must be consistent with the waste disposal hauler agreements contained in the Plan. The Kent County staff explained that this criterion is actually meant to require that any disposal area located in one of the communities subject to the County's flow control restrictions must comply with those restrictions. This criterion is hereby deleted and replaced by the following language, "If the proposed solid waste disposal facility is located in one of the communities (Kentwood, Wyoming, Grandville, Grand Rapids, East Grand Rapids, and Walker) subject to the County's flow control restrictions, the solid waste disposal facility shall submit a written statement that it will operate in compliance with those restrictions."

On [page III-57](#), the Plan outlines local ordinance authority that Kent County wishes to enforce. The following items are clarified:

Item number 6 is revised by adding a sentence to read, "Monitoring of wastes accepted and prohibited refers to compliance with restrictions contained in the Plan and is not an authority to regulate waste acceptance and screening requirements

imposed on disposal areas through their operating license and regulated by the Michigan Department of Environmental Quality.”

Item number 8 is revised by adding a sentence to read, “This authority refers to enforcement of local blight and junk-related regulations and is not an authority for the county or municipalities to regulate waste piles in conflict with the Michigan Department of Environmental Quality regulatory authority under R299.4129 and R299.4130 of the Part 115 Administrative Rules.”

On page III-57, item number 1 is revised by adding a sentence to read, “This provision will not change the consistency of a disposal area for which a construction permit and an operating license have already been issued by the Michigan Department of Environmental Quality.” This clarification was needed because inclusion of this enforcement authority was intended only to allow the County to enforce the ongoing disposal area operational requirements of the Plan.

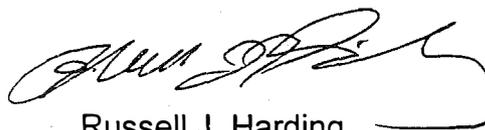
With these modifications, the County’s updated Plan is hereby approved and the County now assumes responsibility for the enforcement and implementation of this Plan. Please ensure that a copy of this letter is included with copies of the approved Plan distributed by the County.

By approving the Plan with modifications, the DEQ has determined that it complies with the provisions of Part 115 and the Part 115 Administrative Rules concerning the required content of solid waste management plans. Specifically, the DEQ has determined that the Plan identifies the enforceable mechanisms that authorize the state, a county, a municipality, or a person to take legal action to guarantee compliance with the Plan, as required by Part 115. The Plan is enforceable, however, only to the extent the County properly implements these enforceable mechanisms under applicable enabling legislation. The Plan itself does not serve as such underlying enabling authority, and the DEQ’s approval of the Plan neither restricts nor expands the County’s authority to implement these enforceable mechanisms.

The Plan may also contain other provisions that are neither required nor expressly authorized for inclusion in a solid waste management plan. The DEQ’s approval of the Plan does not extend to any such provisions. Under Part 115, the DEQ has no statutory authority to determine whether such provisions have any force or effect.

The DEQ applauds your efforts and commitment in addressing the solid waste management issues in Kent County. If you have any questions, please contact Mr. Phillips, Chief, Solid Waste Management Unit, at 517-373-4750.

Sincerely,



Russell J. Harding
Director
517-373-7917

cc: Senator Glenn Steil
Senator Kenneth R. Sikkema
Representative Mark C. Jansen
Representative Doug Hart
Representative James L. Koetje
Representative William R. Byl
Representative Steven M. Pestka
Representative Joanne Voorhees
Mr. Arthur R. Nash Jr., Deputy Director, DEQ
Ms. Cathy Wilson, Legislative Liaison, DEQ
Mr. Jim Sygo, DEQ
Ms. Joan Peck, DEQ
Ms. Amy Lachance, DEQ - Grand Rapids
Mr. Seth Phillips, DEQ
Ms. Lynn Dumroese, DEQ
Kent County File

SECTION I

EXECUTIVE SUMMARY

I.1 EXECUTIVE SUMMARY

The following summarizes the solid waste management system selected to manage solid waste within the County. In case of conflicting information between the executive summary and the remaining contents of the Plan update, the information provided in the main body of the Plan update found on the following pages would take precedence over the executive summary.

I.1.A OVERALL VIEW OF THE COUNTY (based on 1995 land use data)

Township or Municipality Name	Population (year 2000 est.)	% Land Use		% of Economic Base*				
		Rural	Urban	Ag	For	Ind	Com	Other
<u>Kent County</u>	<u>553,500</u>	<u>81</u>	<u>19</u>	<u>.4</u>	<u>.3</u>	<u>42</u>	<u>57</u>	<u>.3</u>

Kent County occupies 557,905 acres or nearly 872 square miles. The majority of the metropolitan area is comprised of the cities of Grand Rapids, East Grand Rapids, Kentwood, Wyoming, Walker and Grandville. The remainder of land is suburban or rural. Several smaller communities, e.g., City of Rockford, Plainfield Township and Grand Rapids Township, are developing as business service hubs for the greater Grand Rapids metropolitan area. Local government units include: twenty-one townships, five villages and nine cities.

*Ag = Agriculture; For = Forestry; Ind = Industry; Com = Commercial; Oth = All Other Economic Bases
Additional listings, if necessary, are listed on an attached page.

EXECUTIVE SUMMARY

I.1.B CONCLUSIONS

Kent County remains committed to a fully integrated solid waste management system. This system includes: reuse, waste reduction, recycling, composting, incineration with energy recovery and landfilling. The county has adequate landfill capacity for the next 10 years. This capacity is available at the County owned and operated South Kent Landfill and landfills in adjacent counties.

Kent County is expected to continue to experience population growth and development. Concomitantly, the county will experience continued waste generation. Systems are in place to manage current and future waste generation through 2010. Thereafter, the County will need to evaluate long-term disposal options.

During this five-year plan period, Kent County will pursue expansion of the household hazardous waste and public education programs. Availability of adequate financial resources will be a key element in achieving these goals. Improving data collection and analysis is another goal of this plan. Accurate data will provide better tools for preparation of future plans and identification of waste management options that should be targeted.

I.1.C SELECTED ALTERNATIVES

Kent County selected a plan for solid waste management that includes energy recovery, landfilling, material recovery and expanded resource recovery. Landfilling is the predominant method for waste disposal in Kent County.

For this plan, the landfill tonnage data was obtained from the MDEQ, Solid Waste Landfill Waste Receipt Reports. Waste to energy remains a vital part of the county's plan and will continue to be in the future. The Waste-To-Energy Facility continues to process approximately 190,000 tons of waste per year. This is also a very accurate and obtainable number and reflects optimum operating conditions at the facility. As the total projected solid waste quantities for Kent County continue to increase, the percentage of waste incinerated will continue to decrease. This leaves the remaining four classes of technology (reuse, waste reduction, composting and recycling) to compete for the remaining volume of trash. They are also the most difficult to analyze and gather accurate information.

This Plan will use the same alternative solid waste management system that was approved in the past 1989 Plan. The integrated solid waste system for Kent County has not changed and all the technology components discussed will remain as part of the updated Plan. Only the percentages of the total solid waste stream for the components mentioned will vary towards eventually trying to reach the suggested state goals. This will be discussed further in the Selected Plan Section II-25.

INTRODUCTION

I.2 INTRODUCTION

To comply with Part 115 and its requirements, each Plan must be directed toward goals and objectives based on the purposes stated in Part 115, Sections 11538.(1)(a), 11541.(4) and the State Solid Waste Policy adopted pursuant to this Section, and Administrative Rules 711(b)(i) and (ii). At a minimum, the goals must reflect two major purposes of Solid Waste Management Plans:

- (1) To utilize to the maximum extent possible the resources available in Michigan's solid waste stream through source reduction, source separation, and other means of resource recovery and;
- (2) to prevent adverse effects on the public health and the environment resulting from improper solid waste collection, transportation, processing, or disposal, so as to protect the quality of the air, the land, and ground and surface waters.

This Solid Waste Management Plan works toward the following goals through actions designed to meet the objectives described under the respective goals which they support:

I.2.A GOALS AND OBJECTIVES

Goal 1: Maintain a viable, high quality, integrated solid waste management plan with focus on protection of the public health and the environment.

Objective 1a: Maintain and operate Kent County's components of the solid waste disposal system which includes the Waste-To-Energy Facility, South Kent Landfill, Material Recovery Facility, North Kent Transfer Station and the Household Hazardous Waste/Resource Recovery Programs in accordance with federal, state and local laws, rules and regulations.

Objective 1b: Maximize the Waste-To-Energy Facility's ability to process solid waste while continuing to promote source separation and other recycling opportunities wherever possible.

Objective 1c: Evaluate, recommend and/or implement financing structures that provide support for Kent County's solid waste management services.

Objective 1d: Monitor solid waste export to regional disposal facilities to ensure long term disposal capacity for the next twenty years.

I.2 INTRODUCTION (con't)

Goal 2: Provide public education and awareness programs for county residents, businesses and industries that promotes hazardous waste management, recycling, reuse and waste reduction.

Objective 2a: Serve as a central link between the Department of Public Works and the public in providing educational material and programs to area schools, civic organizations, local businesses and industry, and other governmental units on how to obtain solid waste management information and educational materials on reuse, waste reduction, household hazardous waste management, composting and other special solid waste management concerns.

Objective 2b: Expand the use of the Internet to gather and distribute information to interested groups through links to the Kent County Home Page.

Objective 2c: Develop a cooperative link with private business and industry for acquisition, distribution and financing of public awareness programs on solid waste management.

Objective 2d: Expand the public awareness program efforts of the Resource Recovery Program through the production of a waste reduction guide, newspaper, flyers and other media outlets.

Objective 2e: Advocate the purchase of recycled content products to other jurisdictions, residents and the business community.

Goal 3: Develop and improve the solid waste data base on solid waste management within Kent County to help assess achievement of the Solid Waste Plan.

Objective 3a: Evaluate and revise data gathering and reporting.

Objective 3b: Develop and agree on data reporting mechanisms with private waste hauling companies operating within Kent County with focus on solid waste categories that are not reported, e.g. yard waste and recycling.

Goal 4: Expand the availability of the hazardous waste programs to households and conditionally exempt small quantity generators.

Objective 4a: Develop and implement a cost-effective permanent household hazardous waste facility.

Objective 4b: Provide household hazardous waste services open to the public every week.

Objective 4c: Provide hazardous waste services to the conditionally exempt small quantity generators.

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LISTED CAPACITY Appendix D-3
MAPS Appendix D-4
INTER-COUNTY AGREEMENTS Appendix D-5
SPECIAL CONDITIONS Appendix D-6

MAY 1999
KENT COUNTY
COUNTY SOLID WASTE MANAGEMENT PLAN



AS REQUIRED BY SECTION 11539a OF
PART 115, SOLID WASTE MANAGEMENT, OF
THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT
1994 PA 451, AS AMENDED



Michigan Department of Environmental Quality
Waste Management Division

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DATA BASE

II.1 DATA BASE

Identification of sources of waste generation within the county, total quantity of solid waste generated to be disposed, and sources of the information. (Attach additional pages as necessary)

The following data base is derived from the listed sources:

The residential solid waste data was calculated by the county solid waste management staff using the rate of 3.42 pounds of solid waste generated per capita per day. The commercial solid waste was calculated using the rate of 5.75 pounds per employee per day while the industrial solid waste was calculated using the rate of 10.6 pounds per employee per day. These three categories make up the total municipal solid waste generated per day within Kent County. Twenty five percent of this total was added to the total generated rate to include CDD & ISW (construction & demolition debris and industrial special waste). Industrial Special Wastes mean any soil/material which meets the approval of the Kent County Solid Waste Disposal System such as contaminated soils, sludges, foundry sands, ashes etc.

This data was generated by using population and employment figures obtained from the U.S. Census Bureau and the Michigan Department of Management and Budget. Data was gathered from the Kent County 1990 Solid Waste Management Plan. Data was also collected from the Department of Environmental Quality Solid Waste Landfill Receipt Reports for the fiscal years of 1995-1996 and 1996-1997, the State of Michigan Solid Waste Planning Guidebook and the State of Michigan Waste Generation Figures as reported in the Oakland County 1990 SWMP.

II.1.A PROJECTED SOLID WASTE QUANTITIES FOR KENT COUNTY

SOLID WASTE GENERATION (TONS PER YEAR)

	1995	2000	2005	2010
RESIDENTIAL	327,770	345,290	361,715	378,870
COMMERCIAL	232,140	260,610	289,445	319,010
INDUSTRIAL	158,775	175,200	190,530	205,495
Total MSW	718,685	781,100	842,055	903,375
CDD & ISW	179,580	195,275	210,605	225,935
Total Solid Waste	898,265	976,375	1,052,660	1,129,310

Abbreviations: Municipal Solid Waste = MSW
Construction Demolition & Debris = CDD
Industrial Special Waste = ISW

Overall, the county does not anticipate any major uncertainty associated with managing the solid waste generated within its borders. Within Kent County, approximately 2,547 tons of solid waste are generated every day (929,509 tons/year) based on 1997 data. The Waste-To-Energy Facility incinerates an average of 509 tons/day while the South Kent Landfill presently accepts approximately 338 tons/day for disposal. The remaining 1,392 tons of solid waste are transported to out of county disposal areas. This leaves a balance of approximately 308 tons of material per day for diversion. This diversion rate includes residential recycling (44 tons/day) and 265 tons

per day for commercial/industrial recycling and composting. South Kent Landfill has sufficient capacity for the next 38 years at a disposal rate of 155,000 tons per year or 500 tons per day.

TOTAL QUANTITY OF SOLID WASTE GENERATED:

929,509 Tons annually (identify unit of time)

TOTAL QUANTITY OF SOLID WASTE NEEDING DISPOSAL:

818,153 Tons annually (identify unit of time)

SECTION II

DATA BASE

II.2 SOLID WASTE DISPOSAL AREAS

Inventory and description of all solid waste disposal areas within the County or to be utilized by the County to meet its disposal needs for the planning period.

South Kent Landfill - Kent County - Type II Landfill

North Kent Transfer Station - Kent County - Type A Transfer Station

Waste-To-Energy Facility - Kent County - Incinerator

Waste-To-Energy Facility Transfer Station - Kent County - Type A Transfer Station

Autumn Hills Recycling and Disposal Facility - Ottawa County - Type II Landfill

Ottawa County Farms Landfill - Ottawa County - Type II Landfill

Central Sanitary Landfill - Montcalm County - Type II Landfill

Central Sanitary Landfill - Montcalm County - Composting Facility

Central Sanitary Landfill - Montcalm County - Recycling Facility

Greenville Transfer Station - Montcalm County - Waste Management of West Michigan

Pitsch Sanitary Landfill - Ionia County - Type II Landfill

City Environmental Services Landfill, Inc. - Barry County - Type II Landfill

Sparta Foundry Disposal Facility - Kent County - Industrial Waste Landfill

DATA BASE

II.3 SOLID WASTE FACILITY DESCRIPTIONS

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: South Kent County Landfill

County: Kent Location: Town: 5N Range: 12W Section(s): 36

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes:

Public Private Owner:

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:
Foundry sands, street sweepings, sludges, contaminated soils, etc.

Site Size:

Total area of facility property:	<u>250</u>	acres	
Total area sited for use:	<u>112</u>	acres	
Total area permitted:	<u>112</u>	acres	
Operating:	<u>31</u>	acres	
Not excavated:	<u>81</u>	acres	
Current capacity:	<u>7,600,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³	1.5 million tons ash
Estimated lifetime:	<u>38</u>	years	
Estimated days open per year:	<u>310</u>	days	
Estimated yearly disposal volume:	<u>155,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³	

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: North Kent County Transfer Station

County: Kent Location: Town: 8N Range: 11W Section(s): 2,3

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: South Kent County Landfill

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property: _____ acres
 Total area sited for use: _____ acres
 Total area permitted: _____ acres
 Operating: _____ acres
 Not excavated: _____ acres

Current capacity: _____ tons or yds³
 Estimated lifetime: _____ years
 Estimated days open per year: 310 days
 Estimated yearly disposal volume: 22,000 tons or yds³

(if applicable)

Annual energy production:
 Landfill gas recovery projects: NA megawatts
 Waste-to-energy incinerators: NA megawatts

FACILITY DESCRIPTIONS

Facility Type:Waste To Energy

Facility Name: Kent County Waste-To-Energy Facility

County: Kent Location: Town: _____ Range: _____ Section(s): City of Grand Rapids

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: South Kent County Landfill

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property: _____ acres
 Total area sited for use: _____ acres
 Total area permitted: _____ acres
 Operating: _____ acres
 Not excavated: _____ acres

Current capacity: 625/day tons or yds³
 Estimated lifetime: _____ years
 Estimated days open per year: 310 days
 Estimated yearly disposal volume: 194,000 tons or yds³

(if applicable)

Annual energy production:
 Landfill gas recovery projects: NA megawatts
 Waste-to-energy incinerators: 72/day megawatts 116,000 lb. Of steam/hr

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: Kent County Waste-To-Energy Facility Transfer Station

County: Kent Location: Town: _____ Range: _____ Section(s): City of Grand Rapids

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: South Kent County Landfill, see Table 2-A page III-4

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	_____	acres
Total area sited for use:	_____	acres
Total area permitted:	_____	acres
Operating:	_____	acres
Not excavated:	_____	acres
Current capacity:	_____	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	_____	years
Estimated days open per year:	<u>310</u>	days
Estimated yearly disposal volume:	<u>80,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type II Solid Waste Landfill

Facility Name: Autumn Hills Recycling and Disposal Facility

County: Ottawa Location: Town: 5N Range: 14W Section(s): 36

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes:

Public Private Owner: Waste Management of Michigan

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: solidification/yard waste

* Explanation of special wastes, including a specific list and/or conditions:

foundry sands, fly ash, sludges, etc.

Site Size:

Total area of facility property:	<u>314</u>	acres
Total area sited for use:	<u>197</u>	acres
Total area permitted:	<u>99.3</u>	acres
Operating:	<u>35.1</u>	acres
Not excavated:	<u>64.2</u>	acres
Current capacity:	<u>20.75mil</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>30.2</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>500,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Ottawa County Farms Landfill

County: Ottawa Location: Town: 8N Range: 14W Section(s): 26,27

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes:

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	<u>240</u>	acres
Total area sited for use:	<u>197</u>	acres
Total area permitted:	<u>240</u>	acres
Operating:	<u>37</u>	acres
Not excavated:	<u>125</u>	acres
Current capacity:	<u>16,500,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³
Estimated lifetime:	<u>25-30</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>500,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>4,565</u>	megawatts 3,500 volts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill
Facility Name: Central Sanitary Landfill
County: Montcaim Location: Town: 11 Range: 10 Section(s): 21

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: _

* Explanation of special wastes, including a specific list and/or conditions: foundry sand and asbestos

Site Size:

Total area of facility property:	<u>315</u>	acres
Total area sited for use:	<u>40.32</u>	acres
Total area permitted:	<u>18.45</u>	acres
Operating:	<u>18.45</u>	acres
Not excavated:	<u>5.76</u>	acres
Current capacity:	<u>373,428</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³
Estimated lifetime:	<u>2</u>	years
Estimated days open per year:	<u>306</u>	days
Estimated yearly disposal volume:	<u>100,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Composting
Facility Name: Central Sanitary Landfill
County: Montcalm Location: Town: 10 Range: 11 Section(s): 21

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: yard waste and brush

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property: 315 acres
Total area sited for use: _____ acres
Total area permitted: NA acres
Operating: 10 acres
Not excavated: NA acres
Current capacity: NA tons or yds³
Estimated lifetime: NA years
Estimated days open per year: 306 days
Estimated yearly disposal volume: 780 tons or yds³

(if applicable)

Annual energy production:
Landfill gas recovery projects: _____ megawatts
Waste-to-energy incinerators: _____ megawatts

FACILITY DESCRIPTIONS

Facility Type: Recycling

Facility Name: Central Sanitary Landfill

County: Montcalm Location: Town: 10 Range: 11 Section(s): 21

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: recyclables

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property: _____

acres

Total area sited for use: _____

acres

Total area permitted: _____

acres

Operating: _____

acres

Not excavated: _____

acres

Current capacity: _____

tons or yds³

Estimated lifetime: _____

years

Estimated days open per year: _____

days

Estimated yearly disposal volume: _____

tons or yds³

(if applicable)

Annual energy production:

Landfill gas recovery projects: _____

megawatts

Waste-to-energy incinerators: _____

megawatts

FACILITY DESCRIPTIONS

Facility Type: Solid Waste Transfer Station
 Facility Name: Waste Management of Michigan, Midwest
 County: Montcalm Location: 1own:9 Range:8 Section(s):

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes : Autumn Hills Recycling and Disposal Facility
 Public Private Owner: Waste Management

Operating Status (check)	Waste Types Received (check all that apply)
<input checked="" type="checkbox"/> open	<input checked="" type="checkbox"/> residential
<input type="checkbox"/> closed	<input checked="" type="checkbox"/> commercial
<input checked="" type="checkbox"/> licensed	<input checked="" type="checkbox"/> industrial
<input type="checkbox"/> unlicensed	<input checked="" type="checkbox"/> construction & demolition
<input type="checkbox"/> construction permit	<input checked="" type="checkbox"/> contaminated soils
<input type="checkbox"/> open, but closure	<input checked="" type="checkbox"/> special wastes *
<input type="checkbox"/> pending	<input type="checkbox"/> other: _

* Explanation of special wastes, including a specific list and/or conditions: Contaminated soils, grinding swarf, sludges

Site Size:

Total area of facility property:	<u>6</u>	acres
Total area sited for use:	<u>6</u>	acres
Total area permitted:	<u>6</u>	acres
Operating:	<u>6</u>	acres
Not excavated:	<u>NA</u>	acres
Current capacity:	<u>NA</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>NA</u>	years
Estimated days open per year:	<u>260</u>	days
Estimated yearly disposal volume:	<u>NA</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u> </u>	megawatts
Waste-to-energy incinerators:	<u> </u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Landfill

Facility Name: Pitsch Sanitary Landfill

County: Ionia Location: Town: 8N Range: 7W Section(s): N 1/2 of the NE 1/4 of 7

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Pitsch Companies

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: _

* Explanation of special wastes, including a specific list and/or conditions: street sweepings and asbestos

Site Size:

Total area of facility property:	<u>148.44</u>	acres
Total area sited for use:	<u>78.44</u>	acres
Total area permitted:	<u>28.36</u>	acres
Operating:	<u>9.87</u>	acres
Not excavated:	<u>70</u>	acres
Current capacity:	<u>415,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>5</u>	years *
Estimated days open per year:	<u>307</u>	days
Estimated yearly disposal volume:	<u>83,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u> </u>	megawatts
Waste-to-energy incinerators:	<u> </u>	megawatts

*have a pending construction permit that will extend the landfill life another 30 years

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill
 Facility Name: City Environmental Services Landfill Inc. of Hastings
 County: Barry Location: Town: 5W Range: 8N Section(s) : 6

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: U.S. Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: asbestos

* Explanation of special wastes, including a specific list and/or conditions:
 foundry sand, fly ash, waste water sludges, trees and stumps

Site Size:

Total area of facility property:	<u>335</u>	acres
Total area sited for use:	<u>108</u>	acres
Total area permitted:	<u>30</u>	acres
Operating:	<u>19.5</u>	acres
Not excavated:	<u>10.5</u>	acres
Current capacity:	*	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>10+</u>	years
Estimated days open per year:	<u>308</u>	days
Estimated yearly disposal volume:	<u>175,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

*Current construction permit capacity is 3 million cubic yards. The Barry County Solid Waste Plan and the Barry County, City Management Host Community Agreement authorizes 18 additional acres of cell development. This 18 acre expansion will increase total capacity to 5 million cubic yards. 18 acre expansion was submitted to the MDEQ on 12/30/97.

FACILITY DESCRIPTIONS

Facility Type: Industrial Waste Landfill
Facility Name: Sparta Foundry Waste Disposal Facility
County: Kent Location: Town: 9N Range: 12W Section(s): 28

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: AE Goetze

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: _

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	<u>71</u>	acres
Total area sited for use:	<u>25</u>	acres
Total area permitted:	<u>8.75</u>	acres
Operating:	<u>.75</u>	acres
Not excavated:	<u>4.3</u>	acres
Current capacity:	<u>120,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>12</u>	years
Estimated days open per year:	<u>245</u>	days
Estimated yearly disposal volume:	<u>10,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

DATA BASE

II.4 SOLID WASTE COLLECTION SERVICES AND TRANSPORTATION INFRASTRUCTURE

The following describes the solid waste collection services and transportation infrastructure that will be utilized within the County to collect and transport solid waste.

Collection activities within Kent County are currently handled by a combination of public and private haulers. Refuse collection is available to all homes, businesses, industries and institutions within Kent County. Collection remains the responsibility of the individual municipality or solid waste generator. All communities except the City of Grand Rapids have delegated all collection to private haulers. Typically a resident arranges for waste collection and recycling services directly with any of a number of waste hauling firms. Under this arrangement the resident may change hauling companies anytime they desire. Commercial and industrial firms in the County also contract with a private waste hauler or elect to haul their own waste to any disposal site that is available.

The metropolitan cities, Grand Rapids, East Grand Rapids, Kentwood, Grandville, Walker and Wyoming, require all private waste haulers to be licensed within their respective city. All waste generated within these cities is required by contract to be delivered to the Waste To Energy Facility. Exceptions to this arrangement are made for specifically identified exempted waste. Appendix D-4c shows the primary haul roads in Kent County.

The rate structure for collection services is usually based on a flat monthly fee for those individuals and businesses who contracted with a private waste hauler. Several local haulers have since begun offering a user fee system similar to the bag and tag program offered by the City of Grand Rapids. Waste hauling companies also offer collection containers. For residential customers they are charged for their service based on the size of container they order. Fees charged per bag or container may result in minimal incentive for residents to reduce their trash output and increase their recycling efforts.

In the well-defined urban areas, collection services do not pose a problem since the hauler's and the City of Grand Rapids' collection routes are served by the well-defined arterial network of roads. Costs may be kept lower in the densely populated areas since there are more customers per transportation mile. As one moves further away from the centralized urban area, collection costs may rise since the more rural areas do not provide the same customer ratio per transportation mile although there are disposal facilities reasonably located within the county to minimize transportation costs. See Appendix D-4a and D-4b for disposal facility locations.

Overall, the County and its residents are well served by its present collection services and transportation system of three major freeways, major urban roadways and several Michigan trunk lines.

DATA BASE

II.5 EVALUATION OF DEFICIENCIES AND PROBLEMS

The following is a description of problems or deficiencies in the existing solid waste system.

The integrated solid waste system in Kent County does not have insurmountable problems or deficiencies. Three concerns were evaluated as deficiencies: 1) expanding existing programs to meet population growth in the county, 2) financial resources to support integrated waste management services and programs, 3) improving quality of data for future planning.

Kent County has a long and active history of residential recycling. However, diversion from the total waste stream has been low, averaging less than 5% of the total residential waste stream. Within the current solid waste system it appears there is limited incentive to reduce the amount of solid waste generated.

Two factors are affecting recycling and waste reduction. One, disposal costs are low, i.e., it is less expensive to dispose of solid waste than to recycle, and two, collection services are traditionally based on flat monthly fees. Most haulers do offer options to their customers such as various container sizes. As costs continue to rise for current disposal options, recycling and waste reduction may become more economically attractive over the short term as well as the long term. Although Kent County has many forms of recycling currently taking place, the overall effect on reducing the waste stream has remained negligible.

Obtaining accurate and reliable data for planning is a deficiency particularly for future planning. For example, significant commercial recycling occurs throughout the County. Access to information concerning the amount of commercial recycling is not readily available. Likewise, we are aware of waste reduction and reuse activities at several commercial and industrial businesses within the County. For example, a large local corporation installed a baler to process and market cardboard. We do not know how much waste was diverted from the waste stream. Another example is building contractors. The Department of Public Works has encouraged recycling of unwanted construction byproducts, e.g., drywall, wood, etc. There is no method for obtaining information on these programs.

Kent County has been involved in the collection of household hazardous wastes since 1988. The County recognized that there is the potential for various household hazardous substances to degrade drinking water resources when landfilled and pollute air when incinerated. If not properly disposed, these substances can pose a threat to the public health. Through a request by the Department of Public Works, the County approved implementation of an on-going monthly collection and disposal program for these substances. The current program has served over 8,600 households collecting nearly 466,000 pounds (233 tons) since the beginning in 1988. The program currently offers 12 collections throughout the late spring and fall. The City of Wyoming also sponsors two collections for their residents in conjunction with the County's HHW Program. The 12 collections are financed through the Department of Public Works and administered by the Resource Recovery Program staff. The current program falls short in offering the residents of Kent County the opportunity to have a year round disposal facility and offers little assistance for the conditionally exempt small quantity generators.

Since its formation in 1982, the Kent County Resource Recovery Program has provided an effective educational and outreach program to the citizens of Kent County. Most of its focus has been in the area of recycling. The program has developed an effective speaker's bureau for local churches, schools, civic organizations and businesses. The program also generates various informational pamphlets and newsletters that are distributed to over 5,000 residents within the county. As the County continually looks to expand their programs, an increase in education and publicity is needed to successfully accomplish these goals. The Resource Recovery Program has vast experience in fulfilling the need for additional outreach and educational work.

The above mentioned programs, as part of the County's integrated solid waste system, (Materials Recovery Facility (MRF), the Resource Recovery Program and the Household Hazardous Waste Program) are funded through tipping fees which are generated from the South Kent Landfill. Waste collection in the county, as well as the West Michigan area, has become highly competitive, with only four haulers accounting for over 88% of the waste taken to the WTE. Over 30 haulers of all sizes handle some segment of the waste stream in the Grand Rapids area. The current local market is in a period of change primarily from waste company mergers and consolidation. As the waste collection and disposal market evolves, meanwhile, tonnage continues to be diverted from the South Kent Landfill. Reduced waste tonnage places stress on the financial resources that provide support for Kent County's integrated solid waste management services. At this point the County has no clear solution to this conundrum.

DATA BASE

II.6 DEMOGRAPHICS

The following presents the current and projected population densities and centers for five and ten year periods, identification of current and projected centers of solid waste generation including industrial solid waste for five and ten year periods as related to the Selected Solid Waste Management System. Solid waste generation data is expressed in tons or cubic yards. If it was extrapolated from yearly data then, it was calculated by using 365 days per year, or another number of days as specifically indicated.

The population growth projections provide 1990 census data and population forecasts for the years 2000 and 2010. The projected rate of change between 2000 and 2010 is shown for each unit, indicating the areas which are expected to experience the most growth.

The county's population as a whole is expected to increase at a growth rate of 9.6% from 1990 to 2000 and 11.8% from 2000 to 2010.

Centers of waste generation tend to correspond with areas of high population density. Greater numbers of people produce higher volumes of residential waste, but commercial and industrial generators also tend to form near larger communities. Current and projected volumes of residential, commercial, industrial, demolition and construction waste are presented on page II-1.

Kent County Population Growth

<u>Cities</u>	<u>1990 Census</u>	<u>2000 Forecast</u>	<u>2010 Forecast</u>	<u>% Change</u>
Cedar Springs	2,600	3,046	3,258	6.5
East Grand Rapids	10,807	10,006	9,557	-4.5
Grand Rapids	189,126	193,422	199,138	2.9
Grandville	15,624	18,556	21,589	14.0
Kentwood	37,826	43,244	49,565	12.8
Lowell	3,983	4,299	4,591	6.4
Rockford	3,750	4,017	4,359	7.8
Walker	17,279	20,162	22,666	11.0
Wyoming	63,891	68,376	72,701	5.9
<u>Townships</u>				
Ada	7,578	8,920	10,128	11.9
Algoma	5,496	7,077	8,393	15.7
Alpine	9,863	10,744	11,638	7.7
Bowne	1,907	2,296	2,581	11.0
Byron	13,325	16,603	19,811	16.2
Caledonia	5,369	6,829	8,124	15.9
Cannon	7,928	10,592	13,266	20.6
Cascade	12,869	14,925	17,297	13.7
Courtland	3,950	4,835	5,606	13.8
Gaines	14,533	18,833	23,014	18.2
Grand Rapids	10,760	12,948	14,752	12.2
Grattan	2,876	3,044	3,275	7.1
Lowell	4,774	5,740	6,613	13.2
Nelson	2,950	3,568	4,217	15.4
Oakfield	3,842	4,547	5,319	14.5
Plainfield	24,946	30,338	35,139	13.7
Solon	3,648	4,353	5,114	14.9
Sparta	4,479	4,767	5,363	11.1
Spencer	3,184	4,048	4,868	16.8
Tyrone	2,669	3,077	3,514	12.4
Vergennes	2,492	3,042	3,645	16.5
<u>Villages</u>				
Caledonia	885	941	1,050	10.4
Casnovia	189	264	313	15.7
Kent City	899	1,109	1,232	10.0
Sand Lake	456	487	536	9.1
Sparta	3,968	4,508	5,068	11.0
County Totals	500,631	553,500	607,300	11.8

DATA BASE

II.7 LAND DEVELOPMENT

The following describes current and projected land development patterns, as related to the Selected Solid Waste Management System, for the next five and ten year periods.

Grand Valley State University Water Resources Institute developed a land use map for Kent County utilizing 1991 data. The map details the following land use classifications: Urban, Agriculture, Open Field, Deciduous Forest, Coniferous Forest, Wetlands and Water. The 1991 land use map and chart shows land use and land cover changes between 1978 and 1991 for Kent County. The map and chart are located in Appendix D4-d and D4-e.

It should be pointed out that that existing land use has changed since the 1991 aerial photographs were taken. Reductions in acreage in the areas of forested, non-forested and agricultural have changed. But, the general land use pattern in the County has remained essentially the same. Small plots that were once wooded or open fields now contain housing developments, businesses or small commercial malls. Expansion of this growth is being realized in the next tier of townships lying outside the metropolitan area. Loss of agricultural land has been due to the increasing loss of farms, as well as, suburban expansion. The current trend in agriculture shows fewer farms, but those that do exist are larger in size.

In terms of character, Kent County has two distinctive environments: the metropolitan Grand Rapids area and the rural, out-county area. The metropolitan area is defined as urban, where the land is fully developed or surrounded by development. This includes residential, commercial and industrial uses, along with other supported services, community facilities, a densified population and a well developed internal transportation network. First and second tier townships surrounding the metropolitan area are experiencing rapid population growth and development. Rural areas of the County are largely open, agricultural, much less densely populated and predominantly single family residences.

II.7.A Agricultural Acres

Kent County consists of 557,905 acres. Slightly over 32% of Kent County (the largest classification) is Agricultural. Agricultural land may be broadly defined as land used primarily for production of farm commodities. Land Use/Cover types in this category include cropland, pasture, confined feeding, orchards, bush-fruits, vineyards and ornamental horticulture. Although still the largest classification, agricultural acres continue to decrease. In 1978, slightly over 39% of Kent County acres were classified as agricultural.

II.7.B Forest Acres

The second largest land cover is Forest (Deciduous and Coniferous). Over 24% of the County's acres are forested. Coniferous forest is defined as forest lands that are at least 10 percent stocked by coniferous trees such as pine, spruce, balsam, larch, hemlock and cedar. Almost 2% of Kent County's forest acres are coniferous. The overwhelming majority of forest acres, 22% is deciduous. Deciduous forest is defined as forest lands that are at least 10 percent stocked by deciduous trees such as oak, maple, beech, birch, ash, hickory, aspen, cottonwood and yellow poplar. Shrub communities will be mapped under open field or in some cases wetland. There is

a slight decrease in deciduous forest and virtually no change in coniferous forest when comparing 1978 acres with 1991 acres.

II.7.C Open Field Acres

The Open Field acres is the third largest area at 20%. In 1978 the open field classification was 16.5% (a slight increase of 3.4% to 20.14 for 1991). Open field is defined as supporting early stages of plant succession consisting of plant communities characterized by grasses or shrubs. In cases where there is obvious evidence of seeding, fertilizing or other cultural practices, these areas would be put into the agricultural category.

II.7.D Urban Acres

Urban acres increased by 3.10% since 1978 from 15.69% to 19.06% in 1991. Urban and developed land comprises areas of intensive use with much of the land covered by structures. Included in this category are cities, towns, villages, strip developments along highways, transportation, power, and communications facilities, and such isolated units as mills, mines, quarries, shopping centers and institutions. As development progresses, small blocks of land of less intensive or non-conforming use may be isolated in the midst of built-up areas and will generally be included in this category. Agricultural, forest or water areas on the fringe of urban and built-up areas will not be included except where they are part of low-density urban development. The urban and built-up category takes precedence over others when the criteria for more than one category are met. Thus residential areas that have sufficient tree cover to meet forest land criteria will be placed in the residential category.

II.7.E Wetland & Water Acres

The final two classifications are Wetlands and Water. Wetlands are those areas where the water table is at, near, or above the land surface for a significant part of most years. The hydrologic regime is such that aquatic or hydrophytic vegetation usually is established, although alluvial and tidal flats can be non-vegetated. Wetlands are usually associated with topographic lows. Examples of wetlands include marshes, mudflats, wooded swamps, and floating vegetation situated on the shallow margins of bays, lakes, streams, ponds and man-made impoundments such as reservoirs. Wetlands increased slightly but still remains under 2.5% of the total Kent County acreage.

The water category includes all areas which are predominantly or persistently water covered. Water bodies that are vegetated are placed in the Wetland category. Sewage treatment or water supply facilities are a basic part of the urban pattern and are included in the urban category. Water acres increased slightly but still remain under 2%.

II.7.F Summary

In the past twenty years land use in Kent County has remained fairly consistent regarding the major land use/cover classifications. As in the past, and currently, agricultural acres (although decreasing) still remain dominant at 32.2 percent (previously 39.1 percent) of the total Kent County acreage. Forest acres remain the second largest (24.3 percent) classification in the Kent County only showing a very slight decrease when compared to the 1978 figure of 24.5 percent of the total county acreage. Open field still holds third place with 20.1 percent (a definite increase)

as compared with 16.5 percent for 1978 figures. Urban acres also show a definite increase (19.1 percent as compared with 15.7 percent for 1978) remaining as fourth in total county acreage. Wetlands showed a slight increase from 2.4 percent in 1978 to 2.5 percent in 1991. Water also showed a very slight increase to 1.86 percent as compared with 1.85 percent in 1978.

DATA BASE

II.8 SOLID WASTE MANAGEMENT ALTERNATIVES (attach additional pages as necessary)

The following briefly describes all solid waste management systems considered by the County and how each alternative will meet the needs of the County. The manner of evaluation and ranking of each alternative is also described. Details regarding the Selected Alternatives are located in the following section. Details regarding each non-selected alternative are located in Appendix B.

II.8.A Summary of Solid Waste System Components

The current system for refuse disposal in Kent County is based on a plan which incorporates an integrated solid waste system of energy recovery, material processing, landfilling and expanded education in resource recovery. The past plans have targeted waste to energy and material recovery. Since Kent County has a well established integrated solid waste management system, this plan update is focused on increasing the public education of resource recovery and household hazardous waste programs. Specifically, how to increase recycling, composting, waste reduction and reuse while maintaining (or decreasing) the present degree of landfilling. This update outlines the degree of waste reduction, composting and recycling which will best serve the County. The County will, during the next five year planning period, study and determine the best means for implementing waste reduction and reuse as a part of its solid waste management plan.

Composting is a viable component for solid waste management. The current commercial operations in the area, along with municipalities establishing their own systems for leaf and yard waste composting, are seen as methods that could handle the composting needs of the County. Kent County is relying on private sector and municipal composting programs to manage yard waste.

Residential recycling at its current level is ineffective in dealing with the volumes of materials available for recovery in Kent County. Presently, only approximately 25% of the available material for residential recycling is being recovered or about 5% of the total residential waste generated. Participation is estimated at nearly 25%. A reasonable goal would be to get in the area of 50% participation within the county.

Recycling of commercial waste is very active and well established in Kent County. More development is underway with expansion of existing services and new operations planned such as the recycling of construction/demolition materials, batteries and tires. The County is also fortunate in having used motor oil recycling sites available to serve its residents. In addition, residents have an option available for disposal of their household hazardous wastes through the County's limited collection and disposal program.

The major component in Kent County's solid waste management system is the Waste-To-Energy Facility. It has the ability to affect approximately 25% of the volume of solid waste generated in the County and utilize this waste as a resource for energy conversion as opposed to energy consumption.

The South Kent Landfill, the only licensed Type II facility in Kent County, has the capacity to

meet the County's solid waste disposal needs over the short and long term of this Plan. Landfills in surrounding counties accepting waste generated in Kent County also have capacity to meet long-term disposal capacity.

The North Kent County Transfer Station provides a convenient means for self-haul disposal for residents and commercial haulers in the northern half of Kent County. Operation of this facility will help keep disposal costs down for residents in these outer rural areas by keeping collection costs lower. The facility also provides a central location for use as a recycling drop-off site.

The percentage of the waste stream each component is expected to effect is described in the alternative solid waste management systems described below.

II.8.B Description of Alternative Systems

Kent County selected a plan for solid waste management that include: energy recovery, landfilling, material recovery and expanded resource recovery efforts. Landfilling is still the predominant means of waste disposal in and around Kent County. It also is a very convenient and accurate method to monitor.

For this plan, the landfilling tonnage was used from the landfill reports obtained from the State of Michigan, MDEQ, Solid Waste Landfill Waste Receipt Reports. Waste to energy is still a important part of the county's plan and will continue to be in the future. The Waste-To-Energy Facility continues to process approximately 190,000 tons of waste per year. This is also a very accurate and obtainable statistic and reflects optimum operating conditions at the facility. As the total projected solid waste quantities for Kent County continue to increase, the percent of waste incinerated will continue to decrease. This leaves the remaining four classes of technology (reuse, waste reduction, composting and recycling) to compete for the remaining volume of trash. They are also the most difficult to analyze and gather accurate information.

This Plan will use the same alternative solid waste management systems that were developed in the past Plan. The integrated solid waste system for Kent County has not changed and all the technology components discussed will remain as part of the updated Plan. Only the percentages of the total solid waste stream for the components mentioned will vary towards eventually trying to reach the suggested state goals. This will be discussed further in the Selected Plan Section III.

II.8.B.1 Alternative Solid Waste Management System #1

Low Volume Materials Recovery, Waste-To-Energy and Landfilling

<u>Technology</u>	<u>Percent of Waste Stream</u>
Waste Reduction	1 - 2
Recycling	4 - 6
Composting	2 - 3
Waste To Energy	35 - 41
Landfill	48 - 58

This alternative calls for the implementation of low volume materials recovery program affecting

30% of the estimated tonnages available for recovery by waste reduction, recycling and composting. It is expected that implementing a low volume materials recovery program will effect 7-11% of the total solid waste stream generated in Kent County.

II.8.B.2 Alternative Solid Waste Management System #2

Moderate Volume Materials Recovery, Waste-To-Energy and Landfilling

<u>Technology</u>	<u>Percent of Waste Stream</u>
Waste Reduction	2 - 3
Recycling	7 - 9
Composting	3 - 4
Waste To Energy	35 - 41
Landfill	43 - 53

This alternative differs from Alternative #1 in that a moderate materials recovery program will effect 50% of the estimated tonnages available for recovery by waste reduction, recycling and composting. All total it is expected that this alternative will effect 12-16% of the total solid waste stream generated in Kent County.

II.8.B.3 Alternative Solid Waste Management System #3

High Volume Materials Recovery, Waste-To-Energy and Landfilling

<u>Technology</u>	<u>Percent of Waste Stream</u>
Waste Reduction	4 - 5
Recycling	12 - 14
Composting	5 - 6
Waste To Energy	35 - 41
Landfill	34 - 44

This alternative differs from Alternatives #1 and #2 with the high materials recovery program effecting 80% of the estimated tonnages available for recovery by waste reduction, recycling and composting. This alternative will effect 21-25% of the total solid waste stream generated in Kent County.

II.8.B.4 Actual Kent County 1997 Solid Waste System

<u>Technology</u>	<u>Percent of Waste Stream</u>	<u>Actual Tons</u>
Waste Reduction	3 - 5	28,000
Reuse	1 - 2	9,300
Recycling	4 - 6	41,000
Composting	4 - 5	37,200
Waste To Energy	20	186,000
Landfill	68	<u>630,000</u>
		931,500

II.8.B.5 Selected Alternative

It is the intent of this Plan and the Committee to strive toward obtaining the suggested levels recognized by the State of Michigan which are as follows:

<u>Technology</u>	<u>Percent of Waste Stream</u>
Waste Reduction	8 - 12
Reuse	4 - 6
Recycling	20 - 30
Composting	8 - 12
Waste To Energy	35 - 45
Landfill	10 - 20

It also seems somewhat unrealistic, at this point, to try to reach a level of landfilling in the 10-20 percent range. Until landfill space becomes more scarce, or state recycling policies become more aggressive, it is the Committee's opinion that this level is unachievable. As stated above, incineration at its maximum level of 190,000 tons per year. The County has no proposal to expand incineration capacity during this plan period. Therefore, the most reasonable approach for this Plan is to increase recycling, composting, reuse and waste reduction through a comprehensive educational effort. This in turn may lessen or at least hold steady the amount of waste which is landfilled. It is the goal of this Plan to obtain the following levels for the next 5 and 10 year periods:

Year 2005

<u>Technology</u>	<u>Percent of Waste Stream</u>	<u>Projected Tonnages</u>
Waste Reduction	5 - 7	42,000
Reuse	3 - 4	32,000
Composting	5 - 7	53,000
Recycling	10- 15	105,000
Waste to Energy	18	190,000
Landfilling	60	<u>631,000</u>
		1,053,000

Year 2010

<u>Technology</u>	<u>Percent of Waste Stream</u>	<u>Projected Tonnages</u>
Waste Reduction	7 - 9	62,000
Reuse	4 - 5	45,000
Composting	7 - 9	62,000
Recycling	14 - 19	158,000
Waste to Energy	17	190,000
Landfilling	55	<u>620,000</u>
		1,137,000

SECTION III

III.1

**SELECTED SOLID WASTE
MANAGEMENT SYSTEM**

The Selected Solid Waste Management System (Selected System) is a comprehensive approach to managing the County's solid waste and recoverable materials. The Selected System addresses the generation, transfer and disposal of the County's solid waste. It aims to reduce the amount of solid waste sent for final disposal by volume reduction techniques and by various resource conservation and resource recovery programs. It also addresses collection processes and transportation needs that provide the most cost effective, efficient service. Proposed disposal areas, locations and capacity to accept solid waste are identified as well as program management, funding, and enforcement roles for local agencies. Detailed information on recycling programs, evaluation, and coordination of the Selected System is included in Appendix B. Following is an overall description of the Selected System:

Selected System

The current system for refuse disposal in Kent County is based on a plan which incorporates an integrated solid waste system of energy recovery, landfilling and expanded education in resource recovery and recycling. This five year update is targeted at determining the level of expanded education in resource recovery and recycling to be incorporated into the current solid waste management system. This system outlines the degree of waste reduction, reuse, composting, recycling, landfilling and waste to energy which actually and realistically will best serve Kent County.

III.2 IMPORT AUTHORIZATION

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 1-A.

Table 1-A

CURRENT IMPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ²
<u>Kent</u>	<u>Allegan</u>				* —
<u>Kent</u>	<u>Ottawa</u>				* —
<u>Kent</u>	<u>Ionia</u>				* —
<u>Kent</u>	<u>Barry</u>				* —
<u>Kent</u>	<u>Montcalm</u>				* —
<u>Kent</u>	<u>Calhoun</u>				* —
<u>Kent</u>	<u>Clinton</u>				* —
<u>Kent</u>	<u>Eaton</u>				* —

¹ Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

IMPORT AUTHORIZATION (con't)

If a Licensed solid waste disposal area is currently operating within the County, disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 1-A.

Table 1-A

CURRENT IMPORT VOLUME AUTHORIZATION OF SOLID WASTE

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ²
<u>Kent</u>	<u>Gratiot</u>				* -
<u>Kent</u>	<u>Kalamazoo</u>				* -
<u>Kent</u>	<u>Mecosta</u>				* -
<u>Kent</u>	<u>Newaygo</u>				* -
<u>Kent</u>	<u>Oceana</u>				* -
Kent	Van Buren				* -

¹ Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

SELECTED SYSTEM

If a new solid waste disposal area is constructed and operating in the future in the County, then disposal of solid waste generated by the EXPORTING COUNTY is authorized by the IMPORTING COUNTY up to the AUTHORIZED QUANTITY according to the AUTHORIZED CONDITIONS in Table 1-B.

Table 1-B (NOT APPLICABLE)

**FUTURE IMPORT VOLUME AUTHORIZATION OF SOLID WASTE
CONTINGENT ON NEW FACILITIES BEING SITED**

IMPORTING COUNTY	EXPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ²
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Additional authorizations and the above information for those authorizations are listed on an attached page.

¹ Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

III.3 EXPORT AUTHORIZATION

If a Licensed solid waste disposal area is currently operating within another County, disposal of solid waste generated by the EXPORTING COUNTY is authorized up to the AUTHORIZED QUANTITY according to the CONDITIONS AUTHORIZED in Table 2-A if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Table 2-A

CURRENT EXPORT VOLUME AUTHORIZATION OF SOLID WASTE

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ²
<u>Kent</u>	<u>Ottawa</u>	_____	<u>1,140 tons</u>	<u>416,000 tons</u>	<u>P,*</u>
<u>Kent</u>	<u>Ionia</u>	_____	<u>100 tons</u>	<u>36,500 tons</u>	<u>P,*</u>
<u>Kent</u>	<u>Barry</u>	_____	<u>45 tons</u>	<u>16,425 tons</u>	<u>P,*</u>
<u>Kent</u>	<u>Montcalm</u>	_____	<u>200 tons</u>	<u>73,000 tons</u>	<u>P,*</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Additional authorizations and the above information for those authorizations are listed on an attached page.

¹ Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

SELECTED SYSTEM

If a new solid waste disposal area is constructed and operates in the future in another County, then disposal of solid waste generated by the EXPORTING COUNTY is authorized up to the AUTHORIZED QUANTITY according to the AUTHORIZED CONDITIONS in Table 2-B if authorized for import in the approved Solid Waste Management Plan of the receiving County.

Table 2-B (NOT APPLICABLE)

**FUTURE EXPORT VOLUME AUTHORIZATION OF SOLID WASTE
CONTINGENT ON NEW FACILITIES BEING SITED**

EXPORTING COUNTY	IMPORTING COUNTY	FACILITY NAME ¹	AUTHORIZED QUANTITY/ DAILY	AUTHORIZED QUANTITY/ ANNUAL	AUTHORIZED CONDITIONS ²
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Additional authorizations and the above information for those authorizations are listed on an attached page.

¹ Facilities are only listed if the exporting county is restricted to using specific facilities within the importing county.

² Authorization indicated by P = Primary Disposal; C = Contingency Disposal; * = Other conditions exist and detailed explanation is included in the Attachment Section.

III.4 SOLID WASTE DISPOSAL AREAS

The following identifies the names of existing disposal areas which will be utilized to provide the required capacity and management needs for the solid waste generated within the County for the next five years and, if possible, the next ten years. Pages III-8 through III-20 contain descriptions of the solid waste disposal facilities which are located within the County and the disposal facilities located outside of the County which will be utilized by the County for the planning period. Additional facilities within the County with applicable permits and licenses may be utilized as they are sited by this Plan, or amended into this Plan, and become available for disposal. If this Plan update is amended to identify additional facilities in other counties outside the County, those facilities may only be used if such import is authorized in the receiving County's Plan. Facilities outside of Michigan may also be used if legally available for such use.

Type II Landfill:

South Kent Landfill
 Autumn Hills Recycling and Disposal Facility
 Ottawa County Farms
 Pitsch Sanitary Landfill
 Hastings Sanitary Landfill
 Central Sanitary Landfill

Type A Transfer Facility:

North Kent Transfer Station
 Waste-To-Energy Facility Transfer Station

Type B Transfer Facility:

Type III Landfill:

Processing Plant:

Central Sanitary Composting Facility
 Autumn Hills CST

Incinerator:

Waste Piles:

Waste-to-Energy Incinerator:

Kent County Waste-To-Energy Facility

Other:

Kent County Material Recovery Facility
 Recycle America Recovery Center
 Lubbers Resource System - Waste Management

Additional facilities are listed on an attached page. Letters from or agreements with the listed disposal areas owners/operators stating their facility capacity and willingness to accept the County's solid waste are in the Attachments Section

III.5 SOLID WASTE FACILITY DESCRIPTIONS

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: South Kent County Landfill

County: Kent Location: Town: 5N Range: 12W Section(s): 36

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes:

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:
 Foundry sands, street sweepings, sludges, contaminated soils, etc.

Site Size:

Total area of facility property:	<u>250</u>	acres	
Total area sited for use:	<u>112</u>	acres	
Total area permitted:	<u>112</u>	acres	
Operating:	<u>31</u>	acres	
Not excavated:	<u>81</u>	acres	
Current capacity:	<u>7,600,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³	1.5 million tons ash
Estimated lifetime:	<u>38</u>	years	
Estimated days open per year:	<u>310</u>	days	
Estimated yearly disposal volume:	<u>155,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³	

(if applicable)

Annual energy production:

Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: North Kent County Transfer Station

County: Kent Location: Town: 8N Range: 11W Section(s): 2,3

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: South Kent County Landfill

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	_____	acres
Total area sited for use:	_____	acres
Total area permitted:	_____	acres
Operating:	_____	acres
Not excavated:	_____	acres
Current capacity:	_____	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	_____	years
Estimated days open per year:	<u>310</u>	days
Estimated yearly disposal volume:	<u>22,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Waste To Energy

Facility Name: Kent County Waste-To-Energy Facility

County: Kent Location: Town: _____ Range: _____ Section(s): City of Grand Rapids

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: South Kent County Landfill

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property: _____ acres
 Total area sited for use: _____ acres
 Total area permitted: _____ acres
 Operating: _____ acres
 Not excavated: _____ acres

Current capacity: 625/day tons or yds³
 Estimated lifetime: _____ years
 Estimated days open per year: 310 days
 Estimated yearly disposal volume: 194,000 tons or yds³

(if applicable)

Annual energy production: _____ megawatts
 Landfill gas recovery projects: NA megawatts
 Waste-to-energy incinerators: 72/day megawatts 116,000 lb. Of steam/hr

FACILITY DESCRIPTIONS

Facility Type: Type A Transfer Station

Facility Name: Kent County Waste-To-Energy Facility Transfer Station

County: Kent Location: Town: _____ Range: _____ Section(s): City of Grand Rapids

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: South Kent County Landfill, see Table 2-A page III-4

Public Private Owner: Kent County

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	_____	acres
Total area sited for use:	_____	acres
Total area permitted:	_____	acres
Operating:	_____	acres
Not excavated:	_____	acres
Current capacity:	_____	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	_____	years
Estimated days open per year:	<u>310</u>	days
Estimated yearly disposal volume:	<u>80,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Solid Waste Transfer Station

Facility Name: Waste Management of Michigan, Midwest

County: Montcalm Location: Town: 9N Range: 8W Section(s):

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes: Annun Hills Recycling and Disposal Facility

Public Private Owner: Waste Management of Michigan

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: solidification/yard waste

* Explanation of special wastes, including a specific list and/or conditions:

foundry sands, fly ash, sludges, etc.

Site Size:

Total area of facility property:	<u>6</u>	acres
Total area sited for use:	<u>6</u>	acres
Total area permitted:	<u>6</u>	acres
Operating:	<u>6</u>	acres
Not excavated:	<u>NA</u>	acres
Current capacity:	<u>NA</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>NA</u>	years
Estimated days open per year:	<u>260</u>	days
Estimated yearly disposal volume:	<u>NA</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type II Solid Waste Landfill

Facility Name: Autumn Hills Recycling and Disposal Facility

County: Ottawa Location: Town: 5N Range: 14W Section(s): 36

Map identifying location included in Attachment Section: Yes No

If facility is an incinerator or a Transfer Station, list the final disposal site and location for incinerator ash or Transfer Station wastes:

Public Private Owner: Waste Management of Michigan

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: solidification/yard waste

* Explanation of special wastes, including a specific list and/or conditions:

foundry sands, fly ash, sludges, etc.

Site Size:

Total area of facility property:	<u>314</u>	acres
Total area sited for use:	<u>197</u>	acres
Total area permitted:	<u>99.3</u>	acres
Operating:	<u>35.1</u>	acres
Not excavated:	<u>64.2</u>	acres
Current capacity:	<u>20.75mil</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>30.2</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>500,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill

Facility Name: Ottawa County Farms Landfill

County: Ottawa Location: Town: 8N Range: 14W Section(s): 26,27

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes:

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other:

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	<u>240</u>	acres
Total area sited for use:	<u>197</u>	acres
Total area permitted:	<u>240</u>	acres
Operating:	<u>37</u>	acres
Not excavated:	<u>125</u>	acres
Current capacity:	<u>16,500,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³
Estimated lifetime:	<u>25-30</u>	years
Estimated days open per year:	<u>286</u>	days
Estimated yearly disposal volume:	<u>500,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>4,565</u>	megawatts 3,500 volts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Type II Landfill
 Facility Name: Central Sanitary Landfill
 County: Montcalm Location: Town: 10 Range: 11 Section(s): 21

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: yard waste and brush

* Explanation of special wastes, including a specific list and/or conditions:

Foundry sands and asbestos

Site Size:

Total area of facility property:	<u>315</u>	acres
Total area sited for use:	<u>40.32</u>	acres
Total area permitted:	<u>18.45</u>	acres
Operating:	<u>18.45</u>	acres
Not excavated:	<u>5.76</u>	acres
Current capacity:	<u>373,428</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³
Estimated lifetime:	<u>2</u>	years
Estimated days open per year:	<u>306</u>	days
Estimated yearly disposal volume:	<u>100,000</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill-gas-recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Composting
 Facility Name: Central Sanitary Landfill
 County: Montcalm Location: Town: 10 Range: 11 Section(s): 21

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: yard waste and brush

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	<u>315</u>	acres
Total area sited for use:	<u> </u>	acres
Total area permitted:	<u>NA</u>	acres
Operating:	<u>10</u>	acres
Not excavated:	<u>NA</u>	acres
Current capacity:	<u>NA</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>NA</u>	years
Estimated days open per year:	<u>306</u>	days
Estimated yearly disposal volume:	<u>780</u>	<input type="checkbox"/> tons or <input checked="" type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u> </u>	megawatts
Waste-to-energy incinerators:	<u> </u>	megawatts

FACILITY DESCRIPTIONS

Facility Type: Recycling

Facility Name: Central Sanitary Landfill

County: Montcalm Location: Town: 10 Range: 11 Section(s): 21

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Allied Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: recyclables

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property: _____ acres

Total area sited for use: _____ acres

Total area permitted: _____ acres

Operating: _____ acres

Not excavated: _____ acres

Current capacity: _____ tons or yds³

Estimated lifetime: _____ years

Estimated days open per year: _____ days

Estimated yearly disposal volume: _____ tons or yds³

(if applicable)

Annual energy production: _____ megawatts

Landfill gas recovery projects: _____ megawatts

Waste-to-energy incinerators: _____ megawatts

FACILITY DESCRIPTIONS

Facility Type: Landfill

Facility Name: Pitsch Sanitary Landfill

County: Ionia Location: Town: 8N Range: 7W Section(s): N1/2 of the NE 1/4 of 7

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: Pitsch Companies

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: _

* Explanation of special wastes, including a specific list and/or conditions: street sweepings and asbestos

Site Size:

Total area of facility property:	<u>148.44</u>	acres
Total area sited for use:	<u>78.44</u>	acres
Total area permitted:	<u>28.36</u>	acres
Operating:	<u>9.87</u>	acres
Not excavated:	<u>70</u>	acres
Current capacity:	<u>415,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>5</u>	years *
Estimated days open per year:	<u>307</u>	days
Estimated yearly disposal volume:	<u>83,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	_____	megawatts
Waste-to-energy incinerators:	_____	megawatts

*have a pending construction permit that will extend the landfill life another 30 years

FACILITY DESCRIPTIONS

Facility Type: 1 type II Landfill
 Facility Name: City Environmental Services Landfill Inc. of Hastings
 County: Barry Location: Town: 3W Range: 8N Section(s) : 6

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: U.S. Waste

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: asbestos

* Explanation of special wastes, including a specific list and/or conditions:
 foundry sand, fly ash, waste water sludges, trees and stumps

Site Size:

Total area of facility property:	<u>335</u>	acres
Total area sited for use:	<u>108</u>	acres
Total area permitted:	<u>30</u>	acres
Operating:	<u>19.5</u>	acres
Not excavated:	<u>10.5</u>	acres
Current capacity:	<u>*</u>	<input type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>10+</u>	years
Estimated days open per year:	<u>308</u>	days
Estimated yearly disposal volume:	<u>175,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

*Current construction permit capacity is 3 million cubic yards. The Barry County Solid Waste Plan and the Barry County, City Management Host Community Agreement authorizes 18 additional acres of cell development. This 18 acre expansion will increase total capacity to 5 million cubic yards. 18 acre expansion was submitted to the MDEQ on 12/30/97.

FACILITY DESCRIPTIONS

Facility Type: Industrial Waste Landfill
Facility Name: Sparta Foundry Waste Disposal Facility
County: Kent Location: Town: 9N Range: 12W Section(s): 28

Map identifying location included in Attachment Section: Yes No

If facility is an Incinerator or a Transfer Station, list the final disposal site and location for Incinerator ash or Transfer Station wastes :

Public Private Owner: AE Goetze

Operating Status (check)

- open
- closed
- licensed
- unlicensed
- construction permit
- open, but closure
- pending

Waste Types Received (check all that apply)

- residential
- commercial
- industrial
- construction & demolition
- contaminated soils
- special wastes *
- other: _

* Explanation of special wastes, including a specific list and/or conditions:

Site Size:

Total area of facility property:	<u>71</u>	acres
Total area sited for use:	<u>25</u>	acres
Total area permitted:	<u>8.75</u>	acres
Operating:	<u>.75</u>	acres
Not excavated:	<u>4.3</u>	acres
Current capacity:	<u>120,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³
Estimated lifetime:	<u>12</u>	years
Estimated days open per year:	<u>245</u>	days
Estimated yearly disposal volume:	<u>10,000</u>	<input checked="" type="checkbox"/> tons or <input type="checkbox"/> yds ³

(if applicable)

Annual energy production:		
Landfill gas recovery projects:	<u>NA</u>	megawatts
Waste-to-energy incinerators:	<u>NA</u>	megawatts

III.6 SOLID WASTE COLLECTION SERVICES AND TRANSPORTATION:

The following describes the solid waste collection services and transportation infrastructure which will be utilized within the County to collect and transport solid waste.

Collection activities within Kent County are currently handled by a combination of public and private haulers. Refuse collection is available to all homes, businesses, industries and institutions within Kent County. Collection remains the responsibility of the individual municipality or solid waste generator. All communities except the City of Grand Rapids have delegated all collection to private haulers. Currently all individual residents, commercial and industrial firms in the County can contract with a private waste hauler or elect to haul their own waste to any disposal site that is available.

The metropolitan cities, Grand Rapids, East Grand Rapids, Kentwood, Grandville, Walker and Wyoming, require all private waste haulers to be licensed within that city to haul waste. All waste generated within these cities is required by contract to be delivered to the Waste To Energy Facility. Appendix D4-c shows the primary haul roads in Kent County.

The rate structure for collection services is usually based on a flat monthly fee for those individuals and businesses who contracted with a private waste hauler. Several local haulers have since began offering a user fee system similar to the bag and tag program offered by the City of Grand Rapids. The fees charged per bag provide a minimal incentive for residents to reduce their trash output and increase their recycling efforts.

In the well-defined urban areas, collection services do not pose a problem since the hauler's and the City of Grand Rapids' collection routes are served by the well-defined arterial network of roads. Costs may be kept lower in the densely populated areas since there are more customers per transportation mile. As one moves further away from the centralized urban area, collection costs may rise since the more rural areas do not provide the same customer ratio per transportation mile although there are disposal facilities reasonably located within the county to minimize transportation costs. See Appendix D4-a and D4-b for disposal facility locations.

Overall, the County and its residents are well served by its present collection services and transportation system of three major freeways, major urban roadways and several Michigan trunk lines.

III.7 RESOURCE CONSERVATION EFFORTS:

The following describes the selected system's proposed conservation efforts to reduce the amount of solid waste generated throughout the County. The annual amount of solid waste currently or proposed to be diverted from landfills and incinerators is estimated for each effort to be used, if possible. Since conservation efforts are provided voluntarily and change with technologies and public awareness, it is not this Plan update's intention to limit the efforts to only what is listed. Instead citizens, businesses, and industries are encouraged to explore the options available to their lifestyles, practices, and processes which will reduce the amount of materials requiring disposal.

Effort Description	Est. Diversion Tons/Yr.		
	Current	5th yr	10th yr
Curbside Recycling (residential)	11,000	12,600	14,600
Household Hazardous Waste Collection	27	35	45
Batteries	22	30	36
Yard Waste/Composting	15,000	18,000	21,600
Commercial/Industrial Recycling (estimated)	25,000	31,000	40,000
Household Appliances	80	100	125
Total	51,080	61,800	76,625

Additional efforts and the above information for those efforts are listed on an attached page.

III.8 WASTE REDUCTION, RECYCLING, & COMPOSTING PROGRAMS:

Volume Reduction Techniques

The following describes the techniques utilized and proposed to be used throughout the County which reduces the volume of solid waste requiring disposal. The annual amount of landfill air space not used as a result of each of these techniques is estimated. Since volume reduction is practiced voluntarily and because technologies change and equipment may need replacing, it is not this Plan update's intention to limit the techniques to only what is listed. Persons within the County are encouraged to utilize the technique that provides the most efficient and practical volume reduction for their needs. Documentation explaining achievements of implemented programs or expected results of proposed programs is attached.

Technique Description	Est. Air Space Conserved Yds ³ /Yr		
	<u>Current</u>	<u>5th yr</u>	<u>10th yr</u>
Waste-To-Energy (incineration)	63,300	63,300	63,300
With the exception of waste to energy, volume reduction techniques are implemented by the private sector. The County is not aware of any proposed changes in technology.			

Additional efforts and the above information for those efforts are listed on an attached page.

III.9 Resource Conservation Efforts, Waste Reduction, Recycling & Composting Programs:

As discussed in Section II, the current system for refuse disposal in Kent County is based on a plan which incorporates an integrated solid waste system of energy recovery, landfilling and expanded education in resource recovery and recycling. This five year update is targeted at determining the level of expanded education in resource recovery and recycling to be incorporated into the current solid waste management system. This system outlines the degree of waste reduction, reuse, composting, recycling, landfilling and waste to energy which actually and realistically will best serve Kent County.

The County's selected system will rely on the private sector to initiate resource conservation efforts. Normally, the County does not collect data on diversion rates from the private sector. Local solid waste generators, recycling facilities, processors and units of government were contacted in an attempt to collect the data which would accurately depict the solid waste management system utilized within Kent County. Most entities contacted either did not have the data on the amount of solid waste currently diverted or were unwilling to share proprietary information. Any accurate or known data collected was used to extrapolate and project present and future diversion rates.

Kent County actively promotes residential curbside recycling. As part of the County's integrated solid waste system, Kent County has operated a material recovery facility (MRF) since 1991. The County has owned the facility since 1994. The MRF accepts recyclables, free of charge, from any licensed waste hauler within Kent County. There is also one private material recovery facility in Kent County, Recycle America, which is owned and operated by Waste Management, Inc. It is reasonable to believe that a 50% participation rate in residential curbside recycling is attainable.

Kent County also owns a Waste-To-Energy Facility. The facility has been in operation since 1990 and incinerates approximately 190,000 tons (maximum capacity) of municipal solid waste per year. The facility produces energy in the form of steam and electricity which is utilized in the District Heating and Cooling Operations. Since the facility is operated at maximum capacity, an increase in incineration is not a part of this Plan.

Composting programs within Kent County are adequately handled by the private sector. Many local units of government also supply programs, at various levels, for their residents. Table III-2 provides further information on the composting programs available to residents in Kent County.

As stated in the goals and objectives, Kent County will strive to provide increased public education and awareness programs that will promote hazardous waste management, recycling, reuse and waste reduction. It will also strive to improve the solid waste data base on solid waste management within Kent County to help assess this Plan as well as future Solid Waste Management Plans.

III.10 Overview of Resource Recovery Programs:

The following describes the type and volume of material in the County's waste stream that may be available for recycling or composting programs. How conditions in the County affect or may affect a recycling or composting program and potential benefits derived from these programs are also discussed. Impediments to recycling or composting programs which exist or which may exist in the future are listed, followed by a discussion regarding reducing or eliminating such impediments.

A table listing the types and volumes of recoverable materials in the county's waste stream can be found on page A-5 of the Appendix to this Plan. The figures, which do not include municipal treatment sludges were extrapolated from data taken from the Southwest Michigan Recycling Market Development Strategy: Part II Background, May 1995.

It is estimated that over half of the solid waste generated in Kent County may be available for recycling and composting. Presently, it is estimated that only 25 - 30 percent of the total available material is being recycled or composted. As stated elsewhere in this Plan, it is very difficult to determine an exact amount due to the fact that the commercial and industrial sector is very large and widespread throughout Kent County. It is also difficult to obtain data from every commercial and industrial facility that recycles, reduces or reuses for various reasons.

There is great room to expand the present programs within Kent County on resource recovery, recycling, reuse, reduction and composting. Due to the economics of the large amounts of landfill space available in West Michigan, motivating the public to ecologically balance their lifestyles in a manner to buy and bury less, is a great challenge. Kent County will continue to maintain, support and operate its integrated solid waste system in a manner that promotes programs which conserve natural resources, reduce air and water pollution and save energy.

- Recycling programs within the County are feasible. Details of existing and planned programs are included on the following pages.
- Recycling programs for the County have been evaluated and it has been determined that it is not feasible to conduct any programs because of the following:
- Composting programs within the County are feasible. Details of existing and planned programs are included on the following pages.
- Composting programs for the County have been evaluated and it has been determined that it is not feasible to conduct any programs because of the following:
- Programs for source separation of potentially hazardous materials are feasible and details are included on the following pages.
- Separation of potentially hazardous materials from the County's waste stream has been evaluated and it has been determined that it is not feasible to conduct any separation programs because of the following:

III.11 RECYCLING AND COMPOSTING

The following is a brief analysis of the recycling and composting programs selected for the County in this Plan. Additional information on operation of recycling and composting programs is included in Appendix A. The analysis covers various factors within the County and the impacts of these factors on recycling and composting. Following the written analysis the tables on pages III-27 through III-32 list the existing recycling, composting, and source separation of hazardous materials programs that are currently active in the County and which will be continued as part of this Plan. The second group of three tables on pages III-33 through III-35 list the recycling, composting, and source separation of hazardous materials programs that are proposed in the future for the County. It is not this Plan update's intent to prohibit additional programs or expansions of current programs to be implemented beyond those listed.

The County's selected system will continue to rely primarily on the private sector for composting programs within the County. Many local units of government also supply collection programs at various levels for their residents. Table III-2 provides further detail on which programs are available in Kent County.

As part of the County's integrated solid waste system, Kent County has operated a material recovery facility (MRF) since 1991. The County has owned the facility since 1994. The MRF accepts recyclables, free of charge, from any licensed waste hauler within Kent County. There is also one private material recovery facility in Kent County, Recycle America, which is owned and operated by Waste Management, Inc. These are the only known facilities that process residential curbside recyclables.

It is estimated that the two facilities process approximately 12,000 tons of residential recyclables per year from within Kent County. It is believed that there are approximately 65,000 tons of residential recyclables available from Kent County residents on a yearly basis (based on 1997 figures). These numbers project a participation rate of approximately 30 - 35 percent of the residents in Kent County. It is reasonable to anticipate a goal of 50 percent participation rate of residents within Kent County by the year 2005. This can be achieved by expanding the public education and awareness programs for residents, businesses and industries that promote recycling, reuse, waste reduction and hazardous waste management.

TABLE III-1

RECYCLING:

<u>Program Name</u>	<u>Service Area</u> ¹	<u>Public or Private</u>	<u>Collection Point</u> ³	<u>Collection Frequency</u> ⁴	<u>Materials Collected</u> ⁵	<u>Program Development</u>	<u>Management Operation</u>	<u>Responsibilities Evaluation</u> ²
<u>Kent County Recycling Facility</u>	<u>Kent County</u>	<u>Public</u>	<u>o,d</u>	<u>d</u>	<u>A,B,C,D,E,F</u>	<u>3</u>	<u>3</u>	<u>3</u>
<u>North Kent Transfer & Recycle</u>	<u>Northern Kent County</u>	<u>Public</u>	<u>d</u>	<u>d</u>	<u>A,B,C,D,E,F</u>	<u>3</u>	<u>3</u>	<u>3</u>
<u>Recycle America Waste Mgt.</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>A,B,C,D,E,F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>NuWool Insulation</u>	<u>West Michigan</u>	<u>Private</u>	<u>o,d</u>	<u>d</u>	<u>B, phone books</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>TDI</u>	<u>West Michigan</u>	<u>Private</u>	<u>d</u>	<u>d,Wi</u>	<u>phone books</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>ARVRON</u>	<u>West Michigan</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>A</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Kamps Pallets</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>P</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Rhonda Tire</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>K</u>	<u>5</u>	<u>5</u>	<u>5</u>

X Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugated Containers; D = Other Paper; E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2 etc. = as identified on page 37.

TABLE III-1 (con't)

RECYCLING:

<u>Program Name</u>	<u>Service Area</u> ¹	<u>Public or Private</u>	<u>Collection Point</u> ³	<u>Collection Frequency</u> ⁴	<u>Materials Collected</u> ⁵	<u>Program Management Responsibilities</u> ²		
						<u>Development</u>	<u>Operation</u>	<u>Evaluation</u>
<u>Padnos Iron & Metal</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>D,F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Bultema Brothers Iron & Metal</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Franklin Metal</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>West Michigan Iron & Metal</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>West Michigan Recycling</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>West Side Iron & Metal</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Lubbers Resource System</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>F</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Pitsch Companies</u>	<u>West Michigan</u>	<u>Private</u>	<u>d,o</u>	<u>d</u>	<u>F,J</u>	<u>5</u>	<u>5</u>	<u>5</u>

Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugated Containers; D = Other Paper; E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2 etc. = as identified on page 37.

TABLE III-2

COMPOSTING:

<u>Program Name</u>	<u>Service Area</u> ¹	<u>Public or Private</u>	<u>Collection Point</u> ³	<u>Collection Frequency</u> ⁴	<u>Materials Collected</u> ⁵	<u>Program Management Responsibilities</u> ²		
						<u>Development</u>	<u>Operation</u>	<u>Evaluation</u>
<u>Green Rock Farm</u>	<u>Kent & Montcalm Counties</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>G,L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Phoenix Resources</u>	<u>Kent County</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>G,L</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>I.B. Compost</u>	<u>West Michigan</u>	<u>Private</u>	<u>o</u>	<u>d</u>	<u>G,L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Autumn Hills CST</u>	<u>West Michigan</u>	<u>Private</u>	<u>o,c,d</u>	<u>d</u>	<u>G,L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Sunset Waste</u>	<u>West Michigan</u>	<u>Private</u>	<u>o,c,d</u>	<u>d</u>	<u>G,L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>City of Grand Rapids</u>	<u>City of Grand Rapids</u>	<u>Public</u>	<u>c</u>	<u>w</u>	<u>G,L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>City of Wyoming</u>	<u>City of Wyoming</u>	<u>Public</u>	<u>c,d</u>	<u>d,Fa</u>	<u>G,L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>East Grand Rapids</u>	<u>East Grand Rapids</u>	<u>Public</u>	<u>c,d</u>	<u>d,Fa</u>	<u>L</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Grandville</u>	<u>Grandville</u>	<u>Public</u>	<u>c,d</u>	<u>Fa</u>	<u>L</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Cedar Springs</u>	<u>Cedar Springs</u>	<u>Public</u>	<u>c</u>	<u>Fa</u>	<u>L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>

x Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Food; W = Wood; P = Paper; S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1, L2 etc. = as identified on page 37.

TABLE III-2 (con't)

COMPOSTING:

<u>Program Name</u>	<u>Service Area¹</u>	<u>Public or Private</u>	<u>Collection Point³</u>	<u>Collection Frequency⁴</u>	<u>Materials Collected⁵</u>	<u>Program Development</u>	<u>Management Operation</u>	<u>Responsibilities² Evaluation</u>
<u>Rockford</u>	<u>Rockford</u>	<u>Public</u>	<u>c</u>	<u>Fa,Sp,Su</u>	<u>L,G,W</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Walker</u>	<u>Walker</u>	<u>Public</u>	<u>d</u>	<u>Fa</u>	<u>L</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Kentwood</u>	<u>Kentwood</u>	<u>Public</u>	<u>d</u>	<u>Fa</u>	<u>L</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Sparta Village</u>	<u>Sparta Village</u>	<u>Public</u>	<u>c</u>	<u>Fa</u>	<u>L,W</u>	<u>5</u>	<u>5</u>	<u>5</u>

Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Food; W = Wood; P = Paper; S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1, L2 etc. = as identified on page 37.

TABLE III-3

SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

Since improper disposal of nonregulated hazardous materials has the potential to create risks to the environment and human health, the following programs have been implemented to remove these materials from the County's solid waste stream.

<u>Program Name</u>	<u>Service Area</u> ¹	<u>Public or Private</u>	<u>Collection Point</u> ³	<u>Collection Frequency</u> ⁴	<u>Materials Collected</u> ⁵	<u>Program Management Development</u>	<u>Operation</u>	<u>Responsibilities Evaluation</u> ²
<u>Kent County DPW Household Hazardous Waste Collection Program</u>	<u>Kent County</u>	<u>Public</u>	<u>d</u>	<u>b/m Sp,Su,Fa</u>	<u>B2,C,H,P,PS,PH</u> <u>AR,A,AN,B1</u>	<u>3</u>	<u>3</u>	<u>3</u>
<u>Kent County DPW Household Hazardous Waste Collection Program</u>	<u>Kent County</u>	<u>Public</u>	<u>d</u>	<u>d/w</u>	<u>B2</u>	<u>3</u>	<u>3</u>	<u>3</u>
<u>Valvoline Instant Oil Change</u>	<u>West MI area</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>U,OF,AN</u> <u>U,OT</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Crystal Flash</u>	<u>West MI area</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>propane cyl</u> <u>OT</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Lavmen Welding</u>	<u>West MI area</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>propane cyl</u> <u>OT</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Johnstone Supply</u>	<u>West MI area</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>Hg therm</u> <u>OT</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>APOC Inc.</u>	<u>West MI area</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>Hg therm</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Dave's Batteries</u>	<u>West MI area</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>B1</u>	<u>5</u>	<u>5</u>	<u>5</u>

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Products except Used Oil, Oil Filters & Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C = Cleaners and Polishers; H = Hobby and Art Supplies; OF = Used Oil Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

TABLE III-3 (con't)

SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

Since improper disposal of nonregulated hazardous materials has the potential to create risks to the environment and human health, the following programs have been implemented to remove these materials from the County's solid waste stream.

<u>Program Name</u>	<u>Service Area</u> ¹	<u>Public or Private</u>	<u>Collection Point</u> ³	<u>Collection Frequency</u> ⁴	<u>Materials Collected</u> ⁵	<u>Program Management Development</u>	<u>Responsibilities Operation</u>	<u>Responsibilities Evaluation</u>
<u>K-Mart</u>	<u>West MI</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>B1</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Battery Outlet</u>	<u>West MI</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>B1</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>A-1 Electric</u>	<u>West MI</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>B1</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Interstate Batteries</u>	<u>West MI</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>B1</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Valley City Disposal</u>	<u>West MI</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>OT</u> <u>flour light</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Firefighter Sales & Service</u>	<u>West MI</u>	<u>Private</u>	<u>d</u>	<u>d</u>	<u>OT</u> <u>Fire extin</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>Kent County Sheriff's Dept</u>	<u>Kent County</u>	<u>Public</u>	<u>d</u>	<u>d</u>	<u>OT</u> <u>Explosives</u>	<u>6</u>	<u>6</u>	<u>6</u>
<u>MI State Police</u>	<u>West MI</u>	<u>Public</u>	<u>d</u>	<u>d</u>	<u>OT</u> <u>Explosives</u>	<u>6</u>	<u>6</u>	<u>6</u>

Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Products except Used Oil, Oil Filters, Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C = Cleaners and Polishers; H = Hobby and Art Supplies; OF = Used Oil Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

TABLE III-4

PROPOSED RECYCLING:

<u>Program Name</u> (if known)	<u>Service Area</u> ¹	<u>Public or Private</u>	<u>Collection Point</u> ³	<u>Collection Frequency</u> ⁴	<u>Materials Collected</u> ⁵	<u>Program Management Development</u>	<u>Responsibilities Operation</u>	<u>Evaluation</u> ²
<u>None proposed at this time</u>								

Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. A = Plastics; B = Newspaper; C = Corrugated Containers; D = Other Paper; E = Glass; F = Metals; P = Pallets; J = Construction/Demolition; K = Tires; L1, L2 etc. = as identified on page 37.

TABLE III-5

PROPOSED COMPOSTING:

<u>Program Name, (if known)</u>	<u>Service Area¹</u>	<u>Public or Private</u>	<u>Collection Point³</u>	<u>Collection Frequency⁴</u>	<u>Materials Collected⁵</u>	<u>Program Management Development</u>	<u>Responsibilities² Operation</u>	<u>Evaluation</u>

None proposed at this time

Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. G = Grass Clippings; L = Leaves; F = Food; W = Wood; P = Paper; S = Municipal Sewage Sludge; A = Animal Waste/Bedding; M = Municipal Solid Waste; L1, L2 etc. = as identified on page 37.

TABLE III-6

PROPOSED SOURCE SEPARATION OF POTENTIALLY HAZARDOUS MATERIALS:

<u>Program Name, (if known)</u>	<u>Service Area¹</u>	<u>Public or Private</u>	<u>Collection Point³</u>	<u>Collection Frequency⁴</u>	<u>Materials Collected⁵</u>	<u>Program Management Responsibilities²</u>		
						<u>Development</u>	<u>Operation</u>	<u>Evaluation</u>
<u>Kent County Household Hazardous Waste Permanent Site</u>	<u>Kent County</u>	<u>Public</u>	<u>d</u>	<u>d</u>	<u>B2,C,H,P,PS,PH AR,A,An,B1</u>	<u>3</u>	<u>3</u>	<u>3</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

Additional programs and the above information for those programs are listed on an attached page.

¹ Identified by where the program will be offered. If throughout the planning area, then listed by planning area; if only in specific counties, then listed by county; if only in specific municipalities, then listed by its name and respective county.

² Identified by 1 = Designated Planning Agency; 2 = County Board of Commissioners; 3 = Department of Public Works; 4 = Environmental Group (Identified on page 36); 5 = Private Owner/Operator; 6 = Other (Identified on page 36).

³ Identified by c = curbside; d = drop-off; o = onsite; and if other, explained.

⁴ Identified by d = daily; w = weekly; b = biweekly; m = monthly; and if seasonal service also indicated by Sp = Spring; Su = Summer; Fa = Fall; Wi = Winter.

⁵ Identified by the materials collected by listing of the letter located by that material type. AR = Aerosol Cans; A = Automotive Products except Used Oil, Oil Filters & Antifreeze; AN = Antifreeze; B1 = Lead Acid Batteries; B2 = Household Batteries; C = Cleaners and Polishers; H = Hobby and Art Supplies; OF = Used Oil Filters; P = Paints and Solvents; PS = Pesticides and Herbicides; PH = Personal and Health Care Products; U = Used Oil; OT = Other Materials and identified.

III.12 IDENTIFICATION OF RESOURCE RECOVERY MANAGEMENT ENTITIES:

The following identifies those public and private parties, and the resource recovery or recycling programs for which they have management responsibilities.

Environmental Groups:

No environmental groups have any management responsibilities under the Selected System for Kent County.

Other:

Resource Recovery Program - Kent County Department of Public Works
Material Recovery Facility - Kent County Department of Public Works
Household Hazardous Waste Program - Kent County Department of Public Works
South Kent Landfill - Kent County Department of Public Works
North Kent Transfer and Recycle Station - Kent County Department of Public Works
Waste-To-Energy Facility - Kent County Department of Public Works

Other programs listed in tables - private companies

III.13 PROJECTED DIVERSION RATES:

The following estimates the annual amount of solid waste which is expected to be diverted from landfills and incinerators as a result of the current resource recovery programs and in five and ten years.

<u>Collected Material:</u> <u>Tons Diverted:</u>	<u>Projected Annual Tons Diverted:</u>			<u>Collected Material:</u>	<u>Projected Annual</u>		
	<u>Current</u>	<u>5th Yr</u>	<u>10th Yr</u>		<u>Current</u>	<u>5th Yr</u>	<u>10th Yr</u>
A. TOTAL PLASTICS:	<u>750</u>	<u>900</u>	<u>1,080</u>	G. GRASS AND LEAVES:	<u>15,000</u>	<u>18,000</u>	<u>21,600</u>
B. NEWSPAPER:	<u>10,000</u>	<u>12,000</u>	<u>14,400</u>	H. TOTAL WOOD WASTE:	<u>5,200</u>	<u>6,500</u>	<u>8,000</u>
C. CORRUGATED CONTAINERS:	<u>1,200</u>	<u>1,450</u>	<u>1,750</u>	I. CONSTRUCTION AND DEMOLITION:	<u>no data</u>	_____	_____
D. TOTAL OTHER PAPER:	<u>4,000</u>	<u>4,800</u>	<u>5,800</u>	J. FOOD AND FOOD PROCESSING:	<u>no data</u>	_____	_____
E. TOTAL GLASS:	<u>680</u>	<u>820</u>	<u>985</u>	K. TIRES:	<u>no data</u>	_____	_____
F. OTHER MATERIALS:				L. TOTAL METALS:	<u>6,500</u>	<u>7,800</u>	<u>9,360</u>
F1. <u>Batteries</u>	<u>21.5</u>	<u>30</u>	<u>36</u>	F3. _____	_____	_____	_____
F2. <u>Appliances</u>	<u>80</u>	<u>100</u>	<u>125</u>	F4. _____	_____	_____	_____

MARKET AVAILABILITY FOR COLLECTED MATERIALS:

The following identifies how much volume that existing markets are able to utilize of the recovered materials which were diverted from the County's solid waste stream.

<u>Collected Material:</u>	<u>In-State Markets</u>	<u>Out-of-State Markets</u>	<u>Collected Material</u>	<u>In-State Markets</u>	<u>Out-of-St Markets</u>
A. TOTAL PLASTICS:	<u>100%</u>	_____	G. GRASS AND LEAVES:	<u>100%</u>	_____
B. NEWSPAPER:	<u>100%</u>	_____	H. TOTAL WOOD WASTE:	<u>100%</u>	_____
C. CORRUGATED CONTAINERS:	<u>100%</u>	_____	I. CONSTRUCTION AND DEMOLITION:	<u>no data</u>	_____
D. TOTAL OTHER PAPER:	<u>100%</u>	_____	J. FOOD AND FOOD PROCESSING	<u>no data</u>	_____
E. TOTAL GLASS:	<u>100%</u>	_____	K. TIRES:	<u>no data</u>	_____
F. OTHER MATERIALS:			L. TOTAL METALS:	<u>100%</u>	_____
F1. <u>Batteries</u>	_____	<u>100%</u>	F3. _____	_____	_____
F2. <u>Appliances</u>	<u>100%</u>	_____	F4. _____	_____	_____

III.14 EDUCATIONAL AND INFORMATIONAL PROGRAMS:

It is often necessary to provide educational and informational programs regarding the various components of a solid waste management system before and during its implementation. These programs are offered to avoid miscommunication which results in improper handling of solid waste and to provide assistance to the various entities who participate in such programs as waste reduction and waste recovery. Following is a listing of the programs offered or proposed to be offered in this County.

<u>Program Topic</u> ¹	<u>Delivery Medium</u> ²	<u>Targeted Audience</u> ³	<u>Program Provider</u> ⁴
<u>1</u>	<u>r,t,o,n,f,e</u>	<u>p,s K-12</u>	<u>DPW, Grand Rapids City</u>
<u>2</u>	<u>n,f</u>	<u>p</u>	<u>Private</u>
<u>3</u>	<u>n,f</u>	<u>p</u>	<u>DPW</u>
<u>6 (phone books)</u>	<u>n,f,t,r</u>	<u>p</u>	<u>DPW, private</u>
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	
_____	_____	_____	

¹ Identified by 1 = recycling; 2 = composting; 3 = household hazardous waste; 4 = resource conservation; 5 = volume reduction; 6 = other which is explained.

² Identified by w = workshop; r = radio; t = television; n = newspaper; o = organizational newsletters; f = flyers; e = exhibits and locations listed; and ot = other which is explained.

³ Identified by p = general public; b = business; i = industry; s = students with grade levels listed. In addition if the program is limited to a geographic area, then that county, city, village, etc. is listed.

⁴ Identified by EX = MSU Extension; EG = Environmental Group (Identify name); OO = Private Owner/Operator (Identify name); HD = Health Department (Identify name); DPA = Designated Planning Agency; CU = College/University (Identify name); LS = Local School (Identify name); ISD = Intermediate School District (Identify name); O = Other which is explained.

Additional efforts and the above information for those efforts are listed in Appendix E.

TIMETABLE FOR SELECTED SYSTEM IMPLEMENTATION

This timetable is a guideline to implement components of the Selected System. The Timeline gives a range of time in which the component will be implemented such as "1995-1999" or "On-going." Timelines may be adjusted later, if necessary.

TABLE III-7

Management Components	Timeline
Increase public education	ongoing
Expand household hazardous waste program	1999-2003
Expand recycling program	ongoing
Maintain and operate County's solid waste system	ongoing
Monitor solid waste export	ongoing
Expand use of internet and County's home page	1999-2003
Develop and improve data base reporting mechanisms	1999-2003
Update solid waste plan	2003

III.15 Siting Review Procedures

III.15.A Unauthorized Disposal Area Types

The following solid waste disposal area types may not be sited by this Plan. Any proposal to construct a facility listed herein shall be deemed inconsistent with this Plan except as provided in III.16.B.

Type II landfills
Type III landfills

III.15.B Siting Criteria And Process

The following process describes the criteria and procedures to be used to site solid waste disposal facilities and determine consistency with this Plan. (attach additional pages if necessary)

III.16 Procedures And Consistency Criteria For New Solid Waste Disposal Facilities

Kent County has an integrated solid waste management system (System) which consists of a County owned landfill, waste-to-energy facility, transfer station, and material recovery facility. The System also includes a household hazardous waste program and educational programs. The System is operated in accordance with this Plan and pursuant to various hauler agreements and municipal ordinances. The System currently has well in excess of five years of disposal capacity for all solid waste generated within Kent County. Accordingly, the establishment or expansion of solid waste disposal facilities shall be as provided in this Section.

III.16.A Definitions

As used in this Section:

1. "Solid Waste Disposal Facility" means any one of the following: a) Type II Landfill; b) Type III Landfill; c) Resource Recovery Facility; d) Solid Waste Processing Plant; e) Solid Waste Transfer Facility; f) Type A Transfer Facility; g) Type B Transfer Facility; h) Incinerator; i) Composting Facility; j) Waste Pile.
2. "Type II Landfill" means a landfill which receives household wastes, municipal solid waste incinerator ash or sewer sludge and which is not a land application unit, surface impoundment, injection well, or waste pile. A Type II landfill also may receive other types of solid waste, such as commercial waste, non-hazardous sludge, conditionally-exempt small quantity generator waste and industrial waste.
3. "Type III landfill" means any landfill that is not a Type II landfill or hazardous waste landfill and includes both of the following: (a) construction and demolition waste landfills; (b) industrial waste landfills.

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4. "Resource Recovery Facility" means machinery, equipment, structures, or any parts or accessories of machinery, equipment, or structures, installed or acquired for the primary purpose of recovering materials or energy from the waste stream. Resource Recovery Facility includes material recovery facilities whose principal function is to recycle waste materials or a facility used for incineration of waste with the recovery of energy.

5. "Solid Waste Processing Plant" means a tract of land, building, unit, or appurtenance of a building or a 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 ferrous or non-ferrous metal scrap, or a plant engaged primarily in the acquisition, processing and shipment of slag or slag products.

6. "Solid Waste Transfer Facility" means a tract of land, a building and any appurtenances, or a container, or any combination of land, buildings, or containers that is used or intended for use in the rehandling or storage of solid waste incidental to the transportation of the solid waste, but is not located at the site of generation or the site of disposal of the solid waste.

7. "Type A Transfer Facility" means a facility that is designed and operated to receive solid waste primarily from mechanically unloaded vehicles.

8. "Type B Transfer Facility" means a facility that is designed and operated to receive domestic and commercial solid waste from vehicles unloaded by hand.

9. "Incinerator" means a device which is specifically designed for the destruction, by burning, of garbage or other combustible refuse or waste material, or both, and in which the products of combustion are emitted into the outer air by passing through a stack or chimney. For purposes of this Section, the following devices are not incinerators:

- a. A thermal treatment unit that is designed solely for the purpose of destroying contaminants in soil;
- b. Boilers, industrial furnaces, or power plants that burn waste as fuel; and
- c. A device that is used to incinerate medical waste and other waste from facility that generates medical waste.

10. "Disposal Area" means 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.

11. "Waste Pile" means any storage of waste in a pile that requires a permit or license from the state.

12. "Composting Facility" means a facility where material is processed using composting technology. Processing may include physical turning windrowing, aeration, or other mechanical handling of organic matter.

13. "Designated Planning Agency" means the Kent County Board of Public Works or its successor as appointed by the Kent County Board of Commissioners.

III.16.B Disposal and Non-Disposal Areas That Are Consistent With This Plan

The following County owned Disposal and Non-Disposal Areas were established pursuant to the Kent County Solid Waste Management Plan and are consistent with this Plan:

South Kent Landfill
North Kent Transfer Station
Waste-To-Energy Facility
Material Recovery Facility

Expansion of the South Kent Landfill shall be considered consistent with this Plan and is not subject to the consistency criteria. Expansion into Allegan County must be consistent with Allegan County's Solid Waste Plan. Any proposal to construct an Incinerator within Kent County shall be considered consistent with this Plan and is not subject to the consistency criteria provided that the design capacity is 50 tons or less of refuse per day.

III.16.C Disposal Areas That Are Inconsistent With This Plan

The following Disposal Areas (except as provided in III.16.B) shall not be established in Kent County for the next five (5) years or until this Plan is amended, whichever comes later:

Type II landfills
Type III landfills

III.16.D Disposal Areas That May Be Consistent With This Plan

The following Disposal Areas shall be allowed in Kent County only if they are consistent with this Plan which shall be determined in accordance with the criteria and process set forth below:

Solid Waste Processing Plant
Solid Waste Transfer Facility
Type A Transfer Facility
Type B Transfer Facility
Incinerator (over 50 tons per day)
Resource Recovery Facility (if it includes incineration and recovery of energy)
Composting Facility
Waste Pile

III.16.E Procedure For Determination Of Consistency With This Plan

The procedure for obtaining a determination of consistency with this Plan is as follows:

1. An application for determination of consistency shall be filed with the Department of Public Works (DPW); the application shall contain all of the information required under "Application Requirements" on page III-44.
2. Upon receipt of the application, the DPW shall review the application for administrative completeness. If the application is not complete, the applicant shall be notified and advised of the information necessary to make the application complete. The applicant may resubmit the application, and once the application has been determined administratively complete, the applicant will be so informed.
3. For any facility which requires any license or any permit from the State, the complete application will be placed before either the Solid Waste Planning Committee or the Designated Planning Agency (DPA), as determined solely by the Director of the DPW. In the event the application is placed before the Solid Waste Planning Committee, the Solid Waste Planning Committee shall forward its recommendation as to consistency with this Plan to the Designated Planning Agency within 60 days of receipt of the request from the applicant; provided, however, if the DPW does not have an administratively complete application at the time the request for a determination of consistency from the applicant is received, the Solid Waste Planning Committee shall forward its recommendation as to consistency with this Plan to the Designated Planning Agency within 60 days of the date on which the DPW has found the application to be administratively complete. If the Solid Waste Planning Committee fails to submit a recommendation to the Designated Planning Agency within 60 days, it shall be deemed that the Solid Waste Planning Committee has no objection to the proposal. The DPA shall then submit its report and recommendation as to the facility's consistency with the Plan to the Kent County Board of Commissioners within 30 days of its receipt of the Solid Waste Planning Committee's recommendation. If the application is placed before the Designated Planning Agency, the Designated Planning Agency shall forward its recommendation as to consistency with this Plan to the Kent County Board of Commissioners within 60 days of receipt of the request from the applicant, or 60 days of the date on which the DPW has found the application to be administratively complete, whichever is later. If the Designated Planning Agency fails to submit its recommendation to the KCBC within the allotted time, it shall be deemed that the DPA finds the proposal consistent with this Plan. The Kent County Board of Commissioners shall make the final determination as to consistency with this Plan. The Kent County Board of Commissioners decision on consistency will be based solely on this Plan's criteria.
4. The recommendation of the Solid Waste Planning Committee shall not be binding on the Designated Planning Agency or the Kent County Board of Commissioners. The recommendation of the Designated Planning Agency shall not be binding on the Kent County Board of Commissioners.
5. If the Kent County Board of Commissioners determines that the proposed facility is inconsistent with the Plan, the applicant may resubmit the application and address the reasons given for inconsistency. Such resubmittal will be placed before either the Solid Waste Planning Committee or the Designated Planning Agency, whichever is applicable, and processed in accordance with paragraph 3 above.

III.16.F Application Requirements

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Each application shall contain all of the following information:

1. Name, address, and telephone number for the applicant (including partners and other ownership interests), the property owner(s) of the site, any consulting engineers and geologists that will be involved in the project, a designated contact person for the facility developer (if different from the applicant), and shall specify the type of facility being proposed.
2. Information describing the site location and orientation, including a legal land description of the facility area, a site map showing all roadways and principal land features within two miles of the site, a topographic map with contour intervals of no more than ten feet for the site, a map and description of all access roads showing their location, type, and surface material, proposed access point to the facility, haul route from access roads to nearest state trunkline, and a current map showing the zoning of the proposed site and surrounding zoning, domiciles, public and private water supplies, and present usage of all property within one mile of the site.
3. A description of the current site use, a map showing the locations of all structures within 1,200 feet of the perimeter of the site, the location of all existing utilities, the location of the 100-year flood plain (as defined by Rule 323.311 of the Administrative Rules of Part 31, Public Act 451, as amended) within 1,200 feet of the site, location of all wetlands (as defined by Part 303, of Act 451, as amended) within 1,200 feet of the site, and the site soil types and general geological characteristics.
4. A description of the proposed site and facility design.
5. A description of the proposed operation of the facility, including information concerning the planned annual usage, anticipated sources of solid waste, and the facility's life expectancy.
6. If necessary to satisfy the consistency criteria, the applicant shall include information on the type of road serving the facility and if the road is not a paved, all weather "A" road, a signed statement that the developer agrees to upgrade the road is required by Section III.16.G.

III.16.G Consistency Criteria

To be found consistent with the Plan, all proposed solid waste disposal facilities must comply with the consistency criteria below:

1. The solid waste disposal facility shall not be located closer than 500 feet from residentially zoned property, public parks, and public or private schools existing at the time of submission of the application.
2. The solid waste disposal facility shall not be located closer than 500 feet from the adjacent property lines, road right-of-way, inland lakes and perennial streams (provided, however, that these requirements shall not apply to a facility located in an industrial zoning district). The 500 feet distance will be measured from the nearest point of the facility. An "inland lake and stream" means a natural or artificial lake, pond or impoundment; a river, stream or creek which may or may not be serving as a drain as defined by the Drain Code of 1956, Public Act 40 of 1956; or

any other body of water that has definite banks, a bed and visible evidence of a continued occurrence of water.

3. A report is required describing how the applicant's proposal will address the goals and policies as outlined in the State of Michigan Solid Waste Policy. The report shall include how the proposal will promote waste reduction, reuse, composting, recycling or incineration, whichever is applicable to the proposal.



4. The proposed facility shall not be located in a 100-year flood plain, as defined by Rule 323.311 of the Administrative Rules of Part 31, Act 451, as amended.

5. The proposed facility shall not be located in a wetland regulated by Part 303, of Act 451, as amended, unless a permit is issued.

6. The proposed facility shall not be constructed on farmland and open space preservation lands enrolled under Part 361 of Act 451, as amended.

7. The proposed facility shall not be located in an environmental area as defined in Section 32301 of Part 323, Shorelands Protection and Management, Act 451, as amended, or in areas of unique habitat, as defined by the Department of Natural Resources Natural Features Inventory.

8. The proposed facility shall not be located in an area of groundwater recharge, as defined by the United States Geologic Survey or in a wellhead protection area, as defined by the Michigan Department of Environmental Quality. A wellhead protection area is defined as the surface and subsurface area surrounding a water well or well field supplying a public water system through which contaminants are reasonably likely to move toward and reach such water well or well field. In effect, the wellhead protection area is the "capture area" within which pollutants can readily reach public drinking water supplies. The applicant shall submit a signed statement stating the facility is not in a groundwater recharge area or wellhead protection area.



9. The proposed facility shall not be located in a designated historic or archeological area, as defined by the State Historical Preservation Officer.

10. The proposed facility shall be located on a paved, all season "class A" road. If the proposed facility is not on such a road, the developer shall provide a signed statement agreeing to upgrade the road serving the facility to a paved, all weather class "A" road before commencing operation of the facility.

11. For all proposed facilities that are Type A or Type B transfer facilities, to the extent that the solid waste coming to the transfer station is generated from within the cities of Grand Rapids, Wyoming, East Grand Rapids, Kentwood, Grandville, or Walker, the applicant shall agree to comply with the applicable city ordinances directing waste generated within the six cities to the Waste-to-Energy Facility located at 950 Market Street.

12. If the proposed facility is a Resource Recovery Facility, to the extent that the materials coming to the facility are generated from within the cities of Grand Rapids, Wyoming, East Grand Rapids, Kentwood, Grandville, or Walker, the applicant must agree that all residue from such materials must be disposed of in compliance with the ordinances of the six cities directing

waste generated within the six cities to the Waste-to-Energy Facility located at 950 Market Street.

13. The proposed facility must be consistent with the waste disposal hauler agreements (see Appendix D for examples) between Kent County and various haulers, copies of all such contracts are available to the applicant at the offices of the DPW.



III.16.H General Provisions

For the purpose of this Plan, junkyards or salvage yards, defined as an area, building, or parcel of property used for the collection, storage, dismantling, dumping, display, resale, processing, exchange, bailing, cleaning, handling, or secondhand salvage of used machinery, vehicles, trailers, equipment, ferrous and non-ferrous metals, shall not be deemed to be subject to or part of this Plan and must therefore meet all local zoning requirements.

For all proposed facilities which require a license or any form of permit from the State, applicant must attach to the application an agreement to file a quarterly report with the DPW which includes the following information:

- (a) Name, location, and permit number of facility.
- (b) Name, address, and telephone number of the facility owner.
- (c) Name, address, and telephone number of the facility operator.
- (d) Total quantity of waste received at the facility during the past three months stated in tons.
- (e) Total quantity of waste received at the facility during the past three months originating from out-county sources in tons by county of origin.

Applicant agrees that failure to submit this report is a violation of this Plan.

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III.17 SOLID WASTE MANAGEMENT COMPONENTS¹

The following identifies the management responsibilities and institutional arrangements necessary for the implementation of the Selected Waste Management System. Also included is a description of the technical, administrative, financial and legal capabilities of each identified existing structure of persons, municipalities, counties and state and federal agencies responsible for solid waste management including planning, implementation, and enforcement.

Solid waste management planning and implementation in Kent County primarily involves the Kent County Department of Public Works, the Board of Public Works, the Kent County Board of Commissioners and the Michigan Department of Environmental Quality. Other participants may include the Federal Government, Kent County municipalities and local units of government, the Kent County Act 451 Planning Committee and the Waste-To-Energy Advisory Board.

III.17.A Kent County

In 1968, Kent County's Board of Commissioners and the Kent County Board of Public Works established the Kent County Refuse Disposal System pursuant to the provisions of Act 185 of 1957, the Public Works Act. This Act gave the County authority to establish the Department of Public Works for the coordination and provision of refuse disposal and other public services. Establishment of the County disposal system was for the purpose of acquiring and providing solid waste disposal facilities for the benefit of local units of government within the County. With the expansion of Kent County's Refuse Disposal System to include the Waste-To-Energy Facility (WTE), Kent County entered into contracts with five metropolitan communities (Grand Rapids, Walker, East Grand Rapids, Grandville and Kentwood) in order to provide for flow of waste to the WTE Facility to ensure economical feasibility of operation. These participating municipalities are obligated to require all waste haulers to deliver all combustible solid waste generated within their respective jurisdictions to the WTE.

With the enactment of Act No. 641, P.A. 1978, (now called Part 115, Solid Waste Management Act, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended) the Kent County Board of Commissioners appointed the Kent County Board of Public Works (KCBPW) to be the designated solid waste Planning Agency to develop and implement the County's Solid Waste Management Plan and to ensure that all requirements for solid waste management are adhered to within Kent County. The Kent County Department of Public Works administers and operates the Kent County Solid Waste Disposal System and drafts and implements the required Act 451 Plan for the county.

KCDPW staff directly responsible for the administration and operations of the solid waste system and for Act 451 Planning activities are:

¹ Components or subcomponents may be added to this table

Department of Public Works: Mr. Curt Kemppainen, Director
Mr. Douglas G. Wood, Deputy Director
Mr. Dan Kendall, Finance Director

Resource Recovery: Mr. Dennis Kmiecik, Solid Waste Manager
Ms. Katherina Babins, Resource Recovery Specialist
Ms. Deborah Doan, Resource Recovery Specialist

Waste-To-Energy: Mr. William Allen, WTE Administrative Manager

Landfill Operations: Mr. Ron Landis, Civil Engineering Manager
Mr. Jerry Powell, Civil Engineer

The Kent County Board of Commissioners, acting on recommendations of the KCBPW and the KCDPW appoints the required Act 451 Planning Committee. The current committee is listed in Appendix C-7 of this Plan.

The Kent County Board of Public Works, as Kent County's designated Planning Agency acting through the Department of Public Works, is the primary agent for the administration and implementation of this Plan. The following analyses will describe the Department of Public Works technical, financial, legal and administrative capabilities to manage and implement the selected Plan.

III.17.A.1 Technical Capabilities

Act 451 clearly states the approved solid waste management components that can be utilized within Michigan. Moreover, Act 451 and its accompanying rules also stipulate operation procedures for these components. Kent County, through the Department of Public Works, employs individuals possessing the technical expertise to properly manage and operate the County's landfills and various other related programs.

The KCDPW has also utilized professional consulting and engineering firms to supplement the department's internal expertise whenever necessary. The department also utilizes the expertise of private firms for certain landfill construction phases, leachate management and household hazardous waste disposal.

In summary, Kent County's Department of Public Works, directly and through appropriate contracts, has demonstrated the technical capability to operate its solid waste disposal system and to develop and implement the County's Act 451 Plan.

III.17.A.2 Administrative Capabilities

The KCDPW, under direction the KCBPW owns, operates and maintains Kent County's solid waste disposal system with the exception of the County's Waste-To-Energy Facility which is operated and maintained by Ogden Martin Systems of Kent, Inc. The County is not involved in the actual collection of solid waste and also is not the sole provider of solid waste disposal in Kent County.

The administrative capabilities of the Department of Public Works to perform all aspects of solid waste management, including planning, implementation, and enforcement are established, experienced and effective. Since the establishment of Kent County's solid waste disposal system in 1968, this department has conscientiously and systematically developed state-of-the-art waste management components (landfills, household hazardous waste programming, a material recovery facility and the Waste-To-Energy incinerator), as vital steps toward realizing a totally integrated, balanced solid waste management system.

Prior to developing a material recovery facility in 1991, the KCDPW maintained a strong history of support for residential recycling, by payments exceeding \$600,000 to divert residential recyclables from our landfills and establishing an on-going commitment to develop expanded residential recycling capabilities in Kent County. The Kent County Resource Recovery Program, established in 1980, employs two full-time staff persons to educate County residents about waste reduction and resource recovery and to assist in Act 451 solid waste management planning and implementation activities. The landfill division has two professional engineers to manage the day to day responsibilities, while the Waste-To-Energy has daily supervision by the facility manager. A brief outline of management personnel within the DPW Solid Waste Division is listed on page III-48.

III.17.A.3 Financial Capabilities

The Kent County Solid Waste Disposal System, comprised of landfilling, household hazardous waste collection and disposal, Waste-To-Energy incineration and residential recycling, is financed as follows:

III.17.A.3.a Landfilling

This component is financed through user tipping fees. In the past, the Department has issued bonds pursuant to Act 185 which are paid from charges to those customers who use the County's facilities. The landfill system is self-sustaining.

III.17.A.3.b Household Hazardous Waste Collection and Disposal

This component's budget is factored into the user tipping fee charged to landfill customers. The diversion of household hazardous materials from the landfill is considered part of the expense of operating an environmentally sound disposal facility. At this time the individual participants of this service are not charged a fee. It is the intent of the County to pursue and implement a solid waste disposal surcharge/host agreement on solid waste disposal facilities within Kent County to assist in financing this program.

III.17.A.3.c Waste-To-Energy Incineration

As with the landfills, the Department has issued bonds pursuant to Act 185 to finance this project. The following funding mechanisms will repay the bonds and support the Facility.

1. User fees will be charged to customers.
2. Revenues obtained from the sales of energy.

III.17.A.3.d Residential Recycling

Considered a component of the solid waste disposal system, this component's budget is factored into the user fee charged to landfill customers as are the previous mentioned entities. In the past, the County and the KCDPW vigorously sought available state and federal funds to support recycling programs. A portion of funding is also generated from the sales of material, although this funding is unreliable due to the volatile end market prices for recyclables. It is the intent of the County to pursue and implement a solid waste disposal surcharge/host agreement on solid waste disposal facilities within Kent County to assist in financing this program.

III.17.A.4 Legal Capabilities

The KCDPW, through a series of State enactments, has the authority to implement or utilize the following:

- ownership, control and financing of waste management projects.
- potential organization structures.
- sale of products such as steam, electricity, gas and recovered materials from the waste stream.

Kent County, through its KCDPW, assumes this legal authority whenever applicable and necessary to provide for methods for the disposal of solid wastes which are environmentally sound, which maximize the utilization of valuable resources and which encourage conservation and source separation. As required by former P.A. 641, 1978. P.A. 641, the Solid Waste Management Act, as amended; P.A. 185, the Public Works Act, as amended and P.A. 7, the Urban Cooperation Act, as amended are 3 key enactments in providing the authority necessary to meet Federal, State and local goals and standards for solid waste management and resource recovery.

The Kent County Department of Public Works also has full access to and makes regular use of the County Civil Counsel while Bond Counsel has been contracted on an as-needed basis. Additionally, the Department has occasionally contracted for special legal services.

Kent County also recognizes that an approved Act 451 Solid Waste Management Plan provides its designated Planning agency, the Board of Public Works, the authority to implement and enforce any and all portions of the Act 451 Plan.

III.17.B Kent County Municipalities

All Kent County municipalities perform a role in implementing Kent County's Act 451 Plan, but to varying degrees. As long as solid waste is generated in their jurisdictions, they must provide local ordinances or other mechanisms to ensure that it is disposed of according to Act 451 and Kent County's Act 451 Solid Waste Plan. The municipalities are represented on the Act 451 Planning Committee at the city and township levels and they also review all Act 451 Plan Updates. Sixty-seven percent (67%) of the municipalities must approve an Act 451 Plan before

Kent County can submit it to the Director of the Michigan Department of Environmental Quality for approval.

The six major metropolitan areas of Grand Rapids, Grandville, East Grand Rapids, Kentwood, Walker and Wyoming entered into new or amended base contracts with Kent County to provide for the flow of waste to the Waste-To-Energy Incinerator. Those contracts and the flow control mechanism provided in the contracts and related ordinances are specifically recognized as being consistent with this Plan and this Plan contemplates that those contracts and ordinances will be fully enforced.

Each municipality may develop policies and ordinances to support solid waste disposal services or may enter into contracts to provide solid waste management services within their boundaries. For example, East Grand Rapids contracts for yard waste removal; Cedar Springs provides a leaf composting program; Grand Rapids provides trash collection and an anti-scavenging ordinance to support curbside residential recycling. These examples reflect local Act 451 Planning, implementation, and enforcement mechanisms and initiatives. Representation on the Act 451 Planning Committee and on two advisory panels involves Kent County municipalities in Planning.

III.17.B.1 Legal and Technical Capabilities.

Kent County's municipalities have greater legal capabilities to pass ordinances to enforce solid waste management policies than the County. Hence, Kent County initiated contracts with six of the municipalities requiring them to pass ordinances to ensure flow of waste to the Waste-To-Energy incinerator.

Most Kent County municipalities do not involve themselves in the technical aspects of solid waste management and implementation. Municipal involvement in providing technical services is related to a form of yard waste composting. However, the City of Grand Rapids does provide collection of garbage.

III.17.B.2 Financial Capabilities

Municipal financial capabilities are extremely varied within Kent County. Section II-1, Data Base, describes the demographics of the County, with its diversified residential and industrial base. Each municipality, depending upon size and commercial industrial base, has unique capacities to generate funds to support its programs and services. The municipalities also benefit from the County's network of services.

III.17.C Michigan Department of Environmental Quality

The Department of Environmental Quality performs the major role of enforcing Act 451. Duties under that function range from permitting, licensing and monitoring the construction and operation of Kent County and private sector disposal facilities to the overseeing of Act 451 Planning contract funds and activities, especially the drafting and implementation of our Solid Waste Management Plan.

III.17.C.1 MDEQ Planning, Implementation and Enforcement Responsibilities.

The MDEQ Waste Management Division assists Kent County in solid waste planning activities. Kent County is assigned a staff person who oversees the report writing.

III.17.C.2 MDEQ's Legal, Technical and Financial Capabilities

Act 451, the State's Solid Waste Management Act, and its accompanying rules clearly define the MDEQ's function and enables the MDEQ to legally enforce all aspects of solid waste management addressed in Act 451.

The MDEQ, through the expertise of its staff, in particular the Waste Management Division, has the technical knowledge to oversee and regulate the permitting, construction and operational activities of solid waste management throughout Michigan.

Kent County not only receives assistance from the Lansing office, but benefits from the availability of support from the Grand Rapids office.

The MDEQ's budget, as a State Agency, is subject to yearly legislative review and approval. This process, while protecting the State's financial status, often limits the Department's ability to perform it's assigned task.

III.17.D Federal Government

The Federal Government's direct role is minimal in Kent County. Federal legislation delegates solid waste management and enforcement to the States, which in Michigan becomes the responsibility of the Michigan Department of Natural Resources. Kent County has previously applied for and received Federal (EPA) assistance to study solid waste issues and to provide and develop programming, such as our Household Hazardous Waste Program.

III.18 IDENTIFICATION OF RESPONSIBLE PARTIES

Document which entities within the County will have management responsibilities over the following areas of the Plan.

III.18.A Resource Conservation:

Source or Waste Reduction - Private Sector

Product Reuse - Private Sector

Reduced Material Volume - Private Sector

Increased Product Lifetime - Private Sector

Decreased Consumption - Private Sector

III.18.B Resource Recovery Programs:

Composting - Private Sector

Recycling - Kent County DPW, Private Sector

Energy Production - Kent County WTE, Private Sector

III.18.C Volume Reduction Techniques: Private Sector

III.18.D Collection Processes: Private Sector

III.18.E Transportation: Private Sector, Kent County Road Commission, Michigan Department of Transportation

III.18.F Disposal Areas:

Processing Plants - Kent County DPW, Kent County Solid Waste Planning Committee, Private Sector

Incineration - Kent County DPW, Kent County Solid Waste Planning Committee, Private Sector

Transfer Stations - Kent County DPW, Kent County Solid Waste Planning Committee, Private Sector

Sanitary Landfills - Kent County DPW

III.18.G Ultimate Disposal Area Uses: Kent County DPW, Private Sector, MDEQ, Local government

III.18.H Local Responsibility for Plan Update Monitoring & Enforcement: Kent County DPW, MDEQ

III.18.I Educational and Informational Programs: Kent County DPW, Resource Recovery Program

Documentation of acceptance of responsibilities is contained in Appendix D.

III.19 LOCAL ORDINANCES AND REGULATIONS AFFECTING SOLID WASTE DISPOSAL

This Plan update's relationship to local ordinances and regulations within the County is described in the option(s) marked below:

1. Section 11538.(8) and rule 710 (3) of Part 115 prohibits enforcement of all County and local ordinances and regulations pertaining to solid waste disposal areas unless explicitly included in an approved Solid Waste Management Plan. Local regulations and ordinances intended to be part of this Plan must be specified below and the manner in which they will be applied described.

2. This Plan recognizes and incorporates as enforceable the following specific provisions based on existing zoning ordinances:

A. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

B. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

C. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

D. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

E. Geographic area/Unit of government:

Type of disposal area affected:

Ordinance or other legal basis:

Requirement/restriction:

SELECTED SYSTEM

3. This Plan authorizes adoption and implementation of local regulations governing the following subjects by the indicated units of government without further authorization from or amendment to the Plan.

Additional listings are on attached pages.

Regulations and rules meeting the qualifications set forth herein may be adopted by ordinance and implemented by the appropriate governmental unit without additional authorization from, or formal amendment to the approved Solid Waste Management Plan. Such regulations and rules shall apply only to Disposal Areas and Non-Disposal Area facilities described in Section III.16.D of this Plan and shall not apply to the Disposal and Non-Disposal Areas described in Section III.16.B of this Plan. Such regulations and rules may include:

1. Certain ancillary construction details, such as landscaping, fencing and screening
2. Hours of operation
3. Noise, litter, vibration, odor, vector control and dust control
4. Lighting
5. Facility security
6. Monitoring of wastes accepted and prohibited 
7. Storm water and sewer management 
8. Storage of materials on site
9. Traffic patterns, roads ingress/egress, parking, curb and gutter
10. Signage
11. Emergency services, i.e., fire protection
12. Composting and recycling
13. Building or other structure height

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III.20 PLAN VIOLATIONS

The following shall constitute a violation of this Plan and Part 115 of Public Act No. 451 of 1994, as amended:

1. The failure of a solid waste disposal facility to continue to comply with the consistency criteria in Section III.16.G following a consistency determination by the Kent County Board of Commissioners. 
2. The failure of any solid waste disposal facility to file with the DPW the quarterly reports required by Section III.16.H.
3. The failure of any person to comply with the Export Authorization in Section III.3 and Appendix D.
4. Failure of any The person to comply with any other requirement of this Plan.

Kent County may pursue any and all legal and equitable remedies for a violation of this Plan.

CAPACITY CERTIFICATIONS

III.21 CAPACITY CERTIFICATION

Every County with less than ten years of capacity identified in their Plan is required to annually prepare and submit to the DEQ an analysis and certification of solid waste disposal capacity validly available to the County. This certification is required to be prepared and approved by the County Board of Commissioners.

- This County has more than ten years capacity identified in this Plan and an annual certification process is not included in this Plan.
- Ten years of disposal capacity has not been identified in this Plan. The County will annually submit capacity certifications to the DEQ by June 30 of each year on the form provided by DEQ. The County's process for determination of annual capacity and submission of the County's capacity certification is as follows:

Totals reported to the State of Michigan for the required reporting period of October 1, 1997 to September 30, 1998 are 135,513 tons. This figure was taken from the February 4, 1999 Michigan Department of Environmental Quality, "Report of Solid Waste Landfills in Michigan." Records show the following:

1996 totals = 162,870 tons
 1997 totals = 137,389 tons
 1998 totals = 135,513 tons

Based on the data supplied in this Plan, the South Kent Landfill has a current capacity of 7,600,000 tons. Using conservative data found on pages II-1, 2, 14 of this Plan, the South Kent Landfill has sufficient capacity for the next 38 years at a disposal rate of 155,000 tons per year or approximately 500 tons per day.