APPENDIX A

WASTE HAULER ORDINANCE AND RESOLUTION OF PLAN APPROVAL

This page intentionally left blank.

DRAFT

CAMBRIA COUNTY
MUNICIPAL WASTE HAULING ORDINANCE

ORDINANCE DESIGNATING DISPOSAL FACILITIES AND IMPLEMENTING THE WASTE FLOW REQUIREMENTS FOR THE CAMBRIA COUNTY MUNICIPAL WASTE PLAN AND PROVIDING FOR REGISTRATION THEREUNDER AND RELATED MATTERS

ORDINANCE NO. _____

COUNTY OF CAMBRIA, PENNSYLVANIA

AN ORDINANCE OF THE COUNTY OF CAMBRIA, PENNSYLVANIA, DESIGNATING DISPOSAL FACILITIES; PROVIDING WASTE FLOW CONTROL REQUIREMENTS TO DIRECT WASTE TO DESIGNATED DISPOSAL FACILITIES; ESTABLISHING A REGISTRATION PROGRAM FOR ALL PERSONS THAT COLLECT AND TRANSPORT MUNICIPAL WASTE GENERATED FROM SOURCES LOCATED IN CAMBRIA COUNTY AND PROVIDING PENALTIES FOR VIOLATION OF THIS ORDINANCE.

WHEREAS, the Board of County Commissioners has adopted and approved the Municipal Waste Management Plan Revision, (the "Plan"), for Cambria County in accordance with the requirements of Section 501 of the Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act of 1988, (ACT 101), the original Plan having been ratified by the municipalities in the County; and

WHEREAS, it is the intent of the County to implement the Plan; and

WHEREAS, the Pennsylvania Department of Environmental Protection requires counties to implement a mechanism ensuring that the municipal waste generated within the county is disposed at facilities designated in the Plan in an effort to assure disposal capacity; and

WHEREAS, the County has the power and the duty to adopt any such ordinances deemed necessary to implement this Plan by the authority vested in the County pursuant to Section 303 of Act 101, including requirements that all persons obtain registration to collect and transport municipal waste subject to the Plan to municipal waste disposal facilities designated by the County pursuant to Subsection 303(e) of Act 101; and

WHEREAS, the County intends to enter into disposal agreements with those landfills included in the attached Resolution; and

WHEREAS, the County desires that municipal waste generated within its jurisdiction be disposed of at these facilities.

NOW, THEREFORE, the Board of County Commissioners of Cambria County hereby enacts and ordains as follows:

SECTION 1 – SHORT TITLE

This Ordinance shall be known and referred to as the "Cambria County Municipal Waste Hauling Ordinance."

SECTION 2 – DEFINITIONS

The following words and phrases as used in this Ordinance shall have the meaning ascribed to them herein, unless the context clearly indicates a different:

"Act 90" – The Pennsylvania Waste Transportation Safety Program (HB 2044, Act 2002-90, June 29, 2002)

"Act 97" – The Pennsylvania Solid Waste Management Act of 1980, (P.L. 380, No. 97, July 7, 1980).

"Act 101" – The Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act of 1988, (SB 528, Act 1988 – 101, July 28, 1988).

"Clerk" – shall mean the County Clerk of Cambria County or an employee of the Cambria County Solid Waste Authority.

"Commercial Establishment" – means any establishment engaged in non-manufacturing or non-processing business, including but not limited to stores, markets, offices, restaurants, shopping centers, and theaters.

"County" – shall mean the County of Cambria.

"County Registered Hauler" – shall mean any municipal waste collector or hauler possessing a current county registration issued pursuant to this Ordinance.

"Department" or "DEP" – shall mean the Pennsylvania Department of Environmental Protection.

"Hauler" – shall mean any person, firm, partnership, corporation, or public agency that is engaged in the collection and/or transportation of municipal waste.

"Industrial Establishment" – means any establishment engaged in manufacturing or production activities, including but not limited to factories, foundries, mills, processing plants, refineries, mines, and slaughterhouses.

"Institutional Establishment" – shall mean any establishment or facility engaged in services, including but not limited to hospitals, nursing homes, schools, and universities.

"Leaf Waste" – shall mean leaves, garden residues, shrubbery, tree trimmings, and similar material but not including grass clippings.

"Municipality" – shall mean any local municipal government within Cambria County.

"Municipal Waste" – shall mean any garbage, refuse, industrial lunchroom or office waste, and other material including solid, liquid, semisolid, or contained gaseous material resulting from operation of residential, municipal, commercial, or institutional establishments and from community activities and any sludge not meeting the definition of residual or hazardous waste under Act 97 from any municipal, commercial, or institutional water supply treatment plant, wastewater treatment plant, or air pollution control facility. The term does not include any source-separated recyclable materials.

"Municipal Waste Landfill" – any facility that is designed, operated, and maintained for the disposal of municipal waste and permitted by the Pennsylvania DEP for such purposes.

"Person" – means any individual, partnership, corporation, association, institution, cooperative enterprise, municipal authority, municipality, state institution and agency, or any other legal entity recognized by law as the subject of rights and duties. In any provision of this Ordinance prescribing a fine, penalty, or imprisonment or any combination of the foregoing, the term "person" shall include the officer and directors of any corporation or other legal entity having officers and directors.

"Plan" – means the Cambria County Municipal Waste Management Plan as prepared by the Cambria County Solid Waste Authority, funded under Act 101, and approved by the Department of Environmental Protection on May 23, 1991 and revised in 2011

"Processing" – means any technology used for the purpose of reducing the volume or bulk of municipal or residual waste or any technology used to convert part of all of such materials for off-site reuse. Processing facilities include but are not limited to transfer stations, composting facilities, and resource recovery facilities.

"Recycling" – means the collection, separation, recovery, and sale or reuse of metals, glass, paper, leaf waste, plastics, and other materials which would otherwise be disposed of or processed as municipal waste or the mechanical separation and treatment of municipal waste (other than combustion) and creation and recovery of reusable materials other than a fuel for the operation of energy.

"Registration" – shall mean any registration issued pursuant to Section 9 of this Ordinance.

"Scavenging" – shall mean the unauthorized and uncontrolled removal of any material stored or placed at a point for subsequent collection or from a municipal waste processing or disposal facility.

"Source-Separated Recyclable Materials" – means materials that are separated from municipal waste at the point of origin or generation for the purpose of recycling.

"Transportation" – means the off-site removal of any municipal waste at any time after generation.

For the purposes of this Ordinance, the singular shall include the plural, and the masculine, feminine, and neuter genders respectively shall include all other genders.

SECTION 3 – RESPONSIBILITY

The Clerk shall be responsible for all aspects of municipal waste hauling as discussed in this Ordinance.

SECTION 4 – FUNCTIONS AND POWERS OF RESPONSIBLE COUNTY (COUNTY CLERK)

In accordance with all the pertinent statutes, rules, and regulations of the Commonwealth of Pennsylvania, the Clerk shall:

1. Approve and regulate municipal waste hauling services in Cambria County.

2. Aid and assist the Commonwealth in the application and enforcement of rules and regulations pertaining to municipal waste hauling.

3. Enforce this Ordinance by issuing warning notices and initiating proceedings against violators of this Ordinance and its appurtenant rules and regulations.

4. Deposit fines and other amounts collected into the General Fund of the County.

SECTION 5 – DESIGNATED LANDFILL FACILITIES

In accordance with the Cambria County Municipal Solid Waste Management Plan Amendment, any landfill facility having made application to Cambria County and being accepted and included in the attached Resolution is permitted to accept municipal solid waste from Cambria County sources.

SECTION 6 – WASTE FLOW CONTROL MANAGEMENT PROVISION

Pursuant to the authority granted to the County by Act 101, it is hereby directed that all municipal waste collected in the various municipalities of Cambria County shall be taken by the County Registered Haulers to the municipal waste landfill facilities as designated by Section 5 of this Ordinance and the attached Resolution. County Registered Haulers may deliver county generated municipal waste to a processing facility, such as a transfer station, so long as the final disposal site for said waste is a County designated facility as listed in this ordinance or its amendment.

SECTION 7 – PROHIBITED ACTIVITIES

1. It shall be unlawful for any person to collect and/or transport municipal waste from any residential, public, commercial, industrial, or institutional establishment within Cambria County without first securing a registration to do so in accordance with the provisions of this Ordinance.

2. It shall be unlawful for any person to collect and/or transport municipal waste from any sources within Cambria County in a manner not in accordance with the provisions of this Ordinance and the minimum standards and requirements established in Chapter 285 of DEP's Municipal Waste Management Regulations.

3. It shall be unlawful for any person to transport any municipal waste collected within Cambria County to any disposal facility other than those facilities which have disposal agreements with the County and are designated disposal facilities under the County's approved Municipal Waste Management Plan.

4. It shall be unlawful for any person to scavenge any material from any municipal waste that is stored or placed for subsequent collection by a County Registered Hauler without prior approval from the County and local municipality.

SECTION 8 – STANDARDS FOR COLLECTION AND TRANSPORTATION

1. All haulers operating within the County must comply with the following minimum standards and regulations:

A. All trucks or other vehicles used for collection and transportation of municipal waste must comply with the requirements of Act 97 and Act 101 and PA DEP regulations adopted pursuant to Act 97 and Act 101 including Title 25, Chapter 285, Subchapter B, "Regulations for the Collection and Transportation of Municipal Solid Waste."

B. All collection vehicles conveying municipal waste shall be operated and maintained in a manner that will prevent creation of a nuisance or hazard to public health, safety, and welfare.

C. All collection vehicles conveying putrescible municipal waste shall be watertight and suitably enclosed to prevent leakage, roadside littering, attraction of vectors, and the creation of odors and other nuisances.

D. All collection vehicles conveying non-putrescible municipal waste shall be capable of being enclosed or covered to prevent roadside litter and other nuisances.

E. All collection vehicles conveying municipal waste shall bear signs identifying the name and business address of the person or municipality which owns the vehicle and the specific type of municipal waste transported by the vehicle. All such signs shall have lettering which is at least six inches (6") in height as required by Act 101.

F. All collection vehicles and equipment used by County Registered Haulers shall be subject to inspection by the County or its authorized agents at any reasonable hour without prior notification

SECTION 9 – REGISTRATION REQUIREMENTS

1. No person shall collect, remove, haul, or transport any municipal waste through or upon the streets of any municipality within Cambria County without first obtaining a registration from the County in accordance with the provisions of this Ordinance.

2. Any person who desires to collect, haul, or transport municipal waste within Cambria County shall submit a registrations application to the Clerk. The County shall have a minimum period of thirty (30) calendar days to review any registration application and take approval or denial action.

3. There shall be no fee required to obtain a registration, however the hauler shall bear all costs associated with submitting the application and in meeting all the requirements of this ordinance. All registrations are non-transferable and shall be issued for a period of one (1) calendar year.

4. The registration application form supplied by the County shall set forth the minimum information required to establish the applicant's qualifications for a registration to collect and transport municipal waste including but not necessarily limited to the following:

A. Name and mailing address of the applicant;

B. Name and telephone number of contact person;

C. List of all collection vehicles to be covered under the registration including identification information for each vehicle, such vehicle license number, and company identification number;

D. Type of municipal waste collected and transported;

E. The municipality or municipalities served by the applicant;

F. Certificates of insurance to present evidence that the applicant has valid liability, automobile, and workers' compensation insurance in the minimum amounts established and required by the County and;

G A copy of applicants Pennsylvania Waste Transportation Authorization. If such Authorization is not required for said applicant pursuant to Act 90, the applicant shall provide documentation and an explanation of exemption.

5. Upon the applicant meeting the requirements for a registration as set forth herein,

the Clerk shall issue a registration to such applicant.

6. Upon issuance of a registration to a County Registered Hauler, the Clerk shall issue a a certificate of registration. The registered hauler shall display the certificate when requested.

7. Any hauler with an existing registration shall submit a new registration application to the County at least sixty (60) days prior to the expiration date of the existing registration, if renewal of the registration is desired. New registration applicants must submit a registration application at least thirty (30) days before beginning collecting and transporting municipal waste in Cambria County.

7. No new registration or registration renewal shall be approved and issued to any person who fails to satisfy the minimum standards and requirements of this Ordinance or is in violation of the provisions of this Ordinance.

SECTION 10 – EXEMPTIONS

1. Municipalities and municipally owned vehicles participating in municipal sponsored clean-ups of illegal dumps and/or litter shall not be subject to the provisions of this ordinance during the time that such vehicles or municipalities are engaged in those municipally sponsored clean-up activities.

2. The transportation of less than 1000 lbs of municipal waste by an individual as part of a non-commercial activity occasionally occurring at/from an individual's

own single family residence shall not be subject to the provisions of this ordinance provided the waste is disposed of properly at a designated facility.

SECTION 11 – REPORTING REQUIREMENTS

1. All County Registered Haulers shall promptly report any significant changes in the collection vehicles or equipment covered under the registration and insurance coverage changes to the County.

2. All County Registered Haulers shall maintain current, up-to-date records of the customers serviced within Cambria County. Such records and customer lists shall be subject to inspection and made available to the County or its authorized agents upon request.

3. Each County Registered Hauler shall prepare and submit on forms provide by the County, a typewritten or legibly printed quarterly report to the County. The report shall be submitted on or before the last day of the following months for the previous quarter: April, July, October and January. At a minimum the following information shall be included in each quarterly report;

A. The total weight in tons of each type of municipal waste and recyclables collected from all sources located in Cambria County by municipality during each reporting period;
B. The name of each disposal facility, processing facility and/or material recovery facility or end market the hauler used during the reporting period and the total weight of each type of municipal waste and/or recyclable delivered to each facility during the reporting period;
C. The name of each municipality in Cambria County in which the hauler collected municipal waste and/or recyclables from any source during the reporting period.

SECTION 12 – PENALTIES

1. Any person who violates any provision of this Ordinance shall be guilty of a summary offense, which is punishable, upon conviction, by a fine of not more than $300.00 or by imprisonment for a period of not more than thirty (30) days or both. Each day of violation and each incident shall be considered as a separate and distinct offense punishable under the provisions of this ordinance.

2. The County shall have the right, at any time to suspend or revoke the registration of any County registered Hauler for any of the following causes:

A. Falsification or misrepresentation of any statement in any registration application;

B. Lapse or cancellation of any required insurance coverages;

C. Collection and/or transportation of any municipal waste in a careless or negligent manner or any other manner that is not in compliance with the requirements of this Ordinance;

D. Transportation and disposal of any municipal waste collected within the County at any site other than the designated disposal facilities that have disposal agreements with the County; and

E. Violation of any part of this Ordinance, any other applicable County Ordinances, or any applicable Pennsylvania laws or regulations.

SECTION 13 – EXISTING CONTRACTS

1. Nothing in this Ordinance shall be construed to impair the obligations of existing contracts.

2. No renewal or modification of any existing contract or no new contract of any hauler for the storage, collection, transportation, processing, or disposal of municipal waste shall be entered into after the effective date of this Ordinance unless such renewal, modification, or new contract conforms to the requirements of the Plan.

SECTION 14 – INJUNCTIVE POWERS

Without limiting any other rights and remedies of the County as provided by law, the County may petition the Court of Common Pleas of Cambria County, Pennsylvania, for an injunction, either mandatory or prohibitive, in order to enforce any of the provisions of this Ordinance.

SECTION 15- SEVERABILITY

In the event that any section, paragraph, sentence, clause, or phrase of this Ordinance, or any part thereof, shall be declared illegal, invalid, or unconstitutional for any reason, the remaining provisions of this Ordinance shall not be affected, impaired, or invalidated by such action.

SECTION 16 – CONFLICT

This Ordinance is meant to specifically repeal Ordinance No. 2004-02 dated April 30, 2004. Additionally, any other Ordinances or any part of any Ordinance which conflict with this Ordinance are hereby repealed insofar as the same is specifically inconsistent with this Ordinance.

SECTION 17 – EFFECTIVE DATE

This Ordinance shall take effect on____, 2012.

ORDAINED AND ENACTED into an Ordinance this _____,2012.

ATTEST:

COUNTY OF CAMBRIA
BOARD OF COUNTY COMMISSIONERS

_____
David Knepper, Chief Clerk

_____
Douglas Lengenfelder, President

[SEAL]

_____
Mark Wissinger, Commissioner

_____
Thomas Chernisky, Commissioner

CAMBRIA COUNTY RESOLUTION

MUNICIPAL WASTE HAULING REGISTRATION

WHEREAS, Cambria County is authorized under PA Act 101, Section 303(e), to require that all municipal wastes generated within its boundaries shall be disposed at disposal facilities that are contained in the County's approved Municipal Waste Management Plan, as long as such facilities are permitted by PA DEP; and

WHEREAS, part of this authorization allows the County to require all persons (including municipal and private operators) to obtain registration to collect and transport municipal waste to be delivered to a municipal waste disposal facility designated in the County's Municipal Waste Management Plan, Section 303(a)(1); and

WHEREAS, pursuant to such authorization, the Commissioners of Cambria County have adopted Ordinance No._____, and in implementation thereof, have resolved as hereinafter provided.

NOW, THEREFORE, BE IT RESOLVED, by the Commissioners of Cambria County, that all public and private municipal waste haulers be registered to operate within Cambria County.

FURTHERMORE, this registration shall direct each municipal waste hauler to specific municipal waste disposal sites as indicated: _____ ; and

FURTHERMORE, prior to the collection and transportation of municipal waste from any local municipality (City, Borough, or Township) within Cambria County, the hauler of such municipal waste must secure a registration from the Cambria County Solid Waste Authority; and

FURTHERMORE, such municipal waste hauling registration shall be made available at the Office of the Cambria County Solid Waste Authority; and

FURTHERMORE, failure to secure such registration prior to the initiation of municipal waste hauling will be a violation of PA Act 101 and other relevant laws thereby subjecting the hauler to the penalties of such laws; and

FURTHERMORE, it shall be the duty and responsibility of each municipality within Cambria County to require the presentation of said registration by any public or private municipal waste hauler prior to contracting with any household within that municipality for the hauling of municipal waste; and

FURTHERMORE, this registration shall not apply to the hauling of waste material designated by the municipality for recycling.

ADOPTED as a Resolution by the County of Cambria, Pennsylvania, this _____, 2012.

ATTEST:

COUNTY OF CAMBRIA
BOARD OF COUNTY COMMISSIONERS

_____
David Knepper, Chief Clerk

_____
Douglas Lengenfelder, President

[SEAL]

_____
Mark Wissinger, Commissioner

_____
Thomas Chernisky, Commissioner

APPENDIX B

MUNICIPAL WASTE HAULING REGISTRATION APPLICATION, REPORTING FORMS, AND STANDARDS FOR SOLID WASTE VEHICLE

This page intentionally left blank.

2013
CAMBRIA COUNTY
MUNICIPAL WASTE HAULING REGISTRATION

It is hereby acknowledged that _____
(waste hauler)

has been issued a County Municipal Waste Hauling Registration for the collection and transportation of municipal solid waste within the County of Cambria, Pennsylvania. It is understood that this registration is valid for calendar year 2013 and is issued with the following stipulations:

1. This registration shall be applicable to the hauling of municipal solid waste;
2. This registration must be presented to each municipality within Cambria County in which the hauler collects and transports municipal solid waste;
3. All municipal solid waste collected from municipalities within Cambria County must be properly transported and disposed at one of the following PA DEP permitted landfills:

    1. **Laurel Highlands Landfill**
       Jackson Township, Cambria County

    2. **Shade Landfill**
       Shade Township, Somerset County

    3. **Southern Alleghenies, Inc.**
       Conemaugh Township, Somerset County

    4. **Superior Greentree Landfill**
       Kersey, PA Elk County

    5. **WSI Mostoller Landfill**
       Somerset, PA Somerset County

    6. **Evergreen Landfill**
       Coral, PA Indiania County

    7. **or any other facility as permitted by the Cambria County Solid Waste Management Plan**

4. Disposal of Cambria County municipal solid waste at any other disposal facility is a violation of the County's Municipal Solid Waste Hauling Ordinance and PA Act 101, and the hauler shall be subject to all applicable penalties of said laws. However, disposal contracts that existed prior to the effective date of the County's Municipal Waste Hauling Ordinance are exempt until such original contracts expire;
5. The hauler agrees to collect, transport, and dispose of municipal solid waste in accordance with all applicable PA DEP rules and regulations;
6. The hauler agrees to furnish to the County the phone number and hours during which the hauler may be contacted, as well as his current list of customers;
7. The hauler agrees to move all loaded transport vehicles to disposal destinations within a 24-hour period;
8. The hauler agrees to use transportation vehicles that are constructed so as to be leak-proof, fireproof, easily cleaned, prevent littering, prevent intrusion by vectors, and control odors;
9. The hauler agrees to maintain adequate operational records including reports of daily quantities of municipal waste transported, disposal destinations, and dumping receipts. Such records shall be accessible by the County during hauler's regular office hours (see sample form);

Any violations of the above listed stipulations shall be cause for the County of Cambria to nullify and rescind this registration.

NAME OF HAULER: _____ **COUNTY OF CAMBRIA**

BY: _____ **BY:**

_____
(Chief Executive Officer)

DATE: _____ **DATE:** _____

(County Seal)

PHONE NO: _____

INSURANCE INFORMATION

Insurance Company _____

Company Address _____

City _____ State _____ Zip _____

Evidence of Insurance Coverage:
-- Include current appropriate certificates for each of the following:

Personal Injury Liability $ _____.
(A minimum of $100,000 coverage is required for each liability category.)

Property Damage Liability $ _____.
(A minimum of $100,000 coverage is required for each liability category or a combined single limits policy must be at least $100,000.)

Workers Compensation for _____ employees.

(Workers Compensation is required for all workers except legal partners. They must have at least the minimum amount required by the State of PA.)

Check which of these describes your hauling operation.

_____ Sole proprietorship
_____ Partnership (include a copy of partnership agreement)
_____ Corporation (include Articles of Incorporation)
_____ Municipal Government

EMPLOYEE INFORMATION

List the number of each of the following

Employees _____ (Both full and part-time workers must be listed.) All workers must have worker's compensation insurance unless they are:

1. subcontractors
2. partners

Subcontractors _____ (These workers must be certified by the Bureau of Workers Compensation as subcontracted workers and proof must be provided with this document.)

COLLECTION INFORMATION

List the number of customers you have in Cambria County

Residential _____
Commercial _____
Institutional _____
Industrial _____
Multi-Family _____

2013
CAMBRIA COUNTY
SOLID WASTE TRANSPORTATION VEHICLE REGISTRATION APPLICATION

Hauler/Company Name _____

Total Number of Solid Waste Vehicles Operated _____

Address _____

City _____ State _____ Zip Code _____

Contact _____ Signature _____

Title _____ Phone Number _____ Fax _____

PA Act 90 Authorization Number _____

From January 1, 2013 to December 31, 2013

Truck # _____ Capacity: _____ Yards or _____ Tons

PA License # _____ Year _____ Make _____ Body Style _____

Truck # _____ Capacity: _____ Yards or _____ Tons

PA License # _____ Year _____ Make _____ Body Style _____

Truck # _____ Capacity: _____ Yards or _____ Tons

PA License # _____ Year _____ Make _____ Body Style _____

Truck # _____ Capacity: _____ Yards or _____ Tons

PA License # _____ Year _____ Make _____ Body Style _____

List each municipality served by applicant:

_____ _____

_____ _____

_____ _____

Check types of waste and list by type the weight of waste collected in Cambria County during the previous calendar year:

☐ Municipal Waste (Residential & Commercial) _____ Tons

☐ Infectious/Chemo Waste _____ Tons

☐ Sewage Sludge _____ Tons

☐ Recyclable Materials _____ Tons

☐ Construction/Demolition Waste _____ Tons

☐ Asbestos Waste _____ Tons

☐ Residential Waste _____ Tons

ANNUAL TOTAL TRANSPORTED _____ Tons

List the disposal and recycling facilities receiving the above listed waste.

_____ _____

_____ _____

_____ _____

Note: Attach additional forms where necessary.

SOLID WASTE TRANSPORTATION VEHICLES
MONTHLY REPORT FORMS
INSTRUCTIONS

Attached are copies of two different forms. The forms are the Solid Waste Operational Report and the Solid Waste Operational Report Summary.

Solid Waste Operational Report

The Solid Waste Operational Report is intended to be a monthly record for the daily operation of each solid waste transportation vehicle. Every vehicle used to transport waste in Cambria County must maintain daily records listing the source of the waste, the volume handled, the type of waste, and the name of the facility at which the waste was disposed. These reports are to be kept in your office for at least one (1) year. It is your responsibility to document the daily loads of each municipal waste vehicle. If you wish to continue the use of this form, it will be your responsibility to have a sufficient number of copies duplicated for each of your vehicles for each month of the year. If you are currently using or developing a report system which includes the information specified above, you may use that system. These forms should not be sent to this office.

Solid Waste Operational Report Summary

The Solid Waste Operational Report Summary forms are intended to be a quarterly report of the total amount of waste collected by municipality by your company. The amount, source, disposal site, and type of waste should be recorded on the appropriate form.

The Solid Waste Operational Report Summary forms must be completed and submitted to the address listed below by the 15th day of the month following the end of each quarter. For example, the first quarter ends on March 31, 2013; therefore, your form must be submitted by April 15, 2013.

These report forms should be submitted to the following address:

Cambria County Solid Waste Management Authority
PO Box 445
Ebensburg, Pennsylvania 15931

CAMBRIA COUNTY
SOLID WASTE HAULER OPERATIONAL SUMMARY
QUARTERLY REPORT

Hauler:
Permit Number:
Quarter: 1 2 3 4 (Please circle correct quarter.)
Year: 2013

Municipality	Type of Waste*	Weight ** (Total Tons)	Disposal*** Facility

Note:
*If something other than municipal waste is collected, please list each separately.
**Total tonnage for this quarter per municipality.
***Please note name of landfill. If more than one landfill is used, list each individually.
Attach additional forms if necessary.

CAMBRIA COUNTY
SOLID WASTE HAULER OPERATIONAL REPORT

HAULER: _____ TRUCK NO.: _____

PERMIT NO.: _____ MONTH: _____ YEAR: 2013

DATE	TYPE OF WASTE	WEIGHT (TONS)	SOURCE (MUNICIPALITY)	DISPOSAL FACILITY

DIRECTIONS:

TYPE OF WASTE - specify waste type e.g. municipal (M), residual(R), demolition(D), infectious(I), chemotherapeutic(C), asbestos(A), sewage sludge(S).
SOURCE - show the municipality, Sewage Treatment Plant, Water Treatment Plant, contractor, or other identifiable origin of the waste.
DISPOSAL FACILITY - the landfill, recycling facility, incinerator, transfer station, etc. where you delivered the waste.

CAMBRIA COUNTY
SOLID WASTE MANAGEMENT AUTHORITY
STANDARDS FOR SOLID WASTE VEHICLES

1. Every vehicle used for the transportation of waste shall be owned and/or operated under the supervision of a person holding an unrevoked operating permit to transport waste.

2. Every vehicle used for the transportation of waste shall have a hauling body constructed of metal, or shall have a metal lining on floor and all side walls.

3. All joints in the hauling body shall be effectively closed and smooth so that no dripping or leakage of draining water or liquid or any debris can occur; and also to facilitate cleaning.

4. Every vehicle shall be provided with a means of covering the waste to be hauled, and of keeping such waste securely within the hauling body.

    a. The hauling body shall be provided with a tight metal hood having adequate openings fitted with smoothly operating loading and unloading doors, or shall be provided with heavy tarpaulin or other canvas cover fitted with proper eyes, grommets and tie ropes and hooks whereby the cover can be held securely over the loaded refuse in a manner acceptable to the Cambria County Solid Waste Management Authority.

5. Every vehicle shall be kept well painted, clean, and in good repair.

6. Every vehicle shall be cleaned daily to arrest odors, and to eliminate breeding places for insects.

7. Every vehicle used for hauling garbage shall be cleaned and sanitized before being used for any other purpose.

8. Every vehicle used for transporting waste shall carry a legend on the side wall of the hauling body. Permittee's name and address shall be included in legend in letters not less than 6 inches in height.

9. No vehicle without permanent cover shall be loaded with waste matter to a level above the side wall height.

10. No vehicle shall be loaded with municipal waste in a manner which will permit material to swing off, fall out, or jar loose and fall to the ground while in motion.

11. Loose paper, trash, and other waste matters shall be secured against any wind dispersal, jiggling, or jarring which will allow such material to blow or fall out of the vehicle.

12. Whenever vehicles are to be used for the transportation of containers holding waste matter, the container so carried shall meet certain requirements for containers.

    a. Container becomes the hauling body of the vehicle; thus the container will follow the rules and regulations pertaining to hauling bodies.

    b. Hauling trash barrels, containers, etc.: container shall be safely secured to vehicle and be covered so waste matter is not able to escape from container.

APPENDIX C

DISPOSAL CAPACITY AGREEMENT

This page intentionally left blank.

MUNICIPAL WASTE DISPOSAL CAPACITY AGREEMENT

COUNTY OF CAMBRIA

THIS MUNICIPAL WASTE DISPOSAL CAPACITY AGREEMENT (Agreement) made this ____ day of _____, 2012, by and between the COUNTY OF CAMBRIA, a political subdivision of the Commonwealth of Pennsylvania (County), and Facility Name _____(Operator).

BACKGROUND

The Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101) requires the County, as part of its Municipal Waste Management Plan, to provide capacity assurance for the disposal of all municipal waste expected to be generated within the County for a period of at least ten (10) years. To meet its obligation, the County issued a Facility Qualification Request (FQR) to solicit responses from interested parties to provide capacity for all or a portion of municipal waste generated in Cambria County for up to ten (10) years. The Operator responded to the FQR, met the qualification requirements, and the Operator's proposal was accepted by the County Board of Commissioners. This Agreement provides the terms and conditions under which the Operator will provide disposal capacity and services for the benefit of the County.

NOW, THEREFORE, in consideration of the mutual promises contained herein and with intent to be legally bound, the parties hereby agree as follows:

Article 1. GENERAL DEFINITIONS AND TERMS

1.1 DEFINITIONS

Unless the context clearly indicates otherwise, the following words and terms, as used in this Agreement, shall have the following meanings:

Acceptable Waste. Municipal waste and all other wastes the facility is permitted to accept under applicable laws and regulations.

Act 101. The Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act of 1988.

Agreement. The Municipal Waste Disposal Capacity Agreement between the County and the Operator, as amended, supplemented or extended and the FQR and other submittals of Operator.

Alternative Facility. Any duly licensed or permitted facility designated by the Operator to accept County-generated acceptable wastes during temporary or protracted cessation of operation at the facility.

Commercial Establishment. An establishment engaged in non-manufacturing or non-processing business, including, but not limited to, stores, markets, office buildings, restaurants, shopping centers and theaters.

Construction/Demolition Waste. Solid waste resulting from the construction or demolition of buildings and other structures, including, but not limited to, wood, plaster, metals, asphaltic

substances, bricks, block and unsegregated concrete. The term also includes dredging waste. The term does not include the following if they are separate from other waste and are used as clean fill: (i) uncontaminated soil, rock, stone, gravel, unused brick and block and concrete; and (ii) waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material.

County. The County of Cambria, Commonwealth of Pennsylvania, solely and acting through its designated agent, the Cambria County Solid Waste Management Authority.

Department or DEP. The Pennsylvania Department of Environmental Protection (DEP).

Facility. Disposal facilities that are fully permitted and licensed for the disposition of municipal waste (as defined herein).

Hazardous Waste. A solid waste or combination of solid wastes which, because of its quantity, concentration or physical, chemical or infectious characteristics may: (1) cause or significantly contribute to an increase in mortality or an increase in morbidity in either an individual or the total population; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed or otherwise managed; or (3) is otherwise defined as hazardous by any federal or state statute or regulation.

Industrial Establishment. An establishment engaged in manufacturing and industrial processes, including, but not limited to, those carried out in factories, foundries, mills, processing plants, refineries, mines and slaughter houses.

Institutional Establishment. An establishment engaged in service, including, but not limited to, public buildings, hospitals (non-infectious waste only), nursing homes, orphanages, schools and universities.

Leaf Waste. Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings.

Waste Hauler. Any person collecting and/or transporting County-generated municipal waste to the County designated disposal facility or another fully permitted facility.

Municipal Waste. Garbage, refuse, industrial lunchroom or office waste and other material, including solid, liquid, semi-solid or contained gaseous material, resulting from operation of residential, municipal, commercial or institutional establishments or from community activities; and any sludge not meeting the definition of residual or hazardous waste from a municipal, commercial or institutional water supply treatment plant, wastewater treatment plant or air pollution control facility. Municipal waste includes, as per Commonwealth law, construction/demolition waste, municipal sludges, asbestos, infectious/chemotherapeutic waste and incinerator ash residue. The term does not include source separated recyclable materials or material approved by DEP for beneficial use.

Municipality. Any city, borough, incorporated town, township or county or any municipal authority created by any of the foregoing.

Operator. Facility Name _____, or any permitted successors, assigns, or affiliates.

Operator's Facility. The Operator's permitted facility located in Municipality/ties, Name of County, Pennsylvania.

Parent. Any corporation, now or at any time or times hereafter, owning or controlling (alone or with any other person or entity) at least a majority of the issued and outstanding capital stock of the Operator.

Permit. A permit issued by DEP, or a permit and/or license issued by a state and/or local regulatory agency, as required, to operate a municipal waste disposal or processing facility.

Person. Any individual, corporation, partnership, joint venture, association, joint-stock company, trust, unincorporated organization, or government or any agency or political subdivision thereof.

Plan. The County Municipal Waste Management Plan approved pursuant to Act 101.

Registered Waste Hauler. Any Person collecting and/or transporting County-generated municipal waste pursuant to a registration or other authorization from the County.

Residual Waste. Any garbage, refuse, other discarded material or other waste, including solid, liquid, semi-solid or contained gaseous material resulting from industrial, mining and agricultural operations; and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous or otherwise defined by State or federal law.

Resource Recovery Facility. A facility that provides for the extraction and utilization of materials or energy from municipal waste that is generated off-site, including, but not limited to, a facility that mechanically extracts materials from municipal waste, a combustion facility that converts the organic fraction of municipal waste to usable energy and any chemical or biological process that converts municipal waste into a fuel product or other usable material. The term does not include methane gas extraction from a municipal waste landfill, nor any separation and collection center, drop-off point or collection center for recycling municipal waste, or any source separation or collection center for composting leaf waste.

Tipping Fee. The schedule of fees established by the owner or operator of a facility for accepting various types of solid waste for processing or disposal.

Ton. Two thousand (2,000) pounds.

Transfer Station. A facility which receives and processes or temporarily stores municipal or residual waste at a location other than the generation site, and which facilitates the transportation or transfer of municipal or residual waste to a processing or disposal facility. The term includes a facility that uses a method or technology to convert part or all of the waste materials for offsite reuse. The term does not include a collecting or processing center that is only for source separated recyclable materials, including clear glass, colored glass, aluminum, steel and bimetallic cans, high grade office paper, newsprint, corrugated paper and plastics.

Unacceptable Waste. Any material that by reason of its composition, characteristics or quality, is ineligible for disposal at the landfill pursuant to the provisions of the Resource Conservation and Recovery Act of 1976, 42 U.S.C. §2605(e), the Pennsylvania Solid Waste Management Act, 35 P.S. §6018.101 et seq., or other applicable federal, state or local law, or any other material that the Operator concludes would require special handling or present an endangerment to the landfill, the public health or safety, or the environment.

1.2 OTHER WORDS, TERMS, PHRASES

Except as otherwise defined in this Agreement, all words, terms and/or phrases used herein shall be defined by the applicable definition therefore, if any, in Act 101 or the Pennsylvania Solid Waste Management Act or the regulations promulgated there under.

Article 2. REPRESENTATIONS

2.1 REPRESENTATIONS OF COUNTY

The County represents and warrants that:

(a) It is a political subdivision of the Commonwealth of Pennsylvania, acting by and through its duly authorized officials, and is duly authorized to carry on the governmental functions and operations contemplated by this Agreement and each other agreement or instrument entered into or to be entered into by the County or the municipalities within the boundaries of the County, pursuant to this Agreement.

(b) It has the full power, authority and legal right to enter into and perform this Agreement and all other agreements or instruments which it may enter into under any provision of this Agreement.

(c) This Agreement and each other agreement or instrument entered into by the County pursuant to this Agreement, when entered into, will have been duly authorized, executed and delivered by the County and will constitute a legal, valid and binding obligation of the County.

(d) There is no action or proceeding before any court or administrative agency pending or, to the knowledge of the County, threatened against or adversely affecting the ability of the County to perform its obligations hereunder.

2.2 REPRESENTATIONS OF OPERATOR

The Operator represents and warrants to the County that:

(a) It is the owner and operator of the Operator's Facility and is permitted as such by DEP or the appropriate state regulatory agency.

(b) It is a corporation duly organized and existing in good standing under the laws of Pennsylvania and has the corporate power and authority to enter into and perform its obligations under this Agreement and each other agreement or instrument entered into or to be entered into under any provision of this Agreement.

(c) It has the full power and legal right to enter into and perform this Agreement and all other agreements or instruments which it may enter into under any provision of this Agreement.

(d) This Agreement and each other agreement or instrument entered into pursuant to this Agreement, when entered into, will have been duly authorized, executed by and delivered by the Operator, and will constitute a legal, valid and binding obligation.

(e) The execution, delivery and performance hereof by the Operator: (i) has the requisite approval of all governmental bodies; (ii) will not violate any judgment, order, law or regulation applicable to the Operator; and (iii) does not (a) conflict with, (b) constitute a default under, or (c) except as specifically created hereby, result in the creation of any lien, charge, encumbrance or

security interest upon any assets of the Operator under any agreement or instrument to which the Operator is party or by which the Operator or its assets may be bound or affected.

(f) This Agreement has been duly authorized, executed and delivered by the Operator, and constitutes a legal, valid and binding obligation of the Operator, enforceable in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the enforcement of creditor's rights generally, or by general equitable principles concerning remedies.

(g) There is no litigation or proceeding pending or, to the knowledge of the Operator, threatened against or affecting the Operator: (i) challenging the validity of this Agreement; (ii) seeking to enjoin the performance by the Operator of its obligations under this Agreement; or (iii) which, if adversely determined, would materially adversely affect the ability of the Operator to perform its obligation under this Agreement.

(h) Except as disclosed on Exhibit A, the Submittal Form for Municipal Solid Waste Disposal Services contained in the County's Facility Qualification Request, attached hereto and incorporated herein by reference, the Operator is not a subsidiary of any parent.

2.3 PARENT GUARANTEE

If and to the extent that the Operator is a subsidiary of a parent, the Operator agrees to cause such parent to execute and deliver to the County a guarantee of the obligations of the Operator under this Agreement in a form reasonably satisfactory to the County.

2.4 DESIGNATION AS DISPOSAL FACILITY

In consideration of the Operator's Covenants and this Agreement, the County hereby agrees to include the Operator's Facility in its Plan as a designated disposal facility for municipal waste generated in the County. The Operator acknowledges that this Agreement is nonexclusive and the County may enter into agreements with other facilities to perform the same work and services that the Operator is contracted to perform hereunder. Nothing contained in this Agreement is meant to imply or explicitly intend to create a "put or pay" (as that phrase has generally been understood in the solid waste disposal industry) or similarly obligatory relationship between the County and the Operator and at no time during the term of this Agreement shall the County be obligated to deliver and dispose of acceptable waste at the Operator's Facility.

Article 3. DELIVERY AND DISPOSAL OF ACCEPTABLE WASTE

3.1 DELIVERY AND DISPOSAL OF ACCEPTABLE WASTE

On and after the effective date of this Agreement and pursuant to the capacity reservations specified in Exhibit A:

(a) The County may, at its option cause, to be delivered to the Operator's Facility during the receiving times all, part or none of the acceptable waste generated in the County.

(b) The County or any waste hauler shall notify the Operator that it intends to exercise its right to deliver acceptable waste to the Operator's Facility prior to commencing the delivery of such wastes.

(c) The Operator shall provide disposal capacity as may be needed by the County for all acceptable waste generated within the geographic boundaries of the County and that the County may cause to be delivered to the Operator's Facility. This shall include delivery of acceptable waste on an occasional basis by individual County residents in small vehicles. The Operator and the County shall from time to time agree upon reasonable regulations and charges for such disposal, which will include all applicable fees.

3.2 County Registered Waste Haulers

The County will register haulers responsible for delivering acceptable waste to the Operator's Facility, and will provide the Operator with a current list of registered waste haulers for the purposes of this Agreement. Except as provided in Article 3.1, the Operator shall not accept waste generated in the County unless delivered by a registered waste hauler holding and displaying a registration from the County. The Operator:

(a) can expect registered waste haulers to comply with the notice requirement in Article 3.1.

(b) agrees that it is reasonable to expect that, on average, registered waste haulers will not be required to wait more than twenty (20) minutes at the Operator's Facility before being able to unload.

(c) shall not give preference to vehicles owned or operated by the Operator or its affiliates or by any other person.

3.3 Release from Commitment

The Operator may at any time request that the County release it from its commitment to provide all or part of the reserved capacity required by Article 3.1 and specified in Exhibit A. Such request shall be in writing and shall set forth the basis for the request. The County shall in good faith review the Operator's request, based on the County's ability to ensure sufficient disposal capacity for municipal waste estimated to be generated during that particular calendar year, and make a determination within ten (10) business days of receipt of the request. If the request does not jeopardize the County's ability to ensure sufficient disposal capacity, it shall grant the Operator's request. The County's decision shall be in writing and delivered to the Operator.

The Operator may dispute the County's decision by giving the County a written request for resolution of dispute within ten (10) working days of receipt of the decision. The dispute resolution shall be conducted in accordance with the provisions and rules under which the Court of Common Pleas of Cambria County, Pennsylvania operates. The sole issue to be arbitrated is whether the requested release can be granted without jeopardizing the ability of the County to ensure sufficient disposal capacity for municipal waste generated in the County for that year. Any decision of the arbitrator shall be final and binding on both parties. During resolution of any dispute, the Operator and the County shall each continue to perform all of their respective obligations under this Agreement without interruption or slowdown.

Article 4. CONDITIONS FOR THE DELIVERY AND DISPOSAL OF WASTE

4.1 CONTROL PROCEDURES/WEIGHING OF WASTE DELIVERIES

(a) The Operator shall be required to maintain a scale that conforms to the Weights and Measurement Act of 1965, 73 P.S. §1651-1692, to weigh all incoming waste. If the Operator's Facility is located in-County, vehicles of all waste haulers delivering waste to the Operator's Facility shall be weighed and their waste loads classified, and each vehicle shall receive an appropriate record indicating the classification, origin, and weight of all waste prior to disposal at the Operator's Facility. If the Operator's Facility is located out-of-County, vehicles of Cambria County waste haulers delivering municipal waste from Cambria County sources to the Operator's Facility shall be weighed and their waste loads classified, and each vehicle shall receive an appropriate record indicating the classification, origin, and weight of all waste prior to disposal at the Operator's Facility.

(b) If at any time testing of the weighing facilities indicates that the weights are inaccurate, any adjustments of waste delivery receipts shall revert to the date the last verified scale weights were recorded by the appropriate certification agency. The County or a waste hauler may at all times have access to the scale accuracy records of the Operator. If the scale is inoperable for any reason, the waste haulers may use another certified scale of their choice, or the Operator may direct vehicles to another certified scale closest to the Operator's Facility. If none are available, estimated weights based on historic data pertinent to the affected waste haulers shall take the place of actual weighing during the scale outage. The Operator shall make disposal invoices for the preceding month, on a monthly basis, available to the waste haulers, and the Operator shall use this information to invoice the waste haulers for disposal at the Operator's Facility.

4.2 RECEIVING TIME/HOURS OF OPERATION

(a) The Operator's Facility shall be available to receive waste during the receiving times specified in Exhibit A, attached hereto and incorporated herein by reference.

(b) If the County or a waste hauler requests and the Operator agrees, a waste hauler may deliver waste at times in addition to the specified receiving times at a cost which may exceed the fees herein as mutually agreed upon by such waste hauler and the Operator.

(c) Upon request by the County, the Operator shall use reasonable efforts to accept deliveries of waste at times other than the receiving times upon seven (7) days prior written notice or, in the event of a natural disaster or other emergency condition, such shorter notice as may be practicable.

4.3 RIGHT TO REFUSE DELIVERY

(a) Except as noted in Article 4.2, the Operator may refuse waste delivered at hours other than the specified receiving times.

(b) The Operator shall have the right and discretion to inspect any load entering the Operator's Facility and may refuse: (i) waste for which specific Regulatory Agency approval is required when approval has not been obtained prior to delivery; (ii) loads containing significant amounts of hazardous waste; or (iii) loads containing significant amounts of unacceptable waste. The Operator may refuse delivery of the entire load or only the portion that contains the unacceptable materials.

The Operator shall notify waste haulers prior to initial waste delivery of the Operator's waste monitoring program and expected procedures and responsibilities under such program.

(c) The Operator's Facility may not reject a load of acceptable waste from the County for any reason except those listed in Article 4.3 (a) and (b). Reaching the average daily permitted capacity may not be used as a basis for rejecting County-generated loads of acceptable waste.

4.4 COMPLAINTS

The Operator shall receive and respond to all complaints from waste haulers regarding the acceptance of waste materials at the Operator's Facility. Any complaints received by the County will be directed to the Operator. In the event the Operator cannot satisfactorily resolve a complaint within five (5) working days after the complaint, the County shall have the right to demand a written explanation or satisfactory resolution of the complaint pursuant to the breach of Agreement provisions herein.

4.5 TITLE TO MUNICIPAL WASTE

Except in the case where hazardous or unacceptable wastes are delivered to the Operator's Facility, title to the municipal waste and any benefits of marketing materials or energy recovery shall pass to the Operator upon delivery to the Operator's Facility and acceptance of waste by the Operator.

4.6 PERMITS

The Operator shall be responsible for obtaining any and all permits necessary for the construction and operation of the Operator's Facility required to comply with the terms and conditions of this Agreement, and any and all costs or expenses of obtaining such permits. Failure to obtain and maintain permits shall constitute default on this Agreement.

Article 5. RECORDKEEPING AND REPORTING REQUIREMENTS

The Operator shall establish and maintain a system to provide storage and ready retrieval of the Operator's Facility operating data pertinent to this Agreement, including, but not limited to, all information necessary to verify calculations made pursuant to its fee schedule.

5.1 BASIC REPORTING REQUIREMENTS

(a) In-County Operators shall provide the County with quarterly reports of all types of waste delivered to the Operator's Facility and Out-of-County Operators shall provide the County with quarterly reports of all types of waste generated from Cambria County sources delivered to the Operator's Facility. This report should include the totals by month for each type of waste. To the extent that reports required to be submitted to DEP or any other regulatory agency contain the information required by the County, copies of said reports may be submitted to the County to comply with the Operator's reporting requirements.

(b) Along with quarterly report, the Operator should provide: (i) names of waste haulers delivering loads of County-generated wastes; and (ii) a statement that the Operator's permit for the Operator's Facility has not been revoked or suspended, and that the Operator is in substantial compliance with all the terms and conditions of its permit, the provisions of the Solid Waste Management Act, and all applicable federal, state, DEP and County regulations.

5.2 SPECIAL REPORTING REQUIREMENTS

The Operator shall provide written notification to the County of any permit modification applications for the following types of permit changes at the time the application is first submitted to the state or local regulatory agency: (i) changes in permitted site volume or capacity; (ii) changes in permitted average and/or maximum daily waste volume or loading rates; (iii) changes in the permitted acreage; and (iv) changes in ownership.

5.3 ADMINISTRATIVE INSPECTIONS

Upon reasonable notice and during regular business hours, the County and its authorized representatives shall have access to the Operator's records pertaining to the quantities and sources of County-generated municipal waste for the purpose of verifying compliance with the terms and conditions of this Agreement.

Article 6. TIPPING FEES AND OTHER CHARGES

6.1 TIPPING FEES

(a) All waste haulers shall pay at a maximum the rates set forth in Exhibit A for County-generated municipal waste and acceptable waste. The rates shall, as applicable, include the following fees: (i) Act 101 host municipality fee plus any additional fee negotiated by the County or a municipality; (ii) Act 101 recycling fee and growing greener fee; and (iii) Act 101 Environmental Stewardship fee.

(b) The County shall not be responsible for any payment to the Operator of tipping fees incurred by waste haulers. All tipping fees shall be paid directly by the waste haulers that deliver the waste to the Operator's Facility. The Operator shall be responsible for the billing and collection of all tipping fees.

(c) The County shall not be responsible for the failure of any waste hauler, to pay the Operator's tipping fees.

(d) The Operator shall not charge a tipping fee to a Cambria County hauler that exceeds the maximum rates established by this Agreement for each type of waste. Nothing in this Agreement shall prevent or preclude the Operator from negotiating alternate tipping fees with any hauler provided such fees do not exceed the maximum rates under this Agreement.

(e) Unless the County and the Operator mutually agree to an alternate date, all annual rate adjustments shall become effective on January 1st of each year of the Agreement.

(f) The Operator may petition the County at any time for additional rate or fee adjustments on the basis of unforeseen changes in operating costs resulting from any new or revised federal, state or local laws, ordinances, regulations, or permit requirements which were not in effect at the time this Agreement was awarded. The County will evaluate the evidence submitted and will approve reasonable and justifiable cost adjustments.

6.2 RESERVED COUNTY ADMINISTRATION/RECYCLING FEES

In the event that legislation is enacted during the period of this contract authorizing the County to assess fees, surcharges, taxes or similar charges for the administration, operation and/or

implementation of its solid waste and/or recycling programs the County reserves all such rights and privileges to enact and collect such fees from the Operator.

Article 7. INSURANCE

(a) The Operator shall maintain, in full force and effect throughout the term of the Agreement and any renewal or extension thereof, insurance coverage consistent with all current DEP regulations. The County and Operator hereby waive any and every claim for recovery from the other for any and all loss or damage to each other resulting from the performance of this Agreement to the extent such loss or damage is recovered under insurance policies.

(b) The County shall be designated as an additional insured under all required insurance policies and shall be provided with copies and certificates of said insurance policies. Each such insurance policy shall provide the County with a thirty (30) day notice of cancellation.

To the extent not covered by the insurance, the County may pursue from the operator any losses caused as a result of a fault or negligence of the operator.

Article 8. INDEMNIFICATION

8.1 INDEMNIFICATION

The Operator or its successors and assigns shall protect, indemnify and hold harmless the County, its officers, members, employees, agents, contractors and subcontractors, from and against all liabilities, actions, damages, claims, demands, judgments, losses, costs, expenses, suits or actions and attorneys' fees, and shall defend the County indemnified parties in any suit, including appeals, for personal injury to or death of any persons or persons, or loss or damage to property arising out of:

(a) the negligence or willful misconduct, tortious activity, error or omission of Operator or its successors or assigns, or any of its officers, agents, employees, contractors or subcontractors in connection with Operator obligations or rights under this Agreement; and

(b) the construction, operation, closure and post-closure care and maintenance of the Operator's Facility.

The Operator shall not be liable or required to indemnify or reimburse the County or any County indemnified party for any suits, actions, legal proceedings, claims, demands, damages, costs, expenses and other attorney fees arising out of any willful or negligent act, tortious activity, error or omission of the County or County indemnified parties.

8.2 COOPERATION REGARDING CLAIMS

If either the County or the Operator shall receive notice or have knowledge of any claim, demand, action, suit or proceeding that may result in a claim for indemnification by the County against the Operator pursuant to Article 8.1, that party shall so notify the other party and provide pertinent information and documents. Failure to promptly give such notice or to provide such information and documents shall not relieve the Operator of any obligation of indemnification it may have under Article 8.1. The County and the Operator shall consult with each other and cooperate in respect of the response to and the defense of any such claim, demand, action, suit or proceeding and, in the

case of a claim for indemnification pursuant to Article 8.1, the Operator shall, upon acknowledgment in writing of its obligation to indemnify the County, be entitled to cooperate with the County with respect to the defense. With the written consent of the County, the Operator may assume the defense or represent the interests of the County with respect to such claim, demand, action, suit or proceeding which shall include the right to select and direct legal counsel and other consultants, appear in proceedings on behalf of the County and to propose, accept or reject offers of settlement.

Article 9. DISPUTES, DEFAULTS AND REMEDIES

9.1 RESOLUTION OF DISPUTES

In the event any claim, controversy or dispute arises between the County and the Operator, or if any approvals, agreements or concurrences specified herein shall not have been timely given, the Operator and the County shall undertake in good faith to resolve the dispute. If the County and the Operator cannot resolve the dispute, either party shall be limited to the Court of Common Pleas of Cambria County, Pennsylvania, in equity or to law to litigate such disputes.

9.2 EVENTS OF DEFAULT BY COUNTY

The persistent or repeated failure or refusal by the County to perform under this Agreement in accordance with the terms hereof shall constitute an event of default by the County hereunder, unless such failure or refusal shall be excused or justified by a default by the Operator, provided, however, that no such failure or refusal shall constitute an event of default unless and until:

(a) The Operator shall have given written notice to the County stating that in its opinion a particular default or defaults (to be described in reasonable detail in such notice) exists which will, unless corrected, constitute a material breach of this Agreement on the part of the County; and

(b) The County shall have failed to cure such default within thirty (30) days from its receipt of the written notice given pursuant to Article 9.2 (a) above, provided that if the County shall have commenced to take reasonable steps to correct such default within such thirty (30) day period, the County's failure to complete its cure of the indicated default shall not constitute an event of default for as long as the County is continuing to take reasonable steps to cure such default within the earliest practicable time.

9.3 EVENTS OF DEFAULT BY OPERATOR

The Operator shall be considered to be in default of this Agreement for failure to accept acceptable waste from the County or its waste haulers delivered to the Operator's Facility under the terms of this Agreement, or failure to otherwise fulfill its obligations under this Agreement.

9.4 FORCE MAJEURE

Neither the Operator nor the County shall be liable for the failure to perform their duties and obligations under the Agreement or for any resultant damages, loss or expense, if such failure was the result of an act of God, riot, insurrection, war, catastrophe, natural disaster, labor strike or any other cause which was beyond reasonable control of the Operator or the County and which the Operator or County was unable to avoid by exercise of reasonable diligence. Documentation of the

event that caused the Operator to be unable to meet its obligation hereunder must be submitted to the County within ten (10) working days after the occurrence of the event.

9.5 REMEDIES

(a) The County and the Operator agree, except as provided in Article 9.5 (b) and (c) below, in the event of a default by either party under this Agreement, upon the right to recover damages or to be reimbursed for incremental costs associated with waste haulers redirecting loads of municipal waste to alternative facilities.

(b) If, within a period of thirty (30) days after the County shall have given written notice to the Operator that a default has occurred and is continuing, and specifying the nature of the default, the Operator has neither remedied such default, nor undertaken and diligently pursued corrective action, then this Agreement shall terminate immediately upon written notice thereof by the County to the Operator.

(c) If, within a period of thirty (30) days after the Operator shall have given written notice to the County that a default has occurred and is continuing, and specifying the nature of the default, the County has neither remedied such default, nor undertaken and diligently pursued corrective action, then this Agreement shall terminate immediately upon written notice thereof by the Operator to the County. However, written notice of termination by the County, to the operator, may be given at any time, during this agreement with or without default by the operator.

9.6 WAIVERS

A waiver by either the County or Operator of any default of any provisions of the Agreement shall not be taken or held to be a waiver of any succeeding default of such provisions or as a waiver of any provision itself. No payment or acceptance of compensation for any period subsequent to any default shall be deemed a waiver of any right or acceptance of defective performance. To be effective a waiver must be in writing and signed by the party granting such waiver.

Article 10. TERM AND TERMINATION

10.1 EFFECTIVE DATE

This Agreement shall become effective on _____, 2012. The Operator shall begin to accept waste deliveries from County sources under the terms and conditions of this Agreement on this date.

10.2 TERM OF AGREEMENT

The term of this Agreement shall commence on the effective date, and shall continue in effect for five (5) years, including thereafter five (5) one year optional renewal terms, the aggregate term of this Agreement being ten (10) years. After the initial five (5) years, this Agreement will be automatically renewed annually unless the County provides, in writing, ninety (90) days written notice. The Agreement may be extended or modified by mutual consent of the County and the Operator.

10.3 EFFECT OF TERMINATION

Upon the termination of this Agreement, the obligations of the County and the Operator hereunder shall cease, provided that any obligation for the payment of money or otherwise arising from the conduct of the County or Operator pursuant to this Agreement prior to such termination shall not be affected by such termination and shall survive and remain in full force and effect.

Article 11. MISCELLANEOUS

11.1 ASSIGNMENT

(a) This Agreement may not be assigned by either the County or the Operator or its rights sold by Operator except with the written consent of the County or Operator or as further provided in this Article. The County may, however, contract with a third party or parties for the collection, transportation, processing and disposal of waste, and such contracting will not be interpreted as an assignment of this Agreement. Further, any municipality within the political boundaries of the County and/or any waste hauler may avail themselves of the rights of the County under this Agreement without violating the assignment provision, provided, however, that such municipalities and waste haulers will be bound by the covenants of the County in this Agreement. The Operator shall not assign this Agreement except to a licensed and permitted successor to the Operator capable of performing all covenants of this Agreement and with ninety (90) days prior written notice to the County and the written consent of the County.

(b) In the event of any assignment or delegation of duties under this Agreement, the delegate shall assume full responsibility and liability, and shall be responsible for compliance with and performance of all terms and conditions of this Agreement, including but not limited to provisions for sureties and assurances of availability of ten (10) year service. The assignment or delegation of any Agreement duties will not relieve the Operator or its surety of any liability and/or obligation to perform.

11.2 NOTICES

Except under emergency circumstances all notices, demands, requests and other communications under this Agreement shall be deemed sufficient and properly given if in writing and delivered in person or by recognized carrier service, or sent by certified or registered mail, postage prepaid, with return receipt requested, to the following addresses:

County: Cambria County Solid Waste Management Authority

ATTN: Kris Howdyshell
Executive Director
507 Manor Drive, PO Box 445
Ebensburg, PA 15931
(814) 472-2109

Operator: _____

_____

_____

Either the County or Operator may, as specified above, designate any further or different addresses to which subsequent notices shall be sent.

11.3 ENTIRE AGREEMENT/MODIFICATIONS

The provisions of this Agreement, together with the Agreements and exhibits incorporated by reference, shall constitute the entire Municipal Waste Disposal Capacity Agreement between the County and the Operator, superseding all prior disposal capacity agreements and negotiations, if any, and, except as otherwise provided in this Agreement, shall only be modified by written agreement duly executed by both parties to this Agreement. The County and Operator agree that any existing municipal waste disposal contracts between them are hereby rendered null and void and superseded by this Agreement. The County reserves the right to negotiate a Host County Fee with any disposal facility operating within the County.

11.4 SEVERABILITY

In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal, or unenforceable in any respect, the County and Operator shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum extent practicable in light of such determination, implement and give effect to the intentions of the County and Operator as reflected herein. The other provisions of this Agreement shall, as so amended, modified, or supplemented, or otherwise affected by such action, remain in full force and effect.

11.5 CHANGE OF OWNERSHIP

In the event of any change of control or ownership of the Operator's Facility, the County shall maintain the right to hold the original Owner solely liable. The County may, however, at its option, determine that the new ownership can adequately and faithfully perform the duties and obligations of the Agreement for the remaining term of the Agreement, and elect to execute a novation, which will allow the new ownership to assume the rights and duties of the Agreement and release the former ownership of all obligations and liabilities. The new ownership would then be solely liable for the performance of the Agreement and any claims or liabilities under the Agreement.

11.6 GOVERNING LAW

This Agreement and any question concerning its validity, construction, or performance shall be governed by the laws of the Commonwealth of Pennsylvania, irrespective of the place of execution or of the order in which the signatures of the County and Operator are affixed or of the place or places of performance. The Operator shall conduct the services provided for in this Agreement in compliance with all applicable federal and state laws and regulations.

11.7 JOINT AND SEVERABLE LIABILITY

If the Operator is comprised of more than one individual, corporation or other entity, each of the entities comprising the Operator shall be jointly and severally liable.

11.8 COUNTERPARTS

This Agreement may be executed in more than one (1) counterpart, each of which shall be deemed to be an original but all of which taken together shall be deemed a single instrument.

11.9 NO CO-PARTNERSHIP OR AGENCY

It is understood and agreed that nothing contained in this Agreement is intended or shall be construed to in any respect create or establish the relationship of co-partners between the County and the Operator, or as constituting the Operator the general representative or general agent of the County for any purpose whatsoever.

11.10 SECTION HEADINGS/REFERENCES

The section headings and captions contained in this Agreement are included for convenience only and shall not be considered a part of this Agreement or affect in any manner the construction or interpretation of this Agreement. Except as otherwise indicated, all references in this Agreement refer to sections of this Agreement.

11.11 CONVENTIONS

In this Agreement:

(a) the singular includes the plural and the plural the singular;

(b) words importing any gender include the other gender;

(c) references to statutes are construed as including all statutory provisions consolidating, amending or replacing the statute referred to;

(d) references to writing include printing, typing, lithography and other means of reproducing words in a visible form;

(e) references to agreements and other contractual instruments shall be deemed to include all subsequent amendments thereto or changes therein entered into in accordance with their respective terms

(f) references to persons include their permitted successors and assigns; and

(g) the term "including" shall mean including without limitation.

11.12 NONDISCRIMINATION

Neither the Operator nor any subcontractor nor any person(s) acting on their behalf shall discriminate against any person because of race, sex, age, creed, color, religion or national origin, ancestry, disability, sexual orientation, or union membership.

IN WITNESS WHEREOF, the County and Operator have caused this Waste Disposal Capacity Agreement to be executed as of the date and year first written.

COUNTY OF CAMBRIA BOARD OF COMMISSIONERS

ATTEST: _____

Commissioner

_____

Chief Clerk _____

Commissioner

_____

Commissioner

ATTEST: OPERATOR

Title

APPENDIX D

2000 ORIGINAL PLAN SECTION 5 STUDY INFORMATION

This page intentionally left blank.

CHAPTER V
SUMMARY

Chapter V - Selection and Justification of Municipal Waste Management Program

Municipal waste management in Cambria County is composed of five (5) basic systems: (1) Storage; (2) Collection; (3) Transportation; (4) Processing; and (5) Disposal.

Storage

Municipal waste in Cambria County will be stored in metal and/or plastic garbage cans, plastic bags, large steel containers, and appropriate recycling containers.

Collection

Municipal waste and recyclable material within Cambria County will be collected privately by municipal-sponsored contract, or by municipal work force collection.

Transportation

Municipal waste and recyclable material in Cambria County will be transported by direct haul to the disposal and/or processing site by the collection vehicle, or transferred to a larger vehicle via the use of a transfer station.

Processing Alternatives

Cambria County has identified four (4) basic alternatives available to processing the municipal waste stream.

A. Volume Reduction

This alternative is used to alter unprocessed waste, thereby reducing the volume or bulk for final disposal and comprises three (3) methods.

1. Bailing - This method incorporates bailing techniques used in scrap, agriculture, or carton industries.

2. Shredding - This method of volume reduction turns the solid waste stream into a homogeneous mixture and can be physically located at the land disposal site.

3. Incineration - Incineration reduces wastes through controlled burning by 80% to 90% of input volume. There is non-combustible residue which requires further processing or land disposal.

B. Resource Recovery

Resource recovery as a processing alternative shall include two (2) basic options: (1) Recycling via source separation (curbside or drop-off); and (2) Recycling via composting.

1. Recycling via source separation shall include the separation of recyclable waste materials like newspaper, glass, plastic, and metal containers at their point of generation (usually the home or place of business) for either curbside collection or delivery to a drop-off facility.

2. Recycling via composting shall include municipal leaf and yard waste composting, and backyard composting. The primary materials to be considered for composting will include leaf waste and yard, tree, and brush clippings.

C. Energy Recovery

The third alternative used to process municipal waste considers the recovery of energy through thermal reduction and involves five (5) options.

1. Mass Burning - In utilizing this option, municipal waste is delivered by collection or transfer vehicles and then loaded into incinerators for thermal energy recovery.

2. Cogeneration - In solid waste energy recovery plants, municipal waste fuel is converted into a combination of steam and electricity.

3. Pyrolysis - In pyrolysis, the thermal decomposition of waste materials takes place in the absence or near-absence of oxygen and waste is converted into a gaseous or liquid fuel.

4. Biological Conversion - In biological conversion, municipal waste is decomposed by bacterial action resulting in the production of combustible gases.

5. Refuse Derived Fuel - In Refuse Derived Fuel (RDF), municipal waste is used as a substitute for, or as a supplement of, conventional fossil-fuel fired generators. RDF has one-half the heating value of the same quantity of coal.

D. Waste Reduction

The final processing alternative involves four (4) options that are designed to reduce the consumption of raw material and products in order to reduce the generation of municipal waste.

1. Product Reuse - This option considers the voluntary reuse of glass, metal, and plastic containers, as well as legislative action placing a mandatory deposit on beverage containers sold within the state.

2. Reduced Material Use - Under this option, the product manufacturer decreases the amount of raw material consumed in each product.

3. Increased Product Lifetime - This option simply means that manufacturers make products that last longer or are more durable.

4. Decreased Consumption - This option involves the reduction in the individual consumption of disposable goods.

Disposal Alternatives

Cambria County has identified two (2) viable municipal waste disposal alternatives; these being, (1) incineration; and (2) landfilling.

1. Incineration - Incineration as a waste-to-energy recovery alternative, and as a disposal alternative, was previously discussed under processing systems and therefore will not be discussed herein. However, incineration does involve the following three (3) types of disposal alternatives: (1) Mass burning; (2) Cogeneration; and (3) Pyrolysis. As mentioned above, these disposal alternatives were described previously under Processing Alternatives: C- Energy Recovery.

2. Landfilling - In Cambria County, the current type of municipal waste disposal utilized is landfilling. Unprocessed municipal waste is

delivered directly by collection vehicles to either the W.B. Industries (Laurel Highlands), Lasky, Southern Alleghenies (Somerset County), or other nearby landfills.

Comparative Selection Criteria for Processing Alternatives

In Cambria County, the first three (3) systems of a municipal waste management program have been in place and practiced for many years (except for recyclable materials). These systems are storage; collection; and transportation. However, the fourth system (processing) involves a number of alternatives which can be implemented. Therefore, in an effort to determine the best processing alternative(s) to implement within Cambria County, a comparative selection procedure was developed. This procedure involved the rating and ranking of ten (10) selection criteria by the Cambria County Solid Waste Management Advisory Committee. The processing alternative selected as having the highest potential or acceptance for implementation in Cambria County was Resource Recovery. Resource Recovery includes source separation recycling and composting.

Disposal System

The fifth and final system of a municipal waste management program is disposal. Of the two (2) types of disposal available (incineration and landfilling), the Solid Waste Management Advisory Committee selected sanitary landfilling. The basic reasons for not selecting incineration included excessive cost, potential air pollution problems, and the need to dispose of the ash and any waste not incinerated due to equipment failure. The primary reasons for selecting landfilling was that landfills are currently operating in Cambria County; they are relatively less expensive to develop; relatively little air pollution is involved; and required double liners will provide maximum protection to local groundwater. In addition, sanitary landfilling is required for final disposal even with incineration disposal of municipal waste.

Role of Solid Waste Advisory Committee

The role of the Solid Waste Advisory Committee involved four important functions: (1) reviewed and evaluated all data on municipal waste management; (2) established criteria for the selection of a municipal waste processing system; (3) rated and ranked processing alternatives; and (4) presented

committee recommendations on the municipal waste management system best suited for Cambria County to County Commissioners.

Specific Processing Programs and Disposal Facilities

The summarized listing below presents the name and anticipated operational date of the various municipal waste processing programs and disposal facilities to be utilized in Cambria County.

Program/Disposal Facility Name	Anticipated Operational Date
Johnstown Curbside Recycling	September 1990
Johnstown Leaf Composting	September 1990
Richland Recycling/Composting	September 1990
Upper Yoder Curbside Recycling	September 1991
Upper Yoder Leaf Composting	September 1990
Westmont Curbside Recycling	September 1991
Westmont Leaf Composting	September 1990
Conemaugh Curbside Recycling	January 1988
Carrolltown Curbside Recycling	January 1988
Cresson Curbside Recycling	April 1990
Geistown Leaf Composting	January 1990
Cresson Leaf Composting	January 1990
Cambria/Somerset Recycling Authority	June 1991
Cambria County Waste Reduction	September 1990
Cambria County Recycling Program	September 1992
Laurel Highlands Landfill	December 1990
Southern Alleghenies Landfill	October 1990
Lasky Landfill	September 1992
Resource Conservation Corp. Landfill	July 1991

SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PROGRAM

This chapter of the Municipal Waste Management Plan will identify and describe various processing and disposal alternatives, evaluate the advantages and disadvantages of each alternative, and describe the method used to select each recommended alternative. Also included in this portion of the Plan will be an explanation of the role the Cambria County Solid Waste Management Advisory Committee played in this process and a listing of the processing programs and disposal facilities that will serve residents of Cambria County.

Most municipal waste management programs are composed of five (5) basic systems: Storage; Collection; Transportation; Processing; and Disposal. The first three systems (storage, collection, and transportation) have been individually selected and implemented by each municipality within the County. Therefore, no further selection or justification is warranted other than to summarize the method of storage, collection, and transportation now being followed as a part of these municipalities' existing municipal waste management practices.

Storage

Currently within Cambria County, most municipal waste and recyclables are stored temporarily inside residences and commercial facilities utilizing small plastic or metal containers. Periodically, the waste is collected from these small waste containers and transferred into larger containers and usually placed in the garage or outside the residence or commercial facility (usually to the rear or side of the building). Then once each week, upon average, the large containers (usually 20-32 gallon plastic or aluminum cans) are placed at the predetermined location (usually curbside) for municipal or private hauler collection. This system of municipal waste and recyclable material storage is fairly uniform throughout Cambria County.

Regardless of the method of storage, all waste should be stored in such a way that it does not cause fire, safety or health problems, or result in the harborage of rodents and/or insects. In this regard, the use of metal/plastic cans, or the use of plastic containers or bags, is required for single family households, while the steel containers for mechanized collection are more suitable for large multi-family dwellings, commercial establishments, institutions, and industries.

Collection

Within Cambria County there are three methods of municipal waste and recyclable material collection. They include private collection by municipal contract; private collection by individual contracts; and municipal work force collection. The most common method within the County is private collection by municipal contract. Under this method, a private sector hauler collects waste and/or recyclables from a municipality after the awarding of a municipal contract which results from a bidding process. In this method, the successful bidder usually has exclusive collection rights for a given period of time (1 to 3 years generally). In the County, forty-seven (47) municipalities, or approximately 73% of all municipalities, utilize this method of collection. The second most frequent method of waste collection is through private collection by individual contracts. Using this method a private sector hauler collects municipal residential waste from a municipality by means of a contract between the hauler and the individual resident, very similar to the way commercial waste is collected. Thus, there is no direct municipal involvement in the actual collection process, and it is likely that several private haulers operate at the same time in these municipalities. Twelve (12) municipalities, or approximately 19% of all municipalities within the County, utilize this method of municipal waste collection. This method of collection does not provide any control over the municipal waste stream by the municipality, which is counter to PA Act 101 of 1988. Therefore, those (12) municipalities using this method of collection should change (to municipal contract or municipal workforce) to be in compliance with PA Act 101 and this Plan. The least common method of municipal waste collection in the County is through municipal work force collection. In this method of collection, a municipality utilizes its own equipment and labor force to collect municipal waste. This form of collection, once quite common throughout the County, is now practically non-existent. The primary reason for this shift from the public sector to private sector is essentially cost. Municipalities are now finding that they can save taxpayer dollars by eliminating capital equipment and operating expenses (wages and benefits) associated with garbage collection by contracting with a private sector hauler selected through competitive bidding. Only five (5) municipalities, or approximately 8% of all Cambria County municipalities, now utilize this method of collection.

In addition to the above-referenced methods of collection, there are several other aspects of collection that are part of a municipality's waste collection practice. These aspects include points of collection and frequency of collection. Most, if not

all, municipalities within Cambria County utilize the curbside (either street or alley) point of collection. However, haulers will provide backyard collection for certain elderly and/or handicapped households who request this service. Most, if not all, municipalities within the County utilize a once-a-week frequency of waste collection. This waste collection does not include recyclables. Items collected for recycling are usually collected either once or twice a month.

Bulky items collection has recently become a costly service for most municipalities to provide. Therefore, most municipalities, if they provide this service at all, limit bulky item collection to usually a spring and/or autumn clean-up week. Otherwise, bulky item collection must be arranged and paid for by the individual household.

If not already being practiced by each municipality, the following requirements must be implemented for municipal waste and recyclable collection:

* Private sector collection must involve a municipal waste collection contract based on a competitive bid with the municipality (not individual household);

* Consider joint bidding by two or more municipalities for collection and/or disposal services;

* Share municipal waste collection manpower and equipment;

* Municipal waste collection requirements must be described within the individual municipal waste ordinance.

Transportation

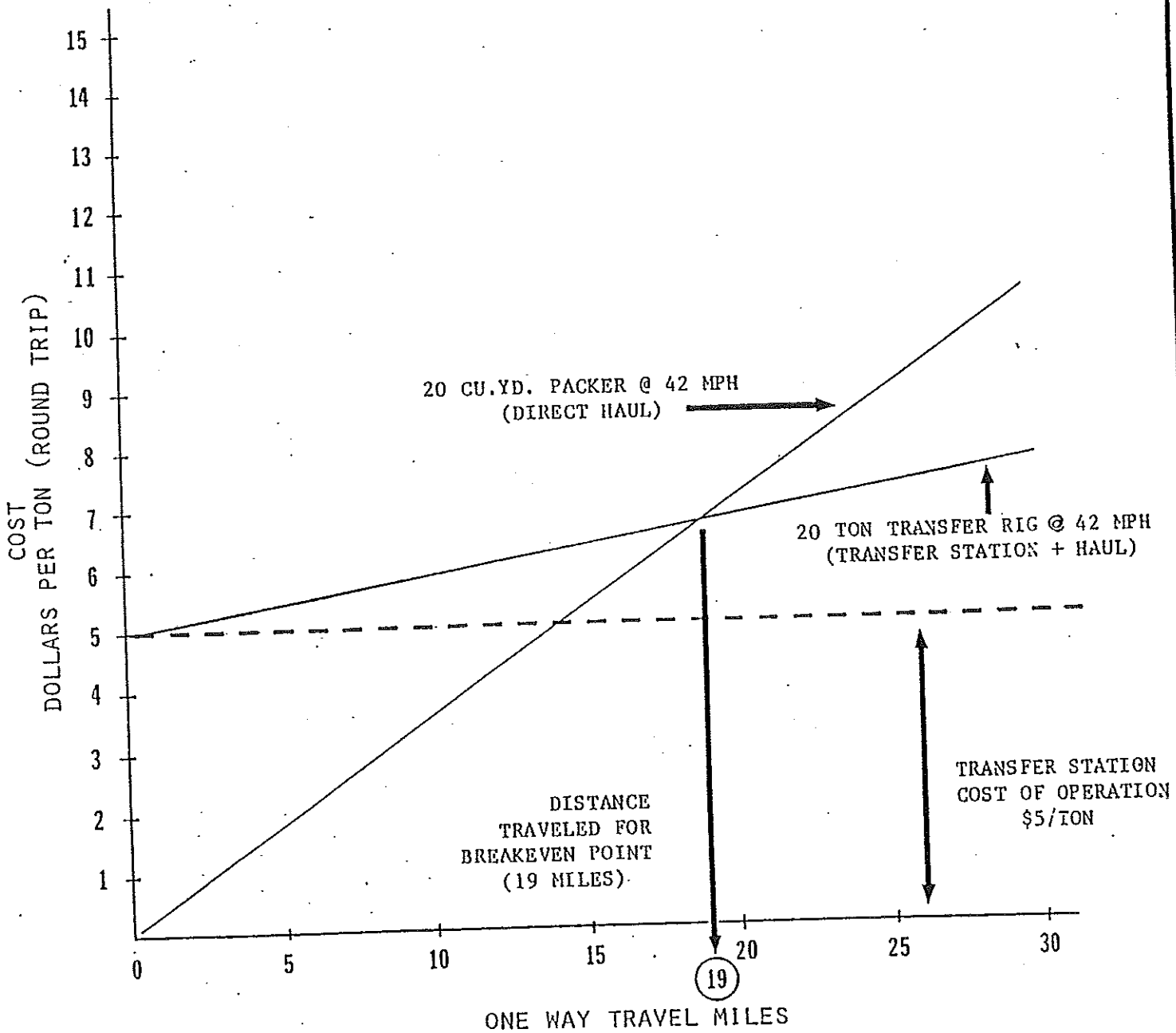
The transportation of municipal waste and recyclable material is required due to the distance between the point of waste collection and the final disposal or processing site. Basically, two (2) alternatives exist concerning the transportation of municipal waste and recyclable material. These alternatives include direct haul to the disposal or processing site by the collection vehicle, or the transfer of the waste to a larger vehicle via the use of a transfer station.

Currently, all municipalities within Cambria County transport their municipal waste and recyclables by direct haul to a sanitary landfill or processing center in the collection vehicle. Under this alternative, the collection vehicle transports the waste to the disposal and/or processing site upon route completion or when the vehicle reaches capacity. This

alternative is generally best suited in suburban or rural areas having a nearby disposal site. The major advantage of this alternative is that it requires no additional capital costs since it is carried out by existing collection vehicles. The primary disadvantages of this alternative include nonproductive collection time due to the travel time to and from the disposal and/or processing site and the potential re-routing of collection vehicles should changes occur in the disposal or processing site location.

The other alternative available for transporting municipal waste and/or recyclable material is through a transfer station. Due to the nearby location of several landfills and local recyclers, the development of a transfer station has never been necessary for the municipalities within Cambria County. However, with more restrictive state regulations on sanitary landfill development and operation, fewer landfills may be operating and thereby necessitate the development of one or more transfer stations within the County. In addition to being a more economical means of transporting municipal waste long distances, it frees collection vehicles from haul time and thereby increases their collection time potential. Other advantages include additional waste compaction and conduciveness for regional recycling. The major disadvantage of this alternative is the initial site development and equipment cost, not to mention the ongoing operational and maintenance expenses. However, where waste haul distances exceed twenty (20) miles (one way), transfer stations should be seriously considered. This haul distance of twenty (20) miles was derived from calculations based on a 20 cubic yard packer utilizing a transfer station with a cost of operation at $5.00 per ton, and using a 20-ton transfer trailer traveling at an average of 42 miles per hour. With these factors, the utilization of a transfer station becomes more cost-effective, with every mile traveled over 19 miles, than direct haul by collection vehicles. This calculation is graphically illustrated in the following figure. Within Cambria County, the average distance traveled to the closer of the two recommended landfills within the County (Laurel Highlands and Lasky Landfill), is approximately 14 miles. Therefore, travel distances would have to increase by at least six (6) miles (one way) before consideration to a transfer station would become cost-effective. With the next closest landfill (Southern Alleghenies) located approximately five (5) miles south of the Lasky Landfill in Somerset County, the average distance traveled would still be less than 20 miles one way.

However, if all of the currently utilized landfills servicing Cambria County municipalities (Laurel Highlands, Lasky Landfill, and Southern Alleghenies) were to be denied an operating permit,



SOURCE: RICHARD C. SUTTER AND ASSOCIATES NOV. 1985

CAMBRIA COUNTY COMPREHENSIVE PLAN

TRANSFER STATION VS DIRECT HAUL COMPARISON		FIGURE 2
ACT. 101 PA DER MUNICIPAL WASTE PLANNING GRANT	5-5	

then municipal waste would have to be transported to more distant landfills. There are two (2) proposed landfills and one (1) existing landfill that would be within easy hauling distance (via transfer station) that could serve Cambria County municipalities. The proposed landfills include the Resource Conservation Corporation proposed landfill in Somerset County (Shade Township) and the Waste Management of PA, Inc. proposed landfill in Westmoreland County (Derry Township). The Pellegrine Construction Co. Landfill in Indiana County (Center Township) is seeking an expansion of its existing facility which could also service Cambria County municipalities. As indicated earlier in this section, if Cambria County had to utilize any of these backup landfill sites, one or more transfer stations may have to be considered.

Processing Alternatives

PA Act 101 defines "Processing" as "Any technology used for the purpose of reducing the volume or bulk of municipal waste or any technology used to convert part or all of such waste materials for offsite reuse." Under this definition we have identified four (4) basic alternatives available to process municipal waste. The first alternative involves Volume Reduction. Volume reduction includes such options as baling, shredding, and incineration. The second and perhaps the most promising alternative involves Resource Recovery. Basically, resource recovery includes recycling and composting. The third alternative is Energy Recovery. Energy recovery involves the production of steam and/or electricity through such options as mass burn incineration, pyrolysis, biological conversion, and the preparation of refuse derived fuel. The fourth and possibly most difficult alternative to implement is Waste Reduction. Waste reduction involves both legislative, consumer, and private sector efforts to limit the use and production of disposable products, product reuse, reduced material use in product manufacturing, and increased product lifetime.

The following pages describe in greater detail these four (4) processing alternatives, as well as indicate some of their advantages and disadvantages.

Volume Reduction

This alternative is used to alter unprocessed waste, thereby reducing the volume or bulk for final disposal. This results in a more consistent waste stream composition and extends the capacity of land disposal sites.

(1) Baling

This method incorporates baling techniques used in scrap, agricultural or carton industries. Generally, the wastes are either batch- or hopper-fed into a baler, which produces bales which are compact and easy to handle, transfer, and/or process further. The density of the bales varies with the process used and is the greatest when a variation of a metal scrap baler is used. This method produces very compact bales which need no wires for binding. The hay and carton baler adaptations produce less dense bales which require tie wires. The advantages of baling include the doubling of the life of a disposal site, ability to handle most wastes in the stream, makes handling and transportation of waste easier and more economical, and is conducive for use with a shredder and magnetic separator for metal recovery. Disadvantages include high initial cost, precludes resource recovery once the bales are formed, and little data exists on gas production, leachate, and decomposition once the bales are landfilled. Overall, balers are suited for larger cities which generate in excess of 400 tons per day, and/or for areas far removed from disposal sites. In places considering resource recovery (recycling), baling may be a component of the process as long as recovery is designed as a prior stage, with the waste materials being baled for disposal.

(2) Shredding

This method of volume reduction turns the municipal waste stream into a homogeneous mixture and can be physically located at the land disposal site. Shredder designs vary and include crushers, shears, chippers, pulverizers and/or hammermills. Horsepower requirements vary from 200 HP (for typical residential and commercial refuse) to 1,500 HP (for cars and very bulky items). Regardless of the system design, this option reduces the bulk of the waste stream and results in processed particles having a density in the range of 25% to 60% greater than unprocessed waste. In addition to bulk reduction, other advantages include landfill life extension, public acceptance, low initial and handling costs, availability of most wastes to be shredded, and conduciveness to incineration and resource recovery. The major disadvantages associated with shredding include periodic jamming of inputs/outputs, component wear, dust problems, fire, and explosion potentials. These latter safety problems can be averted by the use of heat detectors and input screening. The shredding process is well suited for areas experiencing landfill capacity problems and can be incorporated into most resource recovery (recycling) systems.

(3) Incineration

Incineration reduces wastes through controlled burning by 80% to 90% of input volume. There is non-combustible residue which requires further processing or land disposal. Very bulky items, which can constitute up to one-fifth of the municipal waste stream, cannot usually be burned. One type is the conventional refractory-lined incinerator which is continuously fed waste and large quantities of air. This method requires a comprehensive pollution control system to handle the air and particulates. The conventional incinerator has been greatly outdated by recent technological changes such as the waterwall incinerator. The particulars of the waterwall incinerator will be discussed later, however, it is worth noting here that when compared with the conventional incinerator the waterwall costs 25% less to build, 2/3 less to operate, requires less aid during operation, and allows for steam recovery.[1]

A variation of the conventional incineration process has been adapted for smaller scale incinerators having capacities in the range of 5-12 tons per day. This option has gained usage by commercial and industrial firms and small communities. These are usually package units having a similar design as the larger conventional units; however, the smaller units require less air, utilize an after-burner for pollution control, and need not operate continuously. It is worth noting that the conventional incinerator can process a greater volume of waste and is more adaptable for energy recovery. Conversely, it is also more oriented toward large city usage and requires a longer construction phase.

The major advantages of incineration are waste reduction, landfill life extension, adaptability to energy and materials recovery processes, and ease of hauling problems for areas isolated from landfills. The disadvantages of incineration include high capital and operating costs, skilled labor requirements, air pollution control costs, and potential public opposition.

More recently designed incinerators are now able to burn most types of solid waste (wood, brush, building materials, other combustible municipal waste) and comply with environmental air quality standards. One such incinerator is called a pit burner which

[1]U.S. EPA, Decision-Makers Guide to Solid Waste Management, SW 500 (Washington, D.C. Government Printing Office, 1976), p. 85.

disposes of wood waste, tree trimming, demolition refuse, bulky combustible material, and combustible municipal waste. This incinerator creates and maintains a uniform curtain of air across the top of the burning chamber or pit. The air circulating at over 100 mph swirls into the pit increasing combustion efficiency and burning rate. This tends to confine the resultant smoke under the air curtain until it is consumed by the intense temperatures. No auxiliary fuel is needed once the fire is started and the ashes are generally cool enough to remove daily. This type of incinerator can consume approximately 160 tons of waste per 8 hour day with better than a 100 to 1 reduction by volume. The approximate cost (in 1985 dollars) of this type of incinerator is $110,000 (excludes land cost) for a unit that will consume 20 tons per hour (160 tons per day).[2] These incineration units have been operating in Louisiana and Florida; and if they can pass the air emission requirements of PA DER, they represent a relatively inexpensive means of municipal waste volume reduction.

Resource Recovery

Within this Plan, Resource Recovery shall include two basic options -- recycling via source separation and composting. Source separation recycling is also required by the Commonwealth of PA as the method of recycling for all mandated municipal recycling programs within the state.

Recycling via source separation can be described as the setting aside of recyclable waste materials like newspaper, glass, plastic, and metal containers at their point of generation (usually the home or place of business). The collection of these recyclable waste materials requires careful planning and administration on the part of the local municipality, as well as the cooperation of the citizens. Special education efforts must be made to educate and inform residents as to the goals and procedures of the program. Samples of suggested recycling education and information efforts are included in Appendix M of the Plan. PA Act 101 also requires all mandated municipalities to provide their residents with a periodic (every 6 months) notification of program requirements on their recycling program. A sample format for this notification is also included in Appendix M of the Plan.

[2]Crochet Equipment Company, Inc. "Pactherm Pit Burner," Technical Equipment Description, P.O. Box 15338, Baton Rouge, LA 70895.

The advantages of source separated recycling include the following: (1) reduction on the demand for landfill space; (2) saves natural resources; (3) protects the environment and people's health; (4) lowers energy and waste disposal costs; and (5) it is the state law (PA Act 101).

The primary disadvantages of source separated recycling is that it requires a little more effort on the household to separate and rinse the recyclables, and then to store these materials until their collection day (for either curbside or drop-off collection).

Composting is also a form of resource recovery. Simply stated, composting is the process by which the organic material in municipal waste can be decomposed to produce a soil conditioner. Approximately 50% of household waste is compostable. Thus, the process reduces organic waste volumes but is only a partial solution to municipal waste processing and disposal. The primary materials to be considered for composing in Cambria County will include leaf waste and yard, tree, and brush clippings. As part of PA Act 101, municipal waste loads (in collection vehicles) composed primarily (over 50%) of leaf waste will not be accepted at landfills and other municipal waste disposal facilities throughout the Commonwealth after September of 1990. Therefore, this part of the municipal waste stream must be either composted or incorporated into the soil.

Leaf waste is defined as leaves, garden residues, shrubbery and tree trimmings and similar materials, but does not include grass clippings. Grass clippings have been excluded from the definition because of the excessive odor problem involved when composted, and thereby require additional attention (grass to leaf waste mix, turning, etc.) to turn these clippings into compost. However, a limited amount of grass clippings will be accepted at composting sites (by PA DER policy) to enhance the composting process.

Estimated quantities of leaf waste generated annually in Cambria County, as well as acreage needed for composting, are listed on Table 33. This table was based on a 75% collection rate assuming composting of 3,000 cu. yd. of leaf waste per acre (PA DER Reg.). The estimates on this table are assumed to represent the total leaf waste generation in each municipality. Leaf waste comprises about 5% of the total waste stream in the County or about 30% of all yard waste.

TABLE 33

ESTIMATED LEAF WASTE GENERATION AT 75% COLLECTION RATE
CAMBRIA COUNTY

	1990 Total Households	Total Tonnage Generated[1]	Total Volume Generated Cu. Yds. [1]	Est. Annual Vol. Coll. Cu. Yds. [2]	Est. Volume After 1 Yr. Cu. Yds. [3]	Est. Volume On Site Cu. Yds. [4]	Acres Needed[5]
Region I							
Barnesboro Borough	911	71	355	266	133	399	.13
Barr Township	612	47	239	179	90	269	.09
Carrolltown Borough	409	32	160	120	60	180	.06
East Carroll Township	694	54	271	203	102	305	.10
Elder Township	364	28	142	107	54	161	.05
Hastings Borough	487	38	190	143	72	215	.07
Spangler Borough	763	59	298	224	112	336	.11
Susquehanna Township	752	58	293	220	110	330	.11
West Carroll Township	476	37	186	140	70	210	.07
Region II							
Allegheny Township	461	36	180	135	68	203	.07
Ashville Borough	118	9	46	35	18	53	.02
Chest Springs Borough	55	4	21	16	8	24	.01
Chest Township	84	7	33	25	13	38	.01
Clearfield Township	493	38	192	144	72	216	.07
Dean Township	143	11	56	42	21	63	.02
Gallitzin Borough	711	55	277	208	104	312	.10
Gallitzin Borough	363	28	142	107	54	161	.05
Loretto Borough	445	34	173	130	65	195	.06
Patton Borough	757	59	295	221	111	332	.11
Reade Township	593	46	231	173	87	260	.09
Tunnelhill Borough	115	9	45	34	17	51	.02
White Township	186	14	73	55	28	83	.03
Region III							
Blacklick Township	668	52	261	196	98	294	.10
Cambria Township	2458	190	959	719	360	1079	.36
Ebensburg Borough	1479	115	577	433	217	650	.22
Jackson Township	1835	142	716	537	269	806	.27
Nanty Glo Borough	1157	90	451	338	169	507	.17
Vintondale Borough	211	16	82	62	31	93	.03

TABLE 33 -- (Continued)

	1990 Total Households	Total Tonnage Generated[1]	Total Volume Generated Cu. Yds.[1]	Est. Annual Vol. Coll. Cu. Yds.[2]	Est. Volume After 1 Yr. Cu. Yds.[3]	Est. Volume On Site Cu. Yds.[4]	Acres Needed[5]
Region IV							
Cassandra Borough	71	6	28	21	11	32	.01
Cresson Borough	693	54	270	203	102	305	.10
Cresson Township	838	65	327	245	123	368	.12
Lilly Borough	410	32	160	120	60	180	.06
Munster Township	185	14	72	54	27	81	.03
Portage Borough	1139	88	444	333	167	500	.17
Portage Township	1377	107	537	403	202	605	.20
Sankertown Borough	244	19	95	71	36	107	.04
Washington Township	244	19	95	71	36	107	.04
Region V							
Adams Township	2511	195	979	734	367	1101	.37
Croyle Township	735	57	287	215	108	323	.11
Ehrenfeld Borough	101	8	39	29	15	44	.01
South Fork Borough	428	33	167	125	63	188	.06
Summerhill Borough	206	16	80	60	30	90	.03
Summerhill Township	770	60	300	225	113	338	.11
Wilmore Borough	88	7	34	26	13	39	.01

TABLE 33 (Continued)

	1990 Total Households	Total Tonnage Generated[1]	Total Volume Generated Cu. Yds. [1]	Est. Annual Vol. Coll. Cu. Yds. [2]	Est. Volume After 1 Yr. Cu. Yds. [3]	Est. Volume On Site Cu. Yds. [4]	Acres Needed[5]
Region VI							
Brownstown Borough	333	26	130	98	49	147	.05
Conemaugh Township	830	64	324	243	122	365	.12
Daisytown Borough	123	10	48	36	18	54	.02
Dale Borough	646	50	252	189	95	284	.09
East Conemaugh Borough	653	51	255	191	96	287	.10
East Taylor Township	983	76	383	287	144	431	.14
Ferndale Borough	729	56	284	213	107	320	.11
Franklin Borough	181	14	71	53	27	80	.03
Geistown Borough	1,157	90	451	338	169	507	.17
Johnstown (City)	12,219	947	4765	3574	1787	5361	1.79
Lorain Borough	323	25	126	95	48	143	.05
Lower Yoder Township	1,352	105	527	395	198	593	.20
Middle Taylor Township	321	25	125	94	47	141	.05
Richland Township	4,975	386	1940	1455	728	2183	.73
Scalp Level Borough	346	27	135	101	51	152	.05
Southmont Borough	897	70	350	263	132	395	.13
Stonycreek Township	1,476	114	576	432	216	648	.22
Upper Yoder Township	2,146	166	837	628	314	942	.31
Westmont Borough	2,043	158	797	598	299	897	.30
West Taylor Township	334	26	130	98	49	147	.05

NOTES:
1 - Assumes generation of 155 lbs./yr./HH, volume of 0.39 cu. yd./HH
2 - Assumes 75% of total volume is collected
3 - Assumes volume reduction of 50% after 1 year on site
4 - Assumes leaves will remain on site for 2 years, with 100% of Year 1 volume and 50% of Year 2 on site
5 - Assumes 3,000 cu. yd./acre for composting, with sufficient space needed for 150% of volume collected (See Estimated Volume on Site)

Collection of leaf waste may be accomplished in several different ways. Some common options include:

(1) Collection in standard garbage bags and transported in packer or dump trucks

(2) Collection in biodegradable plastic or paper bags and transported in packer or dump trucks

(3) Collection from reusable bins and transported in packer or dump trucks

(4) Collection by vacuuming with stand alone vacuum unit into dump trucks

(5) Collection by self-contained leaf vacuuming unit pulled by a separate vehicle

(6) Collection by front-end loader into dump truck

The first option is believed to be the easiest and most efficient method and may be the least expensive for townships and small boroughs. However, two common problems with bagging are that residents sometimes include materials other than leaf waste and bags must be removed before composting.

Vacuuming is the second most cost-effective option, especially in larger municipalities where the leaves can be raked to the curb. Problems with this option also exist. Vacuuming is difficult in wet weather, due to leaves sticking together; therefore, extra personnel are needed to break up the leaves. Parked cars may hinder vacuuming along streets and leaf piles can pose a fire hazard.

Collection frequency and using any of the aforementioned method depends on the amount and type of trees in an area and whether the area is mostly rural, suburban, or urban. The choice of collection method and frequency should be determined by the individual municipality's needs. Usually anywhere from 6 to 12 weeks each year are required for a 2-man crew for leaf collection. Collection of leaves is the greatest cost involved in composting.

Table 34 shows estimated leaf collection equipment price ranges. These price ranges depend on factors such as new or used equipment and complexity.

TABLE 34

LEAF COLLECTION EQUIPMENT
ESTIMATED COSTS

Unit Description	Estimated Cost Range
1. Self-Contained Vacuum Truck	$15,000 to $40,000
2. Trailered Vacuum Unit	$ 6,000 to $25,000
3. Dump Truck	$30,000 to $50,000
4. Front-end Loader	$25,000

There are several options for the management of leaf composting facilities. Four of these options include:

(1) Each municipality provides its own site

(2) Landfills or private operators such as landscapers or farmers provide a site or sites for municipalities to use

(3) A group of municipalities provides a site or sites

(4) The County provides centralized sites for all municipalities

The first management option is already being used in some municipalities throughout the County. Under this option, each municipality would be responsible for the collection and disposal of their own leaf waste, with disposal usually at a municipally-owned site or designated farm.

The second option would be to contract out to landfills or private operators to provide the sites and equipment needed. This option would require paying a disposal fee.

A group of municipalities working together providing one or more sites is a third option. In this manner the group would share facilities and equipment and thereby share costs as well.

Having the County provide a central site or sites is the least likely option. In a recent survey of municipalities (conducted by the CCPC during December of 1989), 56% of the municipalities responded that they would not utilize such a facility, and only 3% indicated they would be willing to financially support a leaf composting facility.

Land Application of Non-Composted Leaves and Grass Clippings

An alternative for composting leaves and grass clippings is to spread it on a field and plow it under, incorporating it into the soil. A farmer may wish to use this material as a low grade soil conditioner. Plowing the leaves and grass under the soil also keeps it from blowing away and will help increase the rate of decomposition. Land application of leaves and grass clippings are prohibited on any wetlands or within 50 feet of the property line. Leaves and grass clippings should be delivered to the farm in bulk. Where bags or other containers

containing grass clippings or leaves are used for collection, the bags or containers must be emptied of all grass clippings on the day of delivery to the farm. The grass and leaves are to be spread onto the ground in a thin layer, not to exceed six (6) inches in depth, within seven (7) days of delivery to the farm. The grass and leaves must be incorporated into the soil no later than the next tilling season, unless otherwise approved by the Department of Environmental Resources. The leaves and grass clippings can be used for reclamation of mined lands if their use is approved on active sites by the Bureau of Mining and Reclamation and on abandoned sites by the Bureau of Abandoned Mine Reclamation.

If a leaf composting facility is chosen, there are PA DER guidelines that must be followed. Such a facility is defined as "a facility for composting vegetative material including leaves, garden residue, chipped shrubbery, and tree trimmings. The term does not include a facility that is used entirely or partly for the composting of grass clippings." Composting is a controlled process that breaks organic matter down into a stable material (call humus). This process reduces organic matter by 50-80%. The state guidelines are designed to promote leaf composting while providing some safeguards to protect human health and the environment.

General Requirements

(a) Each person or municipality that operates a leaf composting facility or leaf and grass land application site shall comply with the operating requirements set forth in these guidelines.

(b) Leaves and grass clippings accepted at the leaf composting facility or farm are to be generated within the municpiality where the facility is located, unless otherwise approved by the Department.

(c) Each person or municipality that proposes to operate a leaf composting facility without obtaining a composting facility permit from the Department of Environmental Resources, or land apply leaves and grass clippings in normal farming operations, shall notify the DER with the following information:

(1) Sponsoring municipality (where applicable).

(2) Responsible official/contact person.

(3) Facility location, including identification of the site on a U.S.G.S. 7.5' topographic map.

(4) For composting operations, a general site plan for the facility indicating the following:

- access road and gate location in relation to the nearest public road
- tipping area
- processing area including location of compost piles or windrows
- curing or storage area
- surface water controls.

(5) For land application sites, a general site plan for the facility indicating the following:

- access road
- tipping area
- surface water controls
- farm soil conservation plan
- farm nutrient management plan

(6) For composting operations, an operational narrative describing:

- collection methods to be employed
- methods to be utilized in constructing compost piles or windrows, including equipment
- proposed dimensions of compost piles or windrows
- source of supplemental water to maintain an optimal 50% moisture content of compost piles or windrows
- proposed turning frequency, including method for determining that frequency
- proposed duration of composting process, including curing or storage time, and the term of compost distribution
- distribution plan for the finished compost
- residue disposal plan including the location of disposal site(s)
- provisions for emergency response
- public information and education program.

(7) For land applications sites an operational narrative describing:

- hours when leaves and grass clippings will be accepted
- land application and incorporation frequency
- plan for removal of leaves and grass from bags

- spreading and incorporation methods and frequency

(8) Volume of material processed during the previous year.

Areas Where Leaf Composting Facilities are Prohibited

(a) In any wetlands.

(b) Within one-quarter mile upgradient and within 300 feet downgradient of any private or public water source.

(c) Within 300 feet measured horizontally from any occupied dwelling unless the current owner thereof has provided a written waiver consenting to any leaf composting activities closer than 300 feet. The waiver shall be knowingly made and separate from a deed unless the deed contains an explicit waiver from the current owner.

(d) A minimum fifty (50) foot buffer area must be maintained between the property boundary and any active composting pile or windrow, processing area, curing or storage areas.

Access Control

(a) A gate or other barrier shall be maintained at all potential vehicular access points to block unauthorized access to the site.

(b) Access to the site shall be limited to those times when an attendant is on duty.

Operations

(a) No person or municipality shall bring to or recieve any material at a leaf composting facility other than: shrubbery and tree trimmings that have been shredded or chipped, unless shredding or chipping is provided at the facility; leaves; garden residues; and similar vegetative material.

(b) Grass clippings shall not be brought to or received at a leaf composting facility unless:

(1) The grass clippings are delivered to the leaf composting facility in bulk. Where bags or other containers containing grass clippings are used for collection, the bags or containers must be emptied of all grass clippings on the day of delivery to the composting facility.

(2) The grass clippings are to be incorporated into the windrows of partially composted leaves within 1 day of delivery to the site.

(3) The grass clippings are to be incorporated into the partially composted leaves at a ratio not to exceed one (1) part grass clippings to three (3) parts leaves by volume.

The Department of Environmental Resources may prohibit the use of grass clippings at the facility if there are nuisances, or the site is or has potential to adversely affect the citizens or environment of the Commonwealth.

(c) No more than 3,000 cubic yards of vegetative material shall be placed, stored, or processed on any acre of a facility where any leaf composting activity occurs or is planned to occur.

(d) All earthmoving activities shall be planned in such a manner as to minimize the areal extent of disturbed land.

(e) Each person or municipality operating a leaf composting facility shall identify the operation for the duration of leaf composting activities by posting and maintaining a sign which will be clearly visible at the junction of each access road and public road. The sign should be constructed of a durable weather resistant material and shall be easily seen and read. The sign shall show the name, address, and telephone number of the municipality operating the facility, the operating hours of the facility, and the materials that may be received by the facility.

(f) Compost and materials intended for composting shall not be placed where continous or intermittent contact could occur between any surface water run-on, runoff or groundwater and compost piles, windrows, curing or storage piles.

(g) Each leaf composting facility shall be operated in a manner that results in the biological degradation of the vegetative material received.

(h) Compost piles or windrows shall be constructed and maintained as follows:

(1) Compost piles or windrows shall be maintained to a dimension of between six (6) and eight (8) feet in height and twelve (12) to sixteen (16) feet in width, unless otherwise approved by the DER. The length of windrows is limited only to the extent that no more than 3000 cubic yards of compost material may be processed, cured or stored per acre.

(2) Compost piles or windrows shall be constructed within one day following receipt of compostable material at the facility.

(3) The compostable material shall be made moist by addition of water during the construction of windrows. An optimal composting moisture content (approximately 50%) shall be maintained during the composting process to promote the decomposition.

(4) Windrows shall be constructed perpendicular to the ground surface contour on a surface with a minimum slope of one (1) percent.

(5) All surface water shall be diverted away from tipping, processing, composting, and curing or storage areas. Proper drainage must be maintained to prevent ponding and excessive moisture.

(6) Compost piles or windrows shall be turned and reconstructed at a sufficient frequency to assure effective aeration and to promote decomposition, but not less than two (2) times per year.

(i) The operator shall maintain sufficient distance between windrows or piles to allow the proper use of equipment during the deposit, removal and turning of the compost.

(j) The operator shall inspect the facility regularly to detect: hot spots in any composting, curing or storage areas; dust or litter accumulation; surface water accumulation; erosion and sedimentation; vectors, odors and other problems, and promptly take necessary corrective actions.

(k) The operator shall not allow compostable materials or residues to be blown or otherwise deposited offsite.

Residue Disposal

(a) The operator shall not permit non-compostable residues or solid waste other than leaves and grass to accumulate at the facility, and shall provide for proper disposal.

(b) Residue from the facility and municipal waste not suitable for composting shall be disposed or processed at a permitted facility for municipal or residual waste.

Nuisance Control

(a) The operator shall not cause or allow the attraction, harborage or breeding of vectors.

(b) The operator shall not cause or allow conditions that are harmful to the environment or public health, or which create safety hazards, odors, noise, and other public nuisances.

Emergency Response

(a) Adequate space shall be maintained to allow the unobstructed movement of emergency personnel and equipment to an operating area of the facility.

(b) The operator of each leaf composting facility shall immediately contact local police or fire departments or other appropriate state or local emergency response agencies in the event of fire, spill, or other hazards that threaten public health and safety, public welfare, or the environment, and whenever necessary in the event of personal injury.

Air Resources Protection

(a) The operator shall implement fugitive dust control measures when necessary.

(b) No person or municipality shall cause or allow open burning at the facility.

Water Quality Protection

(a) The operator shall manage surface water, and control erosion and sedimentation in accordance with the requirements of Chapter 102, Erosion Control.

(b) The operator shall not cause or allow a point or non-point source pollutional discharge from or on the facility to any surface waters of the Commonwealth.

Costs for equipment use for composting depends on the level of technology used. Table 35 shows estimated costs of composting equipment. Costs for composting per cu. yd. will depend on the technology and equipment used and the size of the site. An overall cost is estimated to be around $2-$6/cu. yd. for urban municipal operations, which includes land, improvement, turning, wetting, curing, shredding, screening, disposal of waste, equipment, and overhead.

There are four currently recognized technologies dealing with composting. Costs vary

TABLE 35

LEAF COMPOSTING EQUIPMENT
ESTIMATED COSTS

Unit Description	Estimated Cost Range
1. Self-Contained Windrow Turner	$100,000 to $200,000
2. Bag Breaking Equipment	$ 60,000 to $180,000
3. Self-Powered Tub Grinders	$ 35,000 to $130,000
4. Non-Powered Tub Grinder	$ 15,000 to $ 25,000
5. Hammermill Shredder	$ 75,000 to $400,000
6. Chipper	$ 10,000 to $ 50,000
7. Mechanized Screens	$ 60,000 to $135,000
8. Combined Shredder and Screener	$ 25,000 to $180,000

widely as well as time involved in developing the end product. The basic requirements and descriptions of each are explained below:

Minimal technology - This is the least expensive and requires little equipment and personnel, but takes the longest to develop a final product (humus).

Leaves are formed into large windrows with a front-end loader. The windrows are then turned twice a year. As stated before, low cost translates into a long composting time, usually three or more years. Infrequent turnings may lead to unpleasant odors, so minimal technology composting sites should be located in isolated areas.

Low level technology - This approach is still relatively inexpensive, but the time required for composting is shortened.

Leaf waste is formed immediately into windrows with care taken to ensure that adequate moisture, oxygen and temperature are kept during composting. Water is added, if necessary, to bring the moisture content to 50%. The temperature is controlled by changing the windrow size so that the optimal range of 70^{o} - 140^{o} F is maintained. The changing size also affects oxygen levels and further control is taken by turning the windrows to keep an oxygen level of about 5%.

The windrows should be turned in the spring, mixing and expanding the material as much as possible. Water should be added to the pile if it's dry. They should be turned several more times in the summer to increase the composting rate. If this is done, the process may be completed within a year.

Before next year's leaves are collected, the compost should be stable enough to be moved to larger curing piles without anaerobic conditions occurring that will result in foul odors. The piles may be made larger, but not so large as to become overly compacted. It should only take about 18 months to form the completed product, which will appear deep brown in color with no evidence of leaf structure. The pH level should reach 7 or above by the end of the process. There is no further processing necessary before using the humus or compost, although it may be shredded and screened to improve its appearance. This may not be desirable, however, if low costs are to be maintained.

Intermediate Technology - This level of technology is more expensive, but finished compost is produced more quickly than the two previous technologies.

A front-end loader is used for turning the windrows periodically during the first 4 - 6 months. The composting process should be completed by this time. This may be useful where materials must be moved out before next year's leaves are delivered, but high capital costs and more space is needed.

High Level Technology - This method speeds the composting process by using more sophisticated equipment.

Blowers are used to increase oxygenation by forcing air through perforated pipes placed at the base of the windrows. This is controlled by a temperature feedback system that monitors for optimal temperatures while keeping proper oxygen levels. 50% moisture must also be maintained throughout this process. After about 1 month the blowers are removed and turning begins.

High level technology speeds the process of decomposition significantly, but the costs of this will be much higher than the other three options.

Public education is an important part of recycling as well as composting. To have a successful leaf waste program, the citizens concerned should know how the leaves are to be prepared, when they will be collected, and why proper preparation is important.

If the leaves are to be vacuumed, the people must know where to rake them, height of piles, etc. If bagging is to be done, people must be informed where bags can be purchased and type of bags used. A calendar may be a good idea to tell the people about collection times and what can be collected. Educational efforts should begin prior to the start of the program so that citizens can be prepared.

Composting Operational Costs

Using the low technology method of composting, an estimated total operational cost can be determined. Assume site developments costs of $1,000 per acre for the site and $1,500 for fencing and signs. The capital equipment costs will include a front-end loader valued at approximately $25,000 and a dump truck valued at around $40,000. A PA DER grant can reduce

the capital equipment cost by 90%, thereby leaving approximately $6,750 (for a 1-acre site) to be financed locally. Operational costs will include an equipment operator and a laborer working approximately three (3) months total for leaf collection and composting. Wages and benefits for these workers may be approximately $7,000 per year. Equipment maintenance and fuel expenses may be approximately $2,000 each year.

During the first five (5) years of operation all composting costs could total approximately $12,000 each year. This allows for $3,000 for amortization of local share of capital equipment, $7,000 for labor, and $2,000 for maintenance and fuel. After year 5 and through to year 20, annual operational costs will be approximately $13,500 each year. This allows for capital replacement cost of $4,500, maintenance and fuel costs of $2,000, and labor costs of approximately $7,000 each year. Therefore, the total life cycle costs over the 20-year period may approach or exceed $260,000 depending on inflation costs.

Backyard Composting

An option that can be utilized by municipalities is to encourage suburban or rural households to compost their yard waste in their own backyards. A simple bin approximately 5 feet long by 4 feet wide and 3 feet high can be built from chicken wire, scrap wood, snow fencing, or cinder blocks. This bin should be placed in a convenient location in the rear yard and used to contain all grass clippings, leaves, and some kitchen scraps (no cooked food and animal fats - they cause odor and attract pests). Layer this compost pile with 1 to 2 inches of topsoil to assist the decay process. This pile should be aerated every two (2) months with a pitch fork. This provides proper ventilation and shifts material from the edges of the pile to the center, where they are broken down easier. Keep the pile moist, but not soaking wet. Following this method, households can produce usable compost within six (6) months to two (2) years. The Cambria County Solid Waste Management Authority is preparing a Backyard Composting brochure to further explain and illustrate how to prepare and maintain a backyard compost pile. A sample of this brochure is contained in the Appendix M of this Plan.

Energy Recovery

A third alternative used to process municipal waste involves Energy Recovery. The recovery of energy through the thermal reduction of municipal waste has gained increased attention during the past decade as

technology advanced and as the costs of conventional energy have increased. Various energy recovery processes are being developed, or have been developed and utilized. This section will briefly review selected energy recovery options including mass burning (waterwall, rotary kiln, controlled air, and combination refuse/coal incinerators), pyrolysis, biological conversion, and the preparation of refuse derived fuel.

Mass Burning

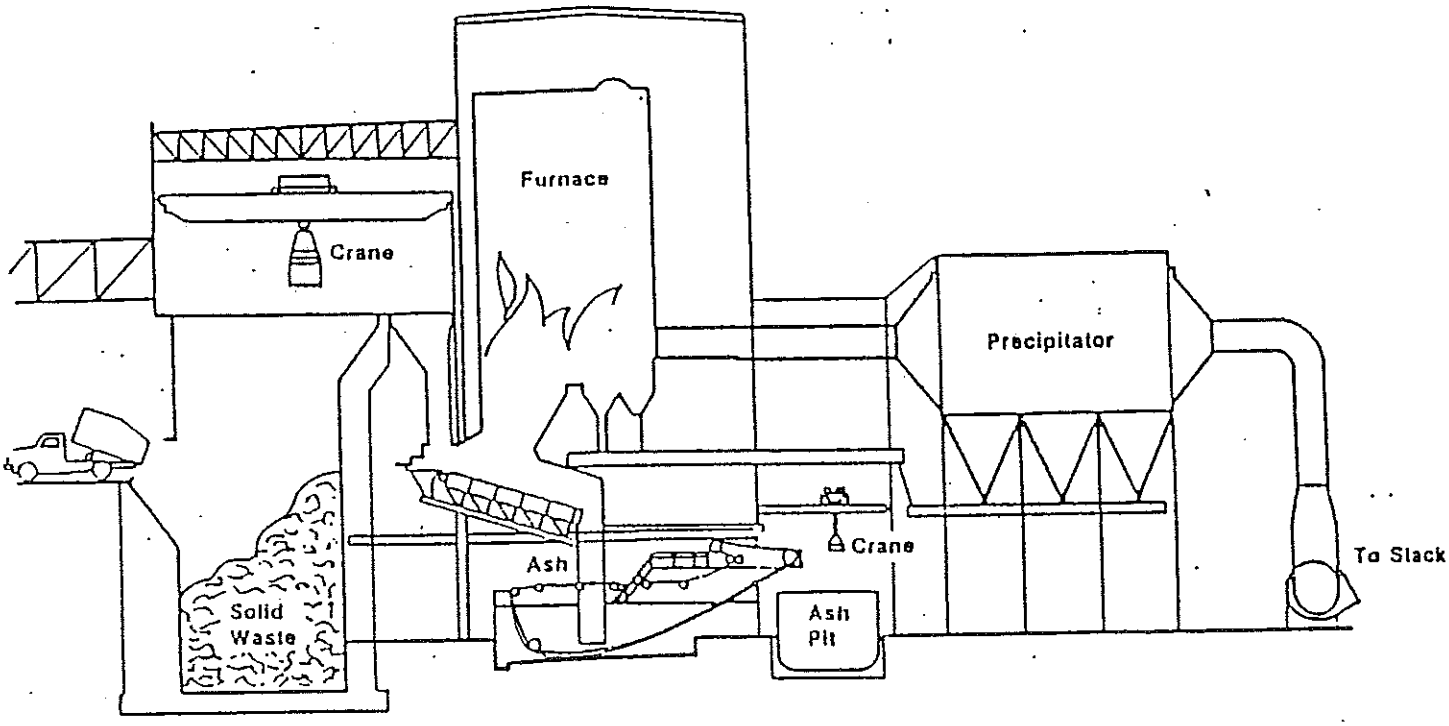
The first of a series of options under this alternative involves the mass burning of municipal waste. In utilizing this option, municipal waste is delivered by collection or transfer vehicles and then loaded into various types of incinerators. Those incineration units that have technological promise include the waterwall, rotary kiln, controlled air, and combination refuse/coal incinerators.

Waterwall Units

The walls of the furnace in a waterwall incineration unit are lined with tubes containing circulating water. The moving liquid serves to dissipate the high heat associated with the combustion process and thus reduces the amount of cooling air required. In addition, this liquid acts as a heat recovery medium for use in producing steam and/or electricity (see cogeneration of steam and electricity).

Refuse is loaded into the unit by a crane. Once in the unit, a hydraulic ram feeder pushes the refuse onto a staircase of reciprocating grates where the combustion occurs. The reciprocating grates are located in the bottom section of the boiler. The presence of the boiler in the hottest portion of the furnace (i.e., the combustion chamber) enables waterwall incinerators to locate superheaters in higher temperature zones, thus producing high temperature and pressure steam. Waterwall systems were developed during the late 1950's in Europe where energy availability and costs, as well as land values and landfill costs, were higher. Interest in the United States in this technology grew after the Clean Air Act was passed and energy costs rose in the early 1970's.

Figure 3 illustrates a cross-section of a typical mass incineration facility of the waterwall configuration. A good example of applied waterwall technology is the Keeler Dorr-Oliver installation at Hampton, Virginia.



SOURCE: Solid Waste-To-Energy Technical Manual and Wheelabrator-Frye, Inc.

CAMBRIA COUNTY COMPREHENSIVE PLAN

CROSS SECTION OF A WATERWALL INCINERATOR		FIGURE 3
ACT 101 PA DER MUNICIPAL WASTE PLANNING GRANT	5-23	

In general, the features of direct combustion of municipal waste using waterwall combustion include: (1) preprocessing expenses are minimal or nonexistent, (2) minimal need for supplementary (fossil) fuel for waste combustion; (3) boilers and pollution-control devises are specifically designed for burning of the waste fuel and handling its gas stream constituents; and (4) system heat transfer efficiencies usually average 70-75 percent.

Rotary Kiln Units

A more recently developed concept is the rotary kiln combustor. This unit utilizes a waterwall boiler similar to that previously described; however, the primary combustion chamber is an inclined, rotating cylinder constructed of water filled tubes. Steam energy is recovered in the "rotary combustion" section with additional energy being generated from the downstream waterwall boiler.

Refuse is loaded into the unit by a crane. Once in the unit, a hydraulic ram feeder pushes the refuse into the rotary kiln which is mounted at an incline. The rotating action of the kiln moves the refuse through the unit. Although designed as an excess air combustion unit, the rotary kiln requires less excess air that the equivalent waterwall unit. Because of this factor, rotary kiln units are said to have somewhat higher operating efficiencies than the waterwall units. Other features are similar to those of the waterwall units.

Controlled Air Units

Controlled air incineration of solid waste using two or three combustion stages has commonly been referred to as modular incinerators. Controlled air units consist of a primary and secondary (after burner) combustion chamber connected to a downstream boiler system. The combustion of the waste material is accomplished by controlling the amount of oxygen introduced. One of the benefits of this technology is that it normally requires less field installation and erection work than the waterwall and rotary kiln unit.

In a typical controlled-air incineration facility, collection vehicles deposit refuse on a flat receiving floor. Front-end loaders move the waste into hydraulically-operated ram feeders for

transfer into the combustion system. Once waste enters the combustion chamber, it is moved through the primary chamber by internal rams that move waste along the floor of the unit. The action of these rams, combined with the declining step arrangement of the floor, agitate the waste and expose new surfaces to combustion. This is similar to the movement achieved on direct combustion reciprocating grates.

The off-gases from the primary chamber are vented to the secondary chamber or afterburner. Passing gases through a secondary chamber with temperatures ranging from 1800° F to 2000° F assures complete combustion of all gases. During startup and until the temperature in the secondary chamber reaches 1600° F, auxiliary fuel afterburners are required to maintain combustion.

The generally accepted advantages of controlled air systems include: (1) shorter construction time; (2) redundancy through the use of several smaller-sized units for handling larger plant capacities; (3) flexibility in addressing potential energy markets with system sizing; (4) ease in increasing system capacity (using additional modules); (5) energy recovery efficiencies for small systems ranging from 50-65 percent; and (6) boiler and pollution control devices are specifically designed for burning of refuse and handling its gas stream constituents.

A major disadvantage of these units is that they have a shorter life expectancy than waterwall and rotary kiln units.

Combination Refuse/Coal Fire Unit

This technology is basically a blending of two existing technologies, reciprocating grate and traveling grate waterwall boilers. The main feature of this technology is that it can burn refuse and coal either in combination or separately.

Refuse is loaded into the unit by a crane. Once in the unit, a hydraulic ram feeder pushes the refuse down and onto a traveling grate (basically a flat moving steel belt) where initial combustion occurs. The traveling grate then discharges the refuse onto a staircase of reciprocating grates for final burnout. Coal is deposited onto the traveling grate by spreader stokers. When the boiler is being fired solely on coal, the

reciprocating grate is used as a conveyor to remove coal ash discharged from the spreader stoker.

The advantages of this system are most apparent in applications where steam demands placed on the plant exceed that which can be produced from available refuse. This system is very similar to what was proposed for the Greater Johnstown Energy Plant. Other features of these units are very similar to those listed for waterwall units.

Cogeneration of Steam and Electricity

Cogeneration is the simultaneous production of two energy forms from one fuel source. In municipal waste energy recovery plants, this generally means the conversion of municipal waste fuel into a combination of steam and electricity. The steam can be used in industrial processes, district heating and cooling systems, institutions and public buildings, heating of sludge in co-disposal facilities, or for mechanical drive power. Electrical energy can be used internally for the waste-to-energy facility, sold to neighboring industries and utilities in the area, or "wheeled" to more distant locations.

At installations where the steam market does not always demand all the steam which could be produced from available refuse, electricity generation provides a convenient way to utilize the excess steam. Here "condensing turbines" are used to generate electricity from the steam. These condensing turbines are capable of producing significant amounts of electricity since they drop the steam to sub-atmospheric pressures.

At installations where the steam market can utilize all the steam produced from available refuse, electric generation takes on a different form. Here "backpressure turbines" extract only a small portion of the steam energy to produce electricity before the same steam is sent to the market.

For the same steam flow rate, backpressure turbines are capable of producing only a fraction of the electricity that a condensing turbine can produce. However, the cost of purchasing and maintaining condensing turbines is considerably more than for backpressure turbines. It should also be understood that as a general rule more revenue can be obtained by selling steam to a customer for heating and processing than by using the same amount of steam to generate electricity in a condensing turbine.

Pyrolysis

Pyrolysis may be defined as the thermal decomposition of materials in the absence or near absence of oxygen. This process is under development and generally converts waste into gaseous or liquid fuels. The goal of this process is the production of a storable and transportable fuel. The process itself causes a three-fold material breakdown, as follows:

(1) Gas composed of hydrogen, methane, and carbon dioxide;
(2) Liquid fuel composed of acetic acid, acetone and methanol; and
(3) Char consisting of carbon, glass, metal, and rock.

Pyrolysis demonstrations have been conducted in San Diego, West Virginia, and Baltimore. The San Diego project was constructed in 1976 at a cost of $9.6 million, and produces an "oil" liquid for use by a utility company, as a supplemental fuel. The Baltimore project was built in 1975 at a cost of $16.0 million, and was designed to produce steam via a pyrolytic boiler. These two demonstrations received financial assistance from the Environmental Protection Agency as process demonstrations. As a reflection of the developmental nature of the process, the Baltimore plant was plagued by design and operational problems and as a result terminated operation. The West Virginia demonstration is a private sector project which recovers a gas with 30% of the heating value of natural gas. These processes were expected to become operational during the 1977-1980 period.[1]

The above describes the developmental nature of this alternative, and the general description of recovered energy forms. There are several types of pyrolysis systems having distinct operational and product characteristics. Generally, pyrolysis utilizes a reactor/kiln for the distillation of the organic fraction of the waste stream input. Process residues are inactive and can be landfilled, while the non-combustibles can be used in construction. The following summarizes the major pyrolysis processes.

[1]U.S. EPA, Decision-Makers Guide in Solid Waste Management, SW 500 (Washington, D.C. Government Printing Office, 1976), p. 90-91.

Low BTU Gas (Andco Torrax System)

This system was incorporated into a 75-ton-per-day pilot plant in Erie County, New York. This system does not require the preparation of the input waste. The input waste is directly fed into the gasifier where the reaction occurs. The waste undergoes drying, pyrolyzing and combustion during reaction. Other system components include a secondary combustion chamber, preheating regenerative towers, gas cleaning system, and a recovery/conversion system. (See Figure 4.) However, the gas produced has too low of a heating value for off-site transportation; therefore, the gas must be burned on-site for steam generation. This process recovers 58% of the input energy potential.[2]

Medium BTU Gas (Union Carbide Purox System)

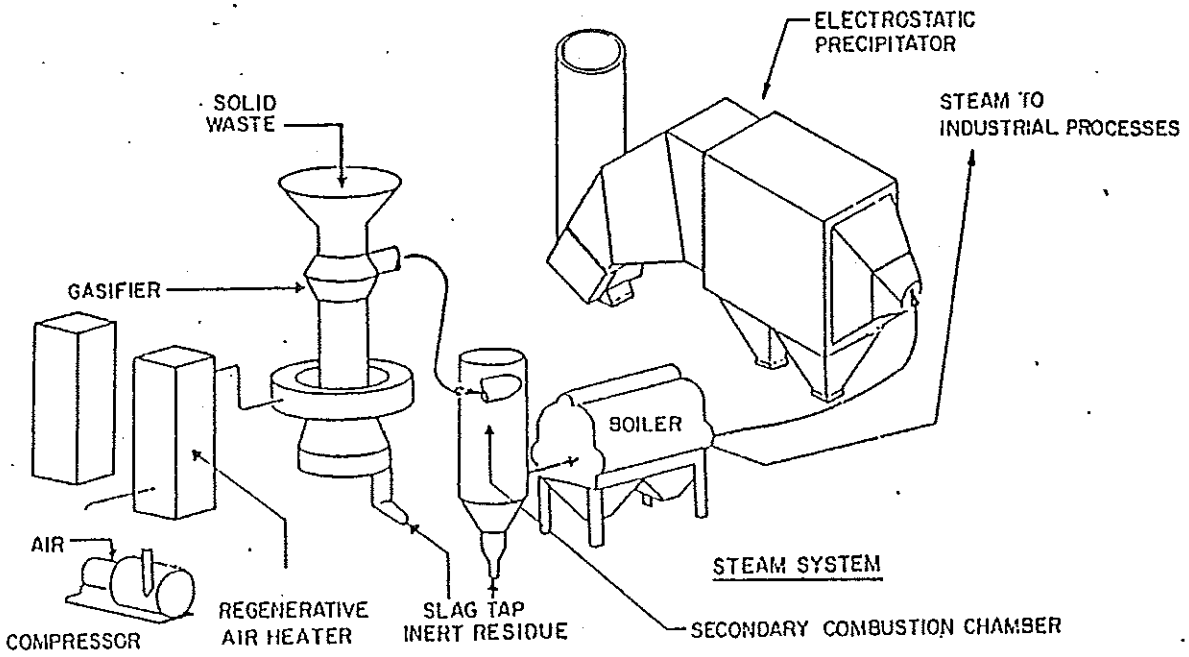
This system has been applied into private demonstration plants in Tarrytown, New York and South Charleston, West Virginia. Process components include a shredder, magnetic separator, pyrolysis furnace, scrubber, and gas cooler. (See Figure 5.) The gas produced has a heating value of 300 BTU/cubic foot, and can be sold to off-site users. The process recovers 58% of the energy of the input waste.[3]

Liquid Fuel (Occidental Flash Pyrolysis System)

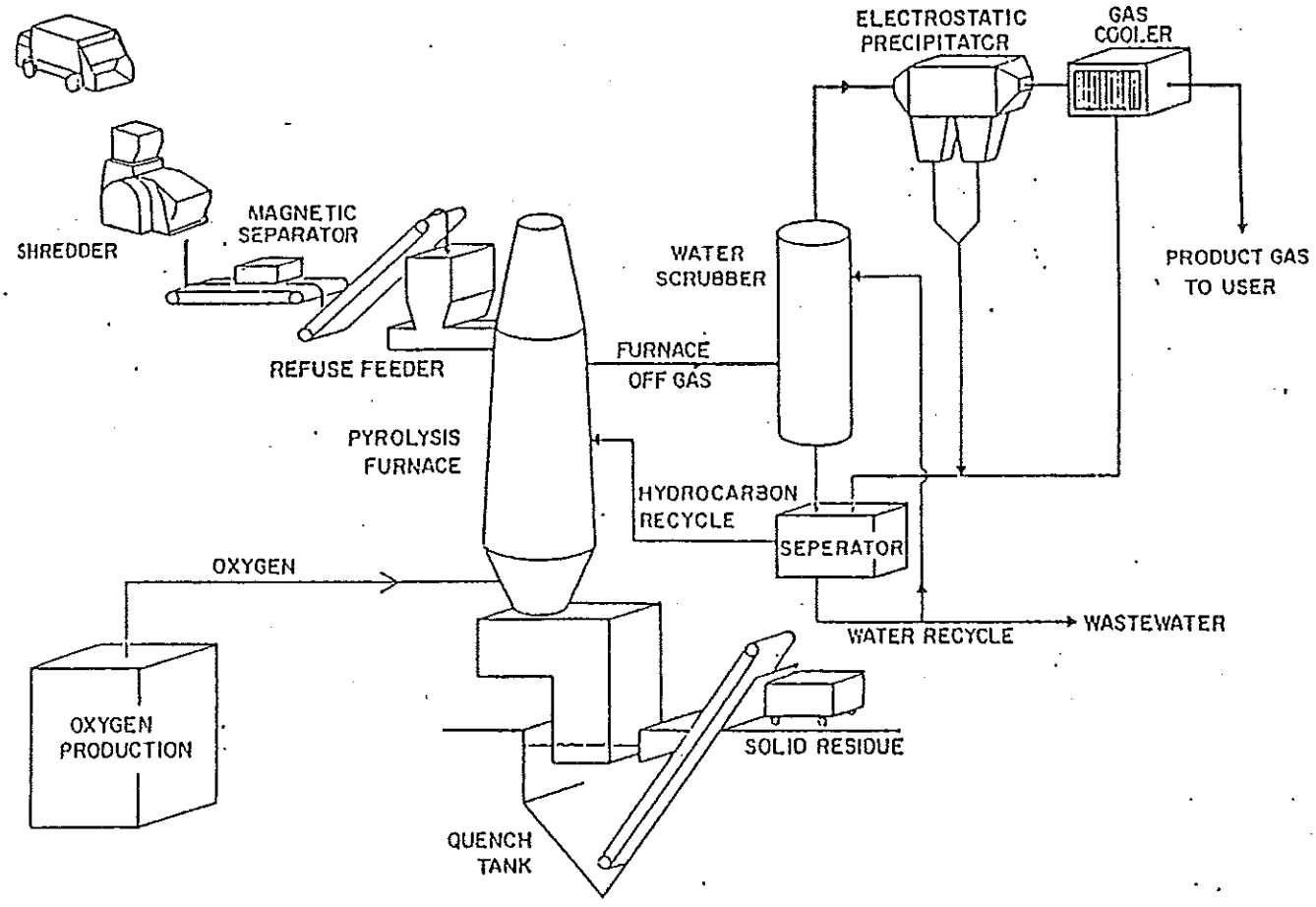
This process is being demonstrated in a prototype plant in San Diego County, California. This is a multi-stage process creating a Fluff (Refuse Derived Fuel (RDF) and gas, which after condensation become a pyrolytic "oil". The heating value of the "oil" is 10,500 BTU/pound or 58% of the heating value of No. 6 Fuel Oil. Process components consist of two-stage shredding, air classification, magnetic separation, drying and screening (for the RDF product), a pyrolytic reactor, cooling, and recovery.

[2]U.S. EPA, Resource Recovery Plant Implementation: Technologies (Washington, D.C., 1976), p. 45-47.

[3]IBID., p. 49.



SOURCE: U.S. Environmental Protection Agency, Resource Recovery Plant Implementation: Technologies (Washington, D.C.: 1976), Figure 10, p. 46.



SOURCE: U.S. Environmental Protection Agency, Resource Recovery Plant Implementation: Technologies (Washington, D.C.: 1976), Figure 12, p. 50.

UNION CARBIDE PUROX SYSTEM		FIGURE 5
ACT 101 PA DER MUNICIPAL WASTE PLANNING GRANT	5-35	

(See Figure 6.) This developmental process recovers 23% of the input energy potential.[1]

Biological Conversion

This form of energy recovery is a rather recent approach which embraces various distinct processes, all of which are presently under development. Generally, the processes involve the decomposition of solid waste by bacterial action, resulting in the production of combustible gases. The gas produced then can be burned on-site for steam generation, or may be transported if it is of a good quality. Biological conversion can occur naturally in landfills, or can be induced through digestion in a controlled vessel. In either case, decomposition of waste under anaerobic conditions creates methane and carbon dioxide gas.

Landfill Gasifier

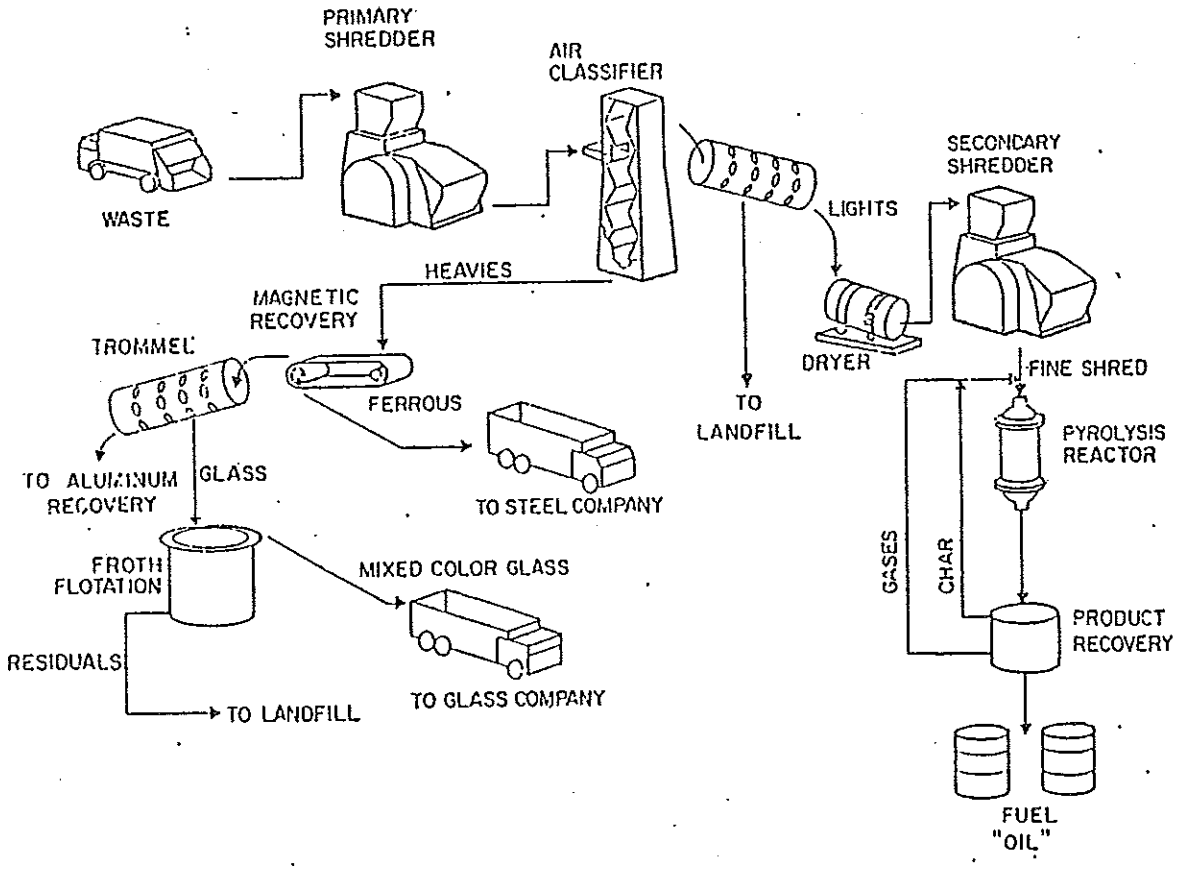
This process is based upon the recovery of methane naturally produced by waste decomposing as a result of natural processes in a sanitary landfill. The process requires a deep landfill in excess of 200 feet having an impermeable bottom (i.e., liner). The landfill cells are watered and capped. The gas produced is conveyed via a collection system to an on-site electricity generation system or through a gas transmission line. This process is considered to be in the developmental phase, having several on-going pilot projects in California.[2]
(See Figure 7.)

Reactor Gasifier

This experimental process achieves gas production by means of controlled digestion of waste. Process components include shredders, digestion tanks, and gas-cleansing units. The gas produced has a heating value of about 60% of that of natural gas. Furthermore, reactor gasifier designs may be coupled with an RDF system, which when used with sewage sludge in a mixture, is the

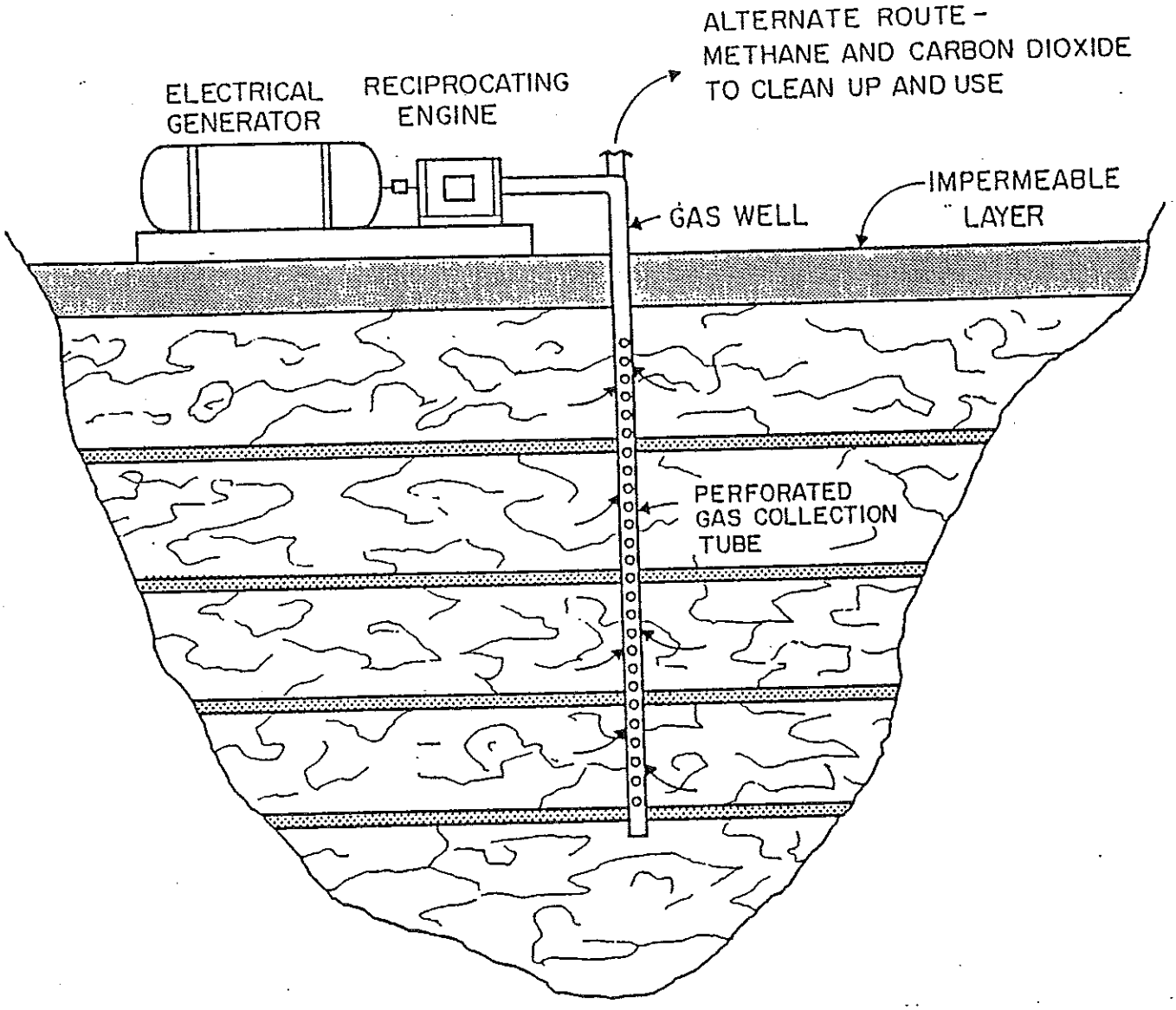
[1] U.S. EPA, Resource Recovery Plant Implementation: Technologies (Washington, D.C., 1976), p. 52.

[2] IBID., p. 55-56



SOURCE: U.S. Environmental Protection Agency, Resource Recovery Plant Implementation: Technolegies (Washington, D.C.: 1976), Figure 14, p. 53.

LIQUID FUEL PRODUCTION AND MATERIAL RECOVERY		FIGURE 6
ACT 101 PA DER MUNICIPAL WASTE PLANNING GRANT	5-37	



SOURCE: U.S. EPA, RESOURCE RECOVERY PLANT IMPLEMENTATION TECHNOLOGIES (WASHINGTON, D.C., 1976), FIGURE 16, P. 56.

digester for decomposition. Usually, the digested fuel has 50% of the input energy, while the residue may be used in specially designed boilers for steam generation. A reactor gasifier pilot plant is being tested in Pompano Beach, Florida.[1]
(See Figure 8.)

Refuse Derived Fuel (RDF)

Various processes exist which create a substitute for or a supplement of, conventional fossil-fuel fired generators. The various principle RDF processes will be described below, but all require the use of boilers having ash handling capabilities. In addition, RDF requires a new, specially designed boiler or a retrofitted existing boiler. Generally speaking, RDF has one-half the heating value of the same quantity of coal. The RDF process requires a complex configuration of system components which produce and burn RDF. The RDF processing pant may consist of a shredder, mill pulper and/or classifier. Markets for RDF include utilities and industrial steam generators. (See Figure 9.) RDF processes have been used in Chicago and Ames, Iowa. The following summarizes various RDF processes.

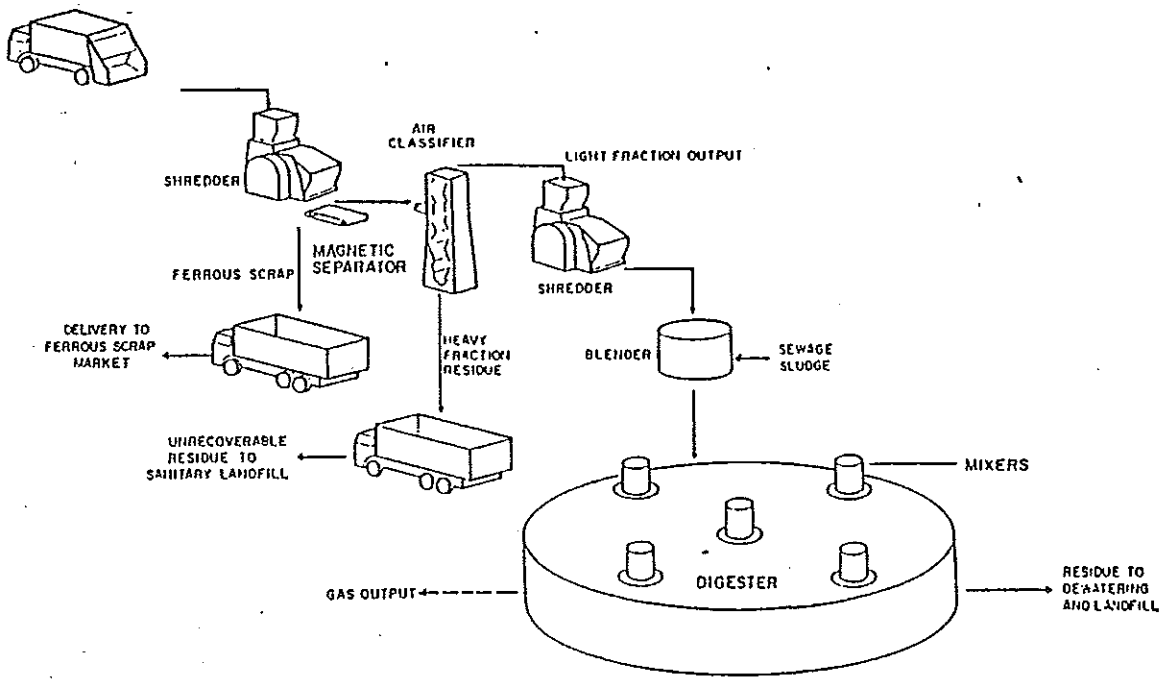
Fluff RDF (Dry)

This option processes waste to particles of 1/4 inch to 2 inches in diameter. This particle size facilitates suspension burning. Process components include a primary shredder to reduce size of input wastes; an air classifier to separate light from heavy materials; screening to remove glass; and a secondary shredder to reduce size further. The resulting product recovers 49% of the energy value of the input waste; however, it is usually inferior to coal except in sulphur content. Furthermore, the product has a tendency to cake in storage and may cause air pollution problems, especially when fired at higher rates.

Fluff RDF (Wet)

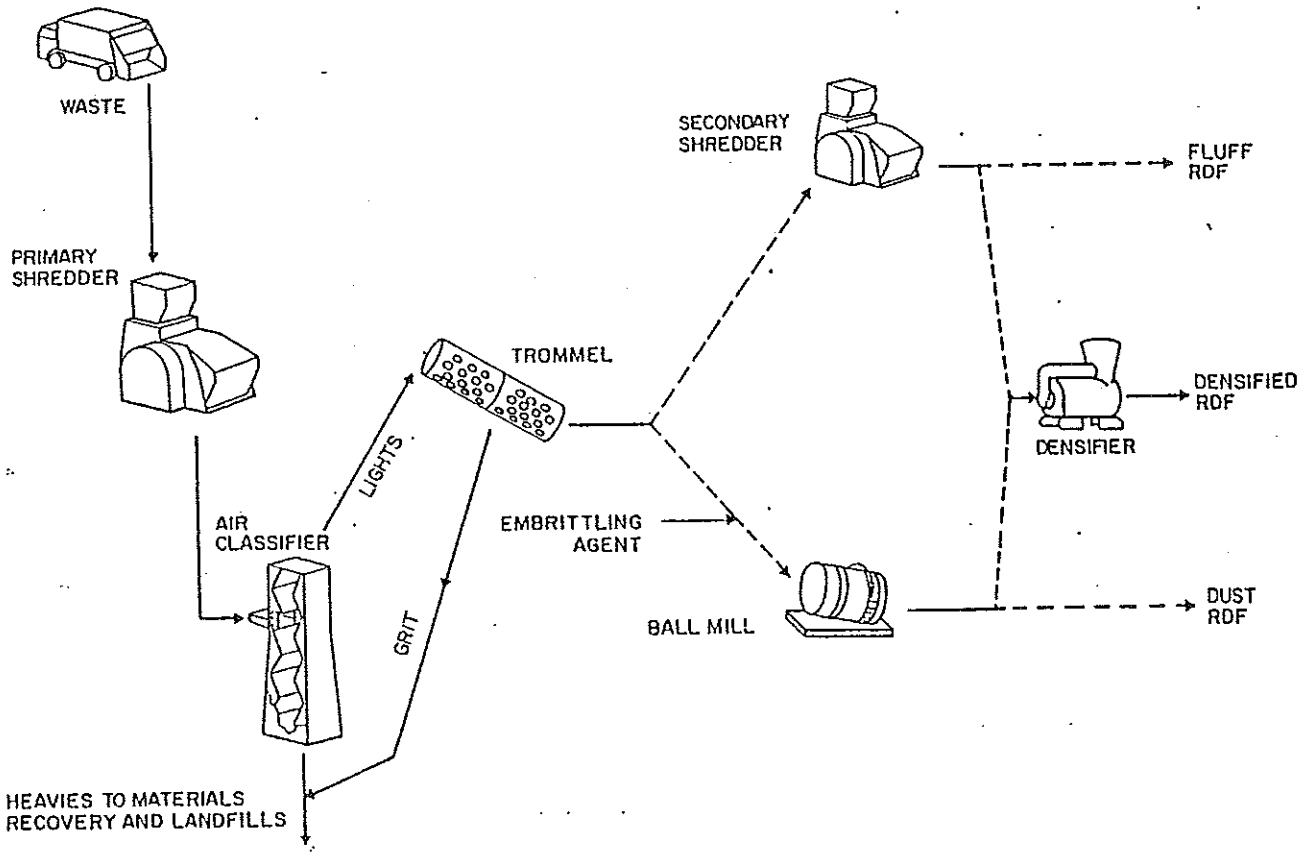
The process converts waste into a slurry, involving size reduction, removal of non-combustibles, and dewatering. Process components include conveyance to hydropulper

[1]U.S. EPA, Resource Recovery Plant Implementation: Technologies (Washington, D.C., 1976) p. 57-58.



SOURCE: U.S. EPA, RESOURCE RECOVERY PLANT IMPLEMENTATION TECHNOLOGIES (WASHINGTON, D.C., 1976), FIGURE 17, P. 57.

REACTOR GASIFIER		FIGURE 8
ACT 101 PA DER MUNICIPAL WASTE PLANNING GRANT	5-40	



SOURCE: U.S. Environmental Protection Agency, Resource Recovery Plant Implementation: Technologies (Washington, D.C.: 1976), Figure 3, p. 31.

DRY PROCESS RDF

ACT 101 PA DER MUNICIPAL WASTE PLANNING GRANT

5-41

FIGURE 9

with large item removal and metal recovery option, resulting in a aqueous slurry; liquid cyclone using centrifugal action for the separation of heavy and light materials; and a surge chest and barrel press which dewaters the material resulting in the RDF. (See Figure 10.) This alternative recovers 48% of the input energy and can be adapted to handle sewage sludge. Generally, Wet Fluff RDF is easier to handle and has less of a pollution potential than the dry process. The resulting Wet Fluff RDF product is also very homogeneous, enhancing suspension or spreader-stoker firing. The major shortcoming of this process is the expensive dewatering required to achieve a 20%-30% moisture content. This process is being demonstrated by EPA in a 150-ton-per-day plant in Franklin, Ohio.[1]

Dust RDF

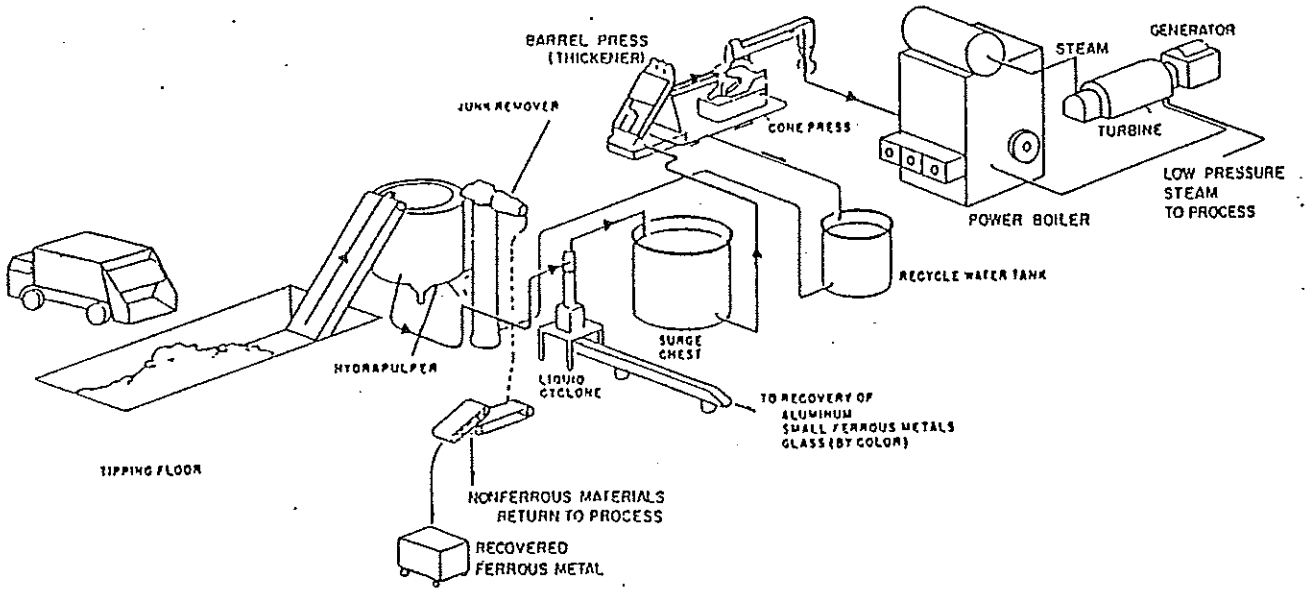
As the name implies, this process produces particles with a diameter of less than 0.15 millimeter which can be fired in suspension with coal and oil. Process components include shredding, air classification, screening, chemical embrittling, and pulverization. The energy balance of this alternative is the highest of any alternative discussed, recovering 60% of the input energy potential. The product is very combustible, has a high heat value (6,900 BTU per pound), a low moisture content (2%) and is easily stored. However, Dust RDF requires careful handling and storage to minimize the explosion potential. While the production costs of Dust RDF are higher than those for Fluff RDF, Dust RDF has superior combustion properties. This process has been used in private sector demonstrations.[2]

Densified RDF

This process is the attempt to remedy handling and storage problems associated with the Fluff RDF alternatives. The product is

[1]U.S. EPA, Resource Recovery Plant Implementation: Technologies (Washington, D.C., 1976), p. 35-37.

[2]IBID, p. 38.



SOURCE: U.S. Environmental Protection Agency, Resource Recovery Plant Implementation: Technologies (Washington, D.C.: 1976), Figure 5, p. 36.

WET PROCESS RDF

ACT 101 PA DER MUNICIPAL WASTE PLANNING GRANT

5-43

FIGURE 10

similar to Fluff and Dust RDF but bulk density is increased to 35-42 pounds per cubic feet, similar to that of coal. Process components can be the same as those of Fluff RDF followed by pelletizing, briquetting or extruding, or can be the same as that of Dust RDF followed by chemical binding and processing. Thus, this alternative is more of a refinement of other RDF processes rather than a distinct system. Densified RDF can be fired at higher rates than Fluff RDF. This process is developmental and is in the demonstration stage; thus, no energy balance figures are available.[1]

Waste Reduction

The final processing alternative to be described and evaluated is Waste Reduction. The reduction of municipal waste is an alternative that involves policies that are designed to reduce the consumption of raw material and products in order to reduce the generation of municipal waste. Currently there are four options available under this alternative. They are (1) product reuse; (2) reduced material use in products; (3) increased product lifetime; and (4) decreased consumption of products.

Product Reuse

This option is applicable to those types of consumer goods designed to be used once and thrown away. Reusable products could be substituted in many instances as in the use of refillable beverage, detergent and cleaner, as well as food product containers. These containers should be designed so they can either be refilled or recycled.

Reduced Material Use

Under this option, the product manufacturer decreases the amount of raw material consumed in each product. This usually involves the elimination of excessive packaging on consumer goods, or the reduction in size of normally large consumer items (ex. automobiles). Instituting this alternative could save energy in the manufacturing process, as well as the reduction of raw materials. To initiate this option, consumers must demand or show preference for the lesser packaged items and/or reduced size goods.

[1]U.S. EPA, Resource Recovery Plant Implementation: Technologies (Washington, D.C., 1976), pp. 39-41.

Increased Product Lifetime

This option simply means that manufacturers make products that last longer or are more durable. Essentially this involves the redesign of consumer goods for sturdier construction or extended product life through easier maintenance. This alternative is beginning to show up in such consumer items as automobile tires and mufflers, household appliances, and furniture. Again, as with the aforementioned option, this option must generally start with the consumer complaining or demanding certain improvements in the durability of the items being considered for purchase.

Decreased Consumption

This particular option involves the reduction in the individual's consumption of disposable goods. Through this action, if the participation rate is large enough, the manufacturer improves the product or the product is terminated. Either way, the eventual disposal of such an item is either eliminated or delayed from the waste stream. As with several of the aforementioned options, the implementation of this option begins with the dissatisfied consumer who refuses to buy a product until it is improved.

SUMMARY OF PROCESSING ALTERNATIVES

The following table (Table 36) summarizes the various advantages and disadvantages of the previously discussed processing alternatives. We will further analyze these alternatives for the eventual selection of one or more alternatives for implementation in Cambria County.

DISPOSAL ALTERNATIVES

PA Act 101 defines "Disposal" as the "deposition, injection, dumping, spilling, leaking or placing of solid waste into or on the land or water in a manner that the solid waste or a constituent of the solid waste enters the environment, is emitted into the air, or is discharged into the waters of the Commonwealth." Currently, it is against Federal law to dispose of solid waste into any body of water. Therefore, this leaves only incineration and landfilling of municipal waste as viable disposal alternatives.

TABLE 36

POTENTIAL ADVANTAGES AND DISADVANTAGES OF MUNICIPAL WASTE PROCESSING ALTERNATIVES OR OPTIONS, AND THE CONDITIONS THAT FAVOR EACH

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Volume Reduction			
Baled Solid Waste	Extends life of landfill (double that of unprocessed wastes) Lowers operating costs at the disposal site Reduces hauling costs where distant sites are used Does not require daily cover under some conditions Vehicles do not become mired in waste in inclement weather Reduces problems with vectors Does not support combustion or lead to blowing litter	Involves material processing costs Resource recovery is precluded once bale is formed Leachate may create water pollution	Long hauls needed to reach landfill sites Shortage of landfill sites requires maximum utilization of available land

TABLE 36 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Shredded Solid Waste	Shredding at transfer station or at landfills may be first step in implementing a resource recovery system Extends life of landfill Waste is more easily placed and compacted	High operating costs Jamming and bridging of the feeding equipment can reduce throughput of the mill High level of component wear, especially of hammers Danger to employees from flying objects, explosions, fires within the mills, and noise Leachate may create water pollution Maintenance and repair costs are high	Cover material is difficult to obtain Shortage of landfill sites requires maximum utilization of available land

TABLE 36 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Incineration	Extends life of landfill via volume reduction of of solid waste May be more economical than hauling unprocessed waste to distant landfill	Large capital investment High operating cost Large expenditures may be required for for air pollution control equipment Conventional incinerators generate large quantities of wastewater which must be treated and disposed of The excess heat is usually wasted	Land available for sanitary landfilling is at a premium Few if any conditions favor conventional incineration

TABLE 36 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Resource Recovery			
Mechanized Recycling Systems	Less land required for municipal waste disposal Lower disposal costs may result through sale of recycled materials and reduced landfilling requirements	Complex machinery occasionally breaks down Requires markets for recovered materials High initial investment required for some techniques Materials must meet specifications of purchaser	Markets for sufficient quantities of the reclaimed materials are located nearby Land available for sanitary landfilling is at a premium Steady volume of solid waste

TABLE 36 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Source Separation Recycling	Simple to implement Reduces solid waste volume at sanitary landfill If material prices are high, there may be a decrease in collection costs Relatively clean products High public acceptance	Requires citizen cooperation Requires market for separated waste materials Scavengers may take material for private gain	Markets must exist for the materials recovered Citizen support of recycling must be high State and/or local law mandates all residents and businesses to to recycle
Composting	Relatively simple Less overall pollution than sanitary landfill Reduces solid waste volume at the sanitary landfill Can produce a low cost soil conditioner	Requires market or or use for compost Compost plant usually requires a relatively remove location Operational costs could be considerable depending on level of technology used	Market exists for the compost Land available for sanitary landfilling is at a premium

TABLE 36 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Energy Recovery (includes Mass Burn, Pyrolysis, Bio-Conversion, and RDF)	Landfill requirements can be reduced	Requires markets for energy produced	Steady volume of solid waste
	Finding a site for an energy recovery plant may be easier than finding a site for a landfill or conventional incinerator	Most systems will not accept all types of wastes	Availability of a steady customer for generated energy to provide revenue
	Total pollution is reduced when compared to system that includes incineration for solid waste disposal and burning fossil fuels for energy	Specific needs of the energy market may dictate parameters of the system design	Desire or need for additional low-sulfur fuel source
	May be more economical than environmentally sound conventional incineration or remote sanitary landfilling	Needs relatively long period for planning and construction between approval of funding and full-capacity operation	Land available for sanitary landfilling is at a premium
	As cost of fossil fuel rises, economics become more favorable	Most expensive processing alternative	Political and citizen support must be high

TABLE 36 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Waste Reduction (Includes Product Reuse, Reduced Material Use, Increased Product Life, and Decreased Consumption)	Reduction in highway litter Reduction in the volume of the waste stream Reduces the consumption of energy Reduction in overall product cost Reduces consumption of natural resources	Loss of employment in manufacturing of packaging Additional storage requirements for returnable containers	State legislative support (Bottle Bill enactment) Private sector support (beverage manufacturing and retail sales) Statewide consumer support

Incineration

Since incineration was discussed in the previous section as a processing system it will not be further discussed in this section. Incineration does, however, involve the following types of disposal alternatives: Mass burning; Cogeneration; and Pyrolysis. As mentioned above, these disposal alternatives were described in considerable detail in the previous section under processing alternatives, and therefore are referenced to that section of the Plan. Each of these incineration alternatives does, however, produce an ash residue that must be disposed in a sanitary landfill licensed to accept this type of ash. Therefore, any type of municipal waste disposal utilizing incineration must also include the use of sanitary landfilling for ash disposal, and for any waste that was not incinerated due to equipment malfunction.

Mass Burning: See page 5-27.
Cogeneration: See Page 5-31.
Pryrolysis: See Pae 5-32.

Landfilling

Due to the strict state and federal regulations, sanitary landfilling is now an engineered method of disposing of municipal waste on land in a manner that minimizes environmental pollution. Generally speaking, landfilling takes place at a site that is carefully selected, designed, and developed. The municipal waste that is delivered to this site is spread in layers, compacted by heavy machinery (crawler tractor or scraper), and at the end of each operating day covered with earth and compacted once again.

Currently in Cambria County, the primary type of waste disposal utilized is landfilling. Unprocessed municipal waste is delivered directly by collection vehicles to either the W. B. Industries (Laurel Highlands), Lasky, Southern Alleghenies (Somerset County) or other nearby landfills. The W.B. Industries (Laurel Highlands), Lasky, and Southern Alleghenies Landfills have all applied to PA DER for expansion of their existing facilities. Each of these landfills is proposing to continue operating for at least 10 more years. Therefore, sanitary landfilling should remain as a viable disposal alternative in Cambria County over the next ten years.

Sanitary landfilling utilizes one of three options: the trench, areawide, or slope method of disposal.

Trench Landfill

The trench method (see Figure 11) includes excavating a shallow trench, depositing, and compacting the waste in the trench and then covering the waste with soil obtained from the trench being dug, or from an area excavated for the next day's solid waste, or from soil stockpiled for this purpose. The trench can be dug 8 to 20 feet deep depending on the location of the groundwater table. Under new environmental laws all landfills in the state must have double impermeable liners of such material as natural clay, thick plastic film, asphalt, or some combination of these liners to protect nearby groundwater. In addition to these liners, the landfill must have an internal drainage system of leachate collection pipes and treatment ponds before allowing any discharge into a local stream.

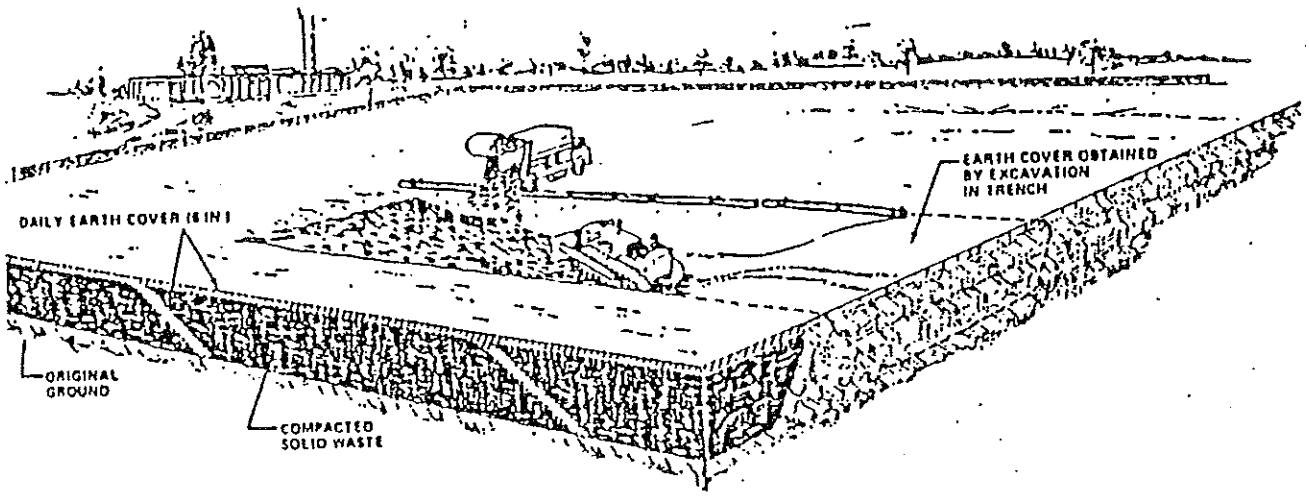
Areawide Landfill

An areawide landfill (see Figure 12) is used over a broad area with the solid waste being deposited on the ground and compacted prior to being covered with soil. Usually an outside or adjacent source of cover material is needed for this optional method. Again, as with the trench method of landfilling, the areawide method must contain a system of impermeable liners and a system of leachate pipes and treatment facilities before any leachate exits the site. Usually this landfill method has one or more lifts (layers of waste) placed on top of each other to maximize the volume of waste held at the site. The number of lifts will be determined and approved by the PA DER.

Slope Landfill

The slope method (see Figure 13) of landfilling is similar to the areawide method but utilizes the sloping side or sides of ravines or valleys and usually contains numerous lifts of waste stacked vertically until a predetermined slope or gradient is reached. As with the previous two methods of landfilling, the slope method also requires the use of impermeable liner and a system of leachate pipes and collection and treatment ponds prior to discharge of leachate into any nearby stream. This slope method of landfilling also requires an outside source of cover material.

Table 37 lists some of the advantages and disadvantages and conditions that favor landfilling. As indicated on this table, sanitary landfilling will always be required for the disposal of certain non-combustible items, ash residue from incinerators,



NOTE: LEACHATE COLLECTION AND TREATMENT SYSTEM NOT SHOWN

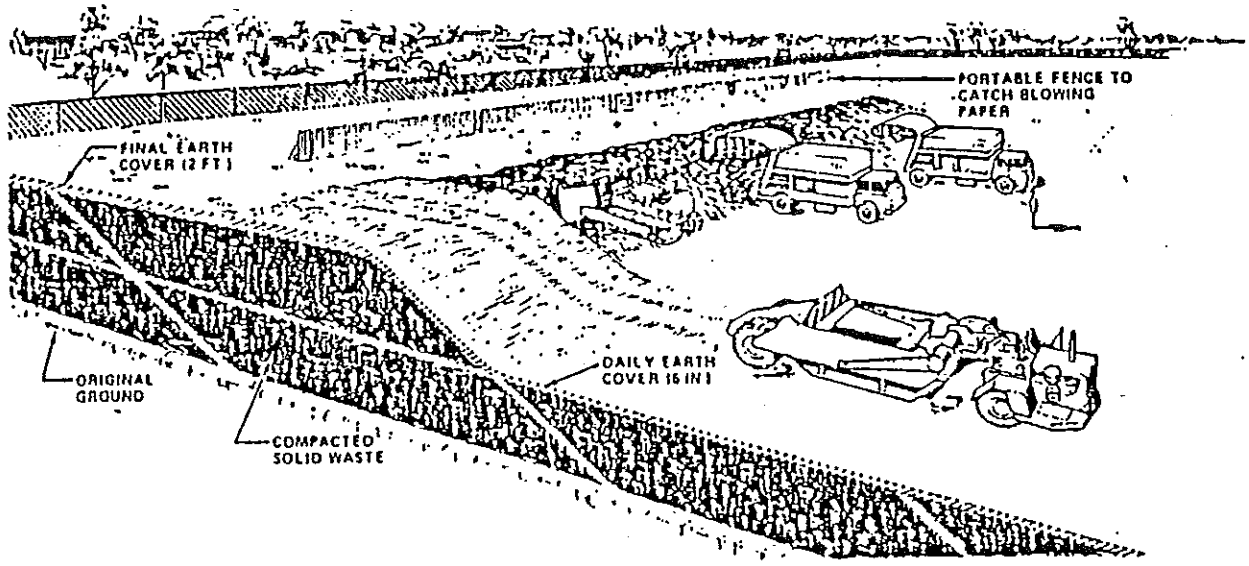
CAMBRIA COUNTY COMPREHENSIVE PLAN

TRENCH LANDFILL

SOURCE: H.F. LENZ CO. CONSULTING ENGINEERS, 1979

5-55

FIGURE 11



NOTE: LEACHATE COLLECTION AND TREATMENT SYSTEM NOT SHOWN

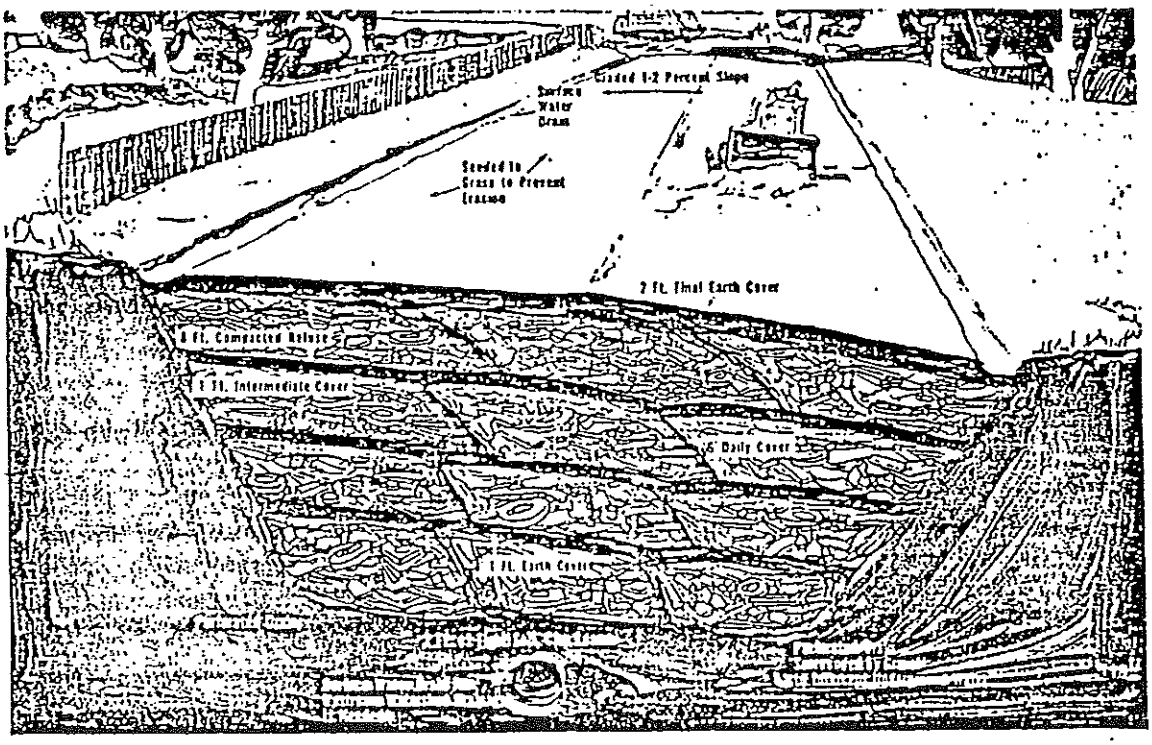
CAMBRIA COUNTY COMPREHENSIVE PLAN

AREAWIDE LANDFILL

SOURCE: H.F. LENZ CO. CONSULTING ENGINEERS, 1979

5-56

FIGURE 12



NOTE: LEACHATE COLLECTION AND TREATMENT SYSTEM NOT SHOWN

CAMBRIA COUNTY COMPREHENSIVE PLAN

SLOPE LANDFILL		FIGURE 13
SOURCE: H.F. LENZ CO. CONSULTING ENGINEERS, 1979	5-57	

TABLE 37

POTENTIAL ADVANTAGES AND DISADVANTAGES OF MUNICIPAL WASTE DISPOSAL AND THE CONDITIONS FAVORING EACH

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Landfilling
Sanitary Landfilling	Relatively easy to manage Can be put into operation in short period of time (After permit is issued) May be used to reclaim land Can receive almost any type of solid waste Could be used to recover methane gas for heating or energy production	Proper sanitary landfill standards must be observed or the operation may degenerate into an open dump Difficult to locate new sites because of citizen opposition Leachate may create water pollution Production of methane gas can constitute a fire or explosion hazard Obtaining adequate cover material may be difficult	All municipal waste systems must have a landfill for unprocessed waste and for residues resulting from processing facilities

SOURCE: U.S. EPA, Decision-Makers Guide in Solid Waste Management, 1978.

TABLE 37 -- (Continued)

Alternative or Option	Potential Advantages	Potential Disadvantages	Conditions which Favor Alternative
Incineration	Extends life of landfill via volume reduction of of solid waste May be more economical than hauling unprocessed waste to distant landfill	Large capital investment High operating cost Large expenditures may be required for for air pollution control equipment Conventional incinerators generate large quantities of wastewater which must be treated and disposed of The excess heat is usually wasted	Land available for sanitary landfilling is at a premium Few if any conditions favor conventional incineration

and non-processed waste. Therefore, no matter what type of waste processing is selected, the County will always require a sanitary landfill for the "final" containment of a certain amount of municipal waste.

As part of long-term municipal waste management planning, the reuse of the completed landfill should be addressed. Decomposition of wastes is a function of moisture content, and is usually a very slow process. Decomposition results in gas production usually consisting of methane, carbon dioxide, and small amounts of nitrogen, hydrogen, and hydrogen sulfide. Gas production usually peaks within two (2) years after the landfill has been completed. Methane production causes the most concern due to its explosive character. It should be noted that methane is the major component of natural gas, and it seeks an easy exit from the landfill. Precautions should be taken to avoid the concentration of gases in sewers and nearby basements. Techniques do exist and are in practice for the venting or recovery of landfill gases. This method of energy recovery was discussed under the heading of Biological Conversion under Processing Alternatives.

The major ultimate reuses for the completed landfill include parking and recreation; in fact, a recreation land reuse may help overcome any initial public opposition to the site. The uneven surface settlement and gas production potential usually precludes building on the site; however, one-story buildings with special foundation designs have been built in some areas.

COMPARATIVE SELECTION CRITERIA FOR PROCESSING ALTERNATIVES

As previously mentioned, the first three (3) systems of a municipal waste management program have been in place and practiced for many years in Cambria County. These systems are storage; collection; and transportation. Therefore, further analysis of these systems will not be necessary. However, the fourth system or the processing system, involves a number of alternatives which can be implemented. Therefore, in an effort to determine the best processing alternative(s) to implement within Cambria County, a comparative selection procedure was developed. The first part of this procedure was the selection of relevant criteria through which to compare each of the processing alternatives. Each alternative with its corresponding options, if any, were then comparatively rated (by members of the Cambria County Solid Waste Management Advisory Committee) under each

criteria and then assigned a numerical rating from 1 to 4 (with 1 being least desirable and 4 being most desirable). The most desirable alternative could receive a maximum total rating of 40. After each alternative was rated, they were then numerically ranked according to their individual scores with the highest score being the most desirable processing alternative.

During the preparation of the previous chapters of this Plan and through discussions with the Cambria County Solid Waste Management Advisory Committee, ten (10) implementation constraints were identified as having an impact on the selection of one alternative over another. These constraints became the selection criteria to which each alternative was comparatively rated. The selection criteria includes the following:

(1) Operational cost savings;
(2) Environmental protection;
(3) Site location compatibility;
(4) Natural resource conservation;
(5) Income generation;
(6) Legislative simplicity;
(7) Political feasibility;
(8) Citizen support;
(9) Administrative simplicity; and
(10) Ease of implementation.

A description of each of these ten (10) selection criteria is contained in the following paragraphs.

(1) Operational Cost Savings

After considering each of the four major processing alternatives, one was determined to be the most costly to operate on an annual basis. Each of the other three alternatives were also comparatively rated as to their potential operational costs. The alternative that was determined to be most costly to operate was given the minimum numerical value of 1. The remaining three alternatives were then given numerical values based on their comparative costs with the least costly receiving the highest numerical value of 4.

(2) Environmental Protection

Each alternative was comparatively rated according to its relative contribution toward land, water, air, and noise pollution. Since the most desirable alternative must be as environmentally responsible as possible to avoid potential safety

and/or health hazards that alternative was assigned the highest numerical value of 4. Those alternatives yielding moderate amounts of degradation were given numerical values of 3 and 2. The alternative yielding the highest amount of environmental degradation was assigned the minimum numerical value of 1.

(3) Site Location Compatibility

Another criteria that affects the selection of a processing alternative is its ability to be compatible with its surroundings. Most, if not all, facets of muncipal waste management are considered as detriments to high standards of living and high property values; but we must also remember that the management of municipal waste is a necessity and must be situated somewhere in the community. Therefore, each of the alternatives were compared with each other and the one that was determined to be the most compatible within Cambria County was given the maximum numerical value of 4. Those with moderate and high site restrictions (requiring such features as new highway access, heavy truck traffic volumes, zoning amendments, etc.) were given lower numerical values of 3, 2, and 1.

(4) Natural Resources Conservation

A desirable feature of any processing alternative is its ability to conserve natural resources. Therefore, any alternative that could demonstrate the savings of natural resources such as the conservation of land, minerals, water, and vegetation was rated higher than its competitors. The alternative that was determined to have the highest conservation of resources was given the maximum numerical value of 4. Those alternatives with less resource conservation involved were given lower numerical values.

(5) Income Generation

Because of ever-increasing operational and material costs, the ability to generate income or revenue was considered a desirable criteria for selecting an alternative. Income or revenue generation could be established from either equipment rental, marketing of fuel, or the production and sale of steam and/or electricity. Processing alternatives that could establish the greatest potential for income generation were rated at the maximum numerical value of 4. Those alternatives with only moderate potential for income generation were rated at a numerical value of either 3 or 2, and the one with little or no potential was given a numerical value of 1.

(6) Legislative Simplicity

Another criteria that was listed by several experts in the field of solid waste management as important was the ability to be implemented with few legal or legislative requirements. Therefore, those alternatives that indicated the need for the passage of new state or local laws, or required many legal agreements or contracts were given a minimum numerical value of 1, while those requiring modest or little legislative action were given higher numerical values of 2, 3, and 4.

(7) Political Feasibility

During the preparation of this Plan and during discussions with the Advisory Committee and local elected officials, it became apparent that political support would be necessary for the implementation of any solid waste processing alternatives. Hence, alternatives under this criteria that were found to have a high level of political support were rated at the maximum numerical value of 4. Those alternatives that were evaluated as having modest political support were rated at a numerical value of 3, and those with little or no political support were given a numerical value of 2 or 1.

(8) Citizen Support

As with most public-oriented projects (like new highways, public sewers, etc.), the citizens who will eventually use or pay for such projects or improvements have considerable power to oppose and/or defeat a controversial project. Like gaining political support, gaining citizen support or at least lessening their opposition, will have a considerable effect on the implementation of a new or different processing alternative. Therefore, the alternative that was determined to have the greatest amount of citizen support was given the maximum numerical value of 4. Those alternatives with moderate or high levels of citizen opposition were given lower numerical values of 3, 2, and 1, respectively.

(9) Administrative Simplicity

A generally accepted criteria that is used in evaluating or selecting project alternatives is the level of difficulty in administering the project. The more paperwork involved usually requires more personnel to handle the work load. Obviously, this increases operating expenses and decreases operational efficiencies. Therefore, the processing alternative

that would require a relatively low level of administration was given the maximum numerical value of 4, and those alternatives with moderate or high levels of required administration were given lower numerical values.

(10) Ease of Implementation

A comparison of how quickly each of the processing alternatives could be implemented was determined to be the last selection criteria. Ease and simplicity of implementation requires less time to get under operation and usually has greater user support. Therefore, the processing alternative that required the least amount of time to implement was given a numerical value of 4. The alternatives that required moderate to high levels of time to implement were given lesser numerical values of 3, 2, and 1, respectively.

After each of the alternatives were comparatively rated using the ten selection criteria, their total numerical value was listed and then they were comparatively ranked with the highest numerical value being ranked first. This method of selecting a processing alternative is summarized in the following table (Table 38).

As indicated on Table 38, the processing alternative that was selected as having the highest potential or acceptance for implementation in Cambria County was Resource Recovery. Since Resource Recovery involves recycling and composting, its implementation has already begun with several municipalities that have instituted curbside recycling. Late in 1990, the City of Johnstown and Richland Township will initiate their curbside recycling programs followed by Upper Yoder Township and Westmont Borough in September of 1991. Therefore, resource recovery is a very viable processing alternative with significant potential to be adopted by other municipalities not mandated to initiate curbside recycling. With these four mandated municipalities and the voluntarily established curbside recycling programs in Conemaugh Township, Carrolltown Borough, and Cresson Borough, approximately 61,040 persons, or 36% of the 1990 Cambria County population, will be involved in resource recovery via recycling and composting.

Selected as the second highest ranking processing alternative was Waste Reduction. This alternative involves the reusing of more products (manufacturing more returnable or reusable products), the reduction of materials used in products (via less packaging and/or smaller sized products), increased

TABLE 38

COMPARATIVE SELECTION CRITERIA
FOR
MUNICIPAL WASTE PROCESSING ALTERNATIVES

Processing Alternatives	Operational Cost Savings	Environmental Protection	Site Location Compatibility	Resource Conservation	Income Generation	Legislative Simplicity	Political Feasibility	Citizen Support	Administrative Simplicity	Ease of Implementation	Total Rating	Alternate Ranking
Volume Reduction (Includes Baling, Shredding, or Incinerator prior to Landfilling)	2	2	2	1	2	4	3	2	4	3	25	3
Resource Recovery (Includes Recycling and Composting)	3	3	3	3	3	3	4	4	2	4	32	1
Energy Recovery (Includes Mass Burn, Pyrolysis, Bio-Conversation, or RDF)	1	1	1	2	4	1	1	1	1	1	14	4
Waste Reduction (Includes Product Reuse, Reduce Material Use, Increased Product Life, and Decreased Consumption)	4	4	4	4	1	2	2	3	3	2	29	2

NOTE: Highest rating under each criteria was given a numerical value of 4.
Fair rating under each criteria was given a numerical value of 3.
Moderate rating under each criteria was given a numerical value of 2.
Lowest rating under each criteria was given a numerical value of 1.

Rated and ranked by the Cambria County Solid Waste Management Advisory Committee - May 29, 1990.

product life (via more durable consumer goods), and decreased consumption of disposable goods (requires a change in our current throw-away oriented society). The practicality of implementing all facets of this alternative at the County or municipal level is somewhat doubtful. This doubt is based on a combination of national and statewide social, economic, and political conditions involved with this alternative. For instance, to initiate product reuse via a mandatory return of all beverage containers, statewide legislation ("Bottle Bill") must be passed. Currently, there is a strong anti-Bottle Bill lobby active in the State legislature. Therefore, its passage is doubtful anytime in the near future. There is also fear by those people employed in the bottling industry that they will lose their jobs due to such legislation. Other forms of waste reduction require the cooperation of the product manufacturers. The manufacturers must see that increasing the product's usable lifetime will be of some benefit (economic or otherwise) before they initiate such action. The decreased utilization of certain products could only be initiated at the state or national level via the passage of specific legislation and/or through the cooperation of manufacturers. Currently, there is no indication that any significant political or manufacturer support is forthcoming.

Ranking third and fourth, respectively, are Volume Reduction and Energy Recovery Alternatives. The primary reasons behind the relatively low rating of these two alternatives is cost, environmental issues, and lack of citizen and political support.

Disposal System

The fifth and final system of a municipal waste management program is disposal. As indicated earlier in this chapter, there is only one form of municipal waste disposal available for Cambria County, and that is through sanitary landfilling. Incineration reduces the volume of waste and was therefore analyzed under processing alternatives. Incineration also leaves bottom ash and fly ash that must be disposed. Therefore, even with the utilization of such processing alternatives as resource recovery, waste reduction, and incineration, sanitary landfilling will still be required as the final form of municipal waste disposal. Furthermore, this approach to waste disposal will be compatible with the recommended waste processing methods of recycling, composting, and some forms of waste reduction (such as product reuse and increased product life) for Cambria County.

Role of Solid Waste Advisory Committee

The Cambria County Solid Waste Management Advisory Committee played a significant role in recommending the type of municipal waste management program best suitable for Cambria County. They essentially reviewed all of the available data describing the existing conditions concerning waste management within the County and concurred with the findings presented in this Plan by the Cambria County Planning Commission. Secondly, they assisted the CCPC in establishing appropriate criteria necessary for the selection of the best suitable type of waste processing system for the County. Thirdly, they rated and ranked all of the technically feasible processing alternatives according to a comparative selection procedure developed by the CCPC (with Advisory Committee assistance). The Committee's final, and most important, role was to present to the County Commissioners of Cambria County their findings on how municipal waste should be managed over the next ten (10) year period (1990-2000). These findings are summarized on the following table (Table 39).

SPECIFIC PROCESSING PROGRAMS AND DISPOSAL FACILITIES

The following pages include a description of the various municipal waste processing programs and existing waste disposal facilities outlined in this Plan. Only those state-mandated municipalities that are required to institute source separation recycling (City of Johnstown, Richland Township, Upper Yoder Township, and Westmont Borough) and those municipalities that had voluntarily instituted mandatory recycling programs (prior to May 1990) were included in this description. Other municipalities in Cambria County are considering the voluntary development of mandatory recycling programs. As these municipalities identify their programs to the Cambria County Planning Commission, they will be incorporated into future updates of this Plan.

The recommended disposal facilities were determined based on the following factors:

1. Cambria County Solid Waste Management Advisory Committee recommended that the existing practice of sanitary landfilling be continued. This decision was due in part to the ready access to existing landfill facilities and the extensive time, cost, and potential air pollution problems associated with incineration.

2. Cambria County Planning Commission contacted the primary landfills operating in and adjacent to Cambria County for their interest in receiving county municipal waste. Each landfill operator (Lasky, W.B. Industries [Laurel Highlands], and Southern Alleghenies) indicated they had adequate capacity to receive all of Cambria County municipal waste and wished to negotiate a contract for this service. The County then initiated separate contract negotiations with W.B. Industries (Laurel Highlands), Lasky, and Southern Alleghenies for county-wide municipal waste disposal. Because the potential disposal capacity at these facilities far exceeded the probable municipal waste generated in the County, no further landfill operators were contacted.

3. Requests from other landfill operators were also received. Resource Conservation Corp. with a proposed site in Somerset County, Waste Management of PA and National Waste and Energy Corp. with sites in Westmoreland County, BFI Waste Systems with a disposal facility in Elk County, and Waste Management of PA with a site in Clearfield County also desired Cambria County municipal waste. The County indicated an interest in the Resource Conservation Corp. site as a back-up to the Lasky Landfill primarily due to its nearby location, the availability of a yard waste composting facility at the landfill site, and its economical disposal rate, as well as being owned and operated by a corporation located in Cambria County (Johnstown, PA). See letters of interest in Appendix H, I, J, S.)

4. The Pellegrene Landfill was recently contacted (11/14/90) and they indicated that they were restricted to only 150 tons per day and could not take Cambria County waste until their new PA DER permit is approved. After PA DER approval, they will have an average daily capacity of approximately 850 tons per day.

TABLE 39

CAMBRIA COUNTY
MUNICIPAL WASTE MANAGEMENT SYSTEMS
1990-2000

1. STORAGE

   a. Metal or Plastic Garbage Cans (20 gal.±)
   b. Plastic Bags
   c. Separate Recycling Containers

2. COLLECTION

   a. Private Collection by Municipal Contract
   b. Municipal Work Force

3. TRANSPORTATION

   a. Direct Haul to Disposal/Processing Site
   b. Transfer Station (only if available disposal/processing site is beyond an average one-way distance of 20 miles)

4. PROCESSING

   a. Source Separation Recycling
   b. Leaf Composting
   c. Waste Reduction (via product reuse and reduced product consumption)

5. DISPOSAL

   Sanitary Landfilling
      Laurel Highlands (Jackson Township)
      Lasky Landfill (Richland Township)
      Southern Alleghenies (Somerset County)
      Resource Conservation Corp. (Somerset County-Proposed)

APPENDIX E

INDIANA COUNTY MRF AGREEMENT

This page intentionally left blank.

Cooperative Agreement
between
the Cambria County Solid Waste Management Authority
and
the Indiana County Solid Waste Authority
for Recycling Processing and Marketing Services

This Agreement, entered into this 10th day of August 2000, by and between the Cambria County Solid Waste Management Authority (CCSWMA) and the Indiana County Solid Waste Authority (ICSWA), both municipal authorities organized and existing under the laws of the Commonwealth of Pennsylvania, sets forth the terms and conditions under which the ICSWA shall provide recycling processing and marketing services to the CCSWMA for recyclable materials collected from the CCSWMA Recycling Depot System.

SECTION 1
DEFINITIONS

(a) "Act 101" – The Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101, July 28, 1988).

(b) "Clear Glass Containers" – A source-separated recyclable material that includes used food and beverage containers manufactured from flint glass.

(c) "Department" – shall mean the Pennsylvania Department of Environmental Protection, formerly the Pennsylvania Department of Environmental Resources.

(d) "Marketing" – Selling or providing for the reuse of recyclable materials as a substitute for or a supplement to virgin raw materials by a manufacturer or intermediate processing facility.

(e) "Plastics" – A source separated recyclable synthetic material consisting of large molecules called polymers derived from petrochemicals (compared to natural polymers such as cellulose, starch, and natural rubbers), HDPE (#2) and PET (#1), bottle varieties only.

(f) "Mixed Metal Containers" – A source-separated recyclable material that includes used beverage and food cans manufactured from either aluminum or steel.

(g) "Recycling" – The collection, separation, recovery and sale or reuse of metals, glass, paper, leaf waste, plastics and other materials which would otherwise be disposed or processed as municipal waste or the mechanized separation and treatment of municipal waste (other than through combustion) and creation and recovery of reusable materials other than a fuel for the generation of energy.

(h) "Recycling Depot System" – A collection program for source-separated recyclable materials that provides for designated collection centers for source-separated recyclable materials, that is operated by or on behalf of a municipality.

(i) "Recycling Facility" – A facility employing a technology that is a process that separates or classifies municipal waste and creates or recovers reusable materials that can be sold or reused by a manufacturer as a substitute for or a supplement to virgin raw materials.

(j) "Recycling Processing" – Any technology used for the purpose to separate or classify municipal waste and create or recover reusable materials that can be sold or reused by a manufacturer as a substitute for or a supplement to virgin raw materials.

(k) "Source-separated recyclable materials." – Materials that are separated from municipal waste at the point of origin for the purpose of recycling.

(l) "Waste Newsprint" – A source-separated recyclable material that includes used or outdated newspapers.

SECTION 2
OBLIGATIONS OF THE CAMBRIA COUNTY SOLID WASTE MANAGEMENT AUTHORITY

2.1 Cambria County Recycling Depot System

The CCSWMA shall provide for the collection of residential recyclable materials in Cambria County by means of the Cambria County Recycling Depot System. The recyclable materials collected shall include clear glass containers, mixed metal containers, waste newsprint, and plastics. The recyclable materials collected from the Cambria County Recycling Depot System shall be the property of the CCSWMA.

2.2 Transportation of CCSWMA Recyclable Materials

The CCSWMA shall provide for the transportation of source-separated loads of recyclable materials collected from the Cambria County Recyclable Depot System to the ICSWA Recycling Facility. The source-separated loads shall contain: clear glass containers; mixed metal containers; waste newsprint, and plastics. Once accepted at the ICSWA, material becomes the sole marketing responsibility of the ICSWA.

2.3 Marketing of Recyclables.

The CCSWMA shall provide for the marketing of recyclables using local Cambria County markets as the first alternative. Recyclables from the Cambria County Recycling Depot System that are not marketed in Cambria County shall be transported to the ICSWA to be marketed on behalf of the CCSWMA.

2.4 Quarterly Compensation

The CCSWMA shall provide quarterly compensation to the ICSWA for processing and marketing services as determined in Section 4 of this Agreement.

2.5 Administration of the Agreement

The CCSWMA shall designate a staff person responsible for the administration of this Agreement. This staff person shall be responsible for communicating with the designated ICSWA staff person regarding the implementation of the terms and conditions of this Agreement.

SECTION 3
OBLIGATIONS OF THE INDIANA COUNTY SOLID WASTE AUTHORITY

3.1 Recycling Facility
The ICSWA shall provide for the operation of the ICSWA Recycling Facility and maintain the capacity to process and market clear glass containers, waste newsprint, mixed metal containers, and plastics.

3.2 Recycling Processing of CCSWMA Recyclable Materials
The ICSWA shall provide for the recycling processing of clear glass containers, waste newsprint, mixed metal containers, and plastics transported to the ICSWA Recycling Facility from the CCSWMA Cambria County Recycling Depot System. Processing shall include baling waste newsprint and plastics and densifying aluminum and bimetal cans.

3.3 Marketing of Recyclable Materials
The ICSWA shall provide for the marketing of CCSWMA recyclable materials that have been processed by the ICSWA as soon as reasonably possible after delivery to the ICSWA.

3.4 Quarterly Reports
The ICSWA shall provide quarterly reports to the CCSWMA of all CCSWMA recyclable material received and processed at the ICSWA Recycling Facility for that quarter. Reports shall satisfy the reporting requirements of Pennsylvania Act 101 Annual Reports and Section 904 Municipal Recycling Program Performance Grants and shall contain the information as determined in Section 5 of this Agreement.

3.5 Weigh Tickets
The ICSWA shall provide weigh tickets for all loads of CCSWMA recyclable materials received at the ICSWA Recycling Facility to the CCSWMA truck driver on a delivery basis. The weigh tickets shall contain the information as determined in Section 5 of this Agreement.

3.6 Quarterly Billing
The ICSWA shall bill the CCSWMA on a quarterly basis for processing and marketing services as determined in Section 4 of this Agreement.

3.7 Credit for CCSWMA Recyclable Materials
The ICSWA shall credit the CCSWMA for the tons of CCSWMA recyclable material marketed in each quarter as determined in Section 4 of this Agreement.

3.8 Administration of the Agreement
The ICSWA shall designate a staff person responsible for the administration of this Agreement. This staff person shall be responsible for communicating with the designated CCSWMA staff person regarding the implementation of the terms and conditions of this Agreement.

SECTION 4
COMPENSATION AND CREDIT

4.1 Compensation for Services

The CCSWMA shall provide compensation to the ICSWA at a rate equal to the expenses incurred in said quarter less credit for CCSWMA portion of material revenues received during same quarter. The ICSWA shall bill the CCSWMA by the 15th of the month after each quarter (January 15, April 15, July 15 and October 15). The CCSWMA shall make payment to the ICSWA within 30 days of receiving the quarterly bill. In the event that the credit for CCSWMA recyclable materials exceeds the quarterly compensation, the ICSWA shall make payment to the CCSWMA for the credit less the quarterly compensation.

4.2 Credit for CCSWMA Recyclable Materials

CCSWMA shall receive a credit each quarter for the sale of the materials delivered to ICSWA.

(a) CCSWMA materials shall be processed and marketed along with other ICSWA recyclable materials.

(b) CCSWMA share of revenues shall be determined based on the CCSWMA portion of the total amount of each material processed during the quarter by ICSWA.

(c) Revenues for processed materials will be credited to CCSWMA after ICSWA receives payment from the market. Revenues not yet received for the materials shipped during the current quarter will be deducted from the Credit for CCSWMA Material Sales at a ratio equal to the CCSWMA portion of the materials processed during the quarter. The CCSWMA portion of both the amount of revenues expected for materials shipped and the amount of revenues unpaid to ICSWA by markets shall be reflected in the Credit portion of each quarterly bill.

(d) If ICSWA experiences a delay greater than 120 days in obtaining revenue from its markets, CCSWMA shall be notified on a monthly basis until revenue is received by ICSWA.

(e) ICSWA shall retain 20% of the CCSWMA Credit for Material Sales each quarter as compensation for providing processing and marketing services to CCSWMA.

4.3 Contamination of Glass

(a) The ICSWA reserves the right to market glass containers as colored glass if contamination levels are such that it cannot be marketed as clear glass. The Credit to CCSWMA for this material would reflect the lower market value for colored glass instead of clear glass.

(b) The ICSWA reserves the right to reject a load of glass containers if it contains any amount of glass other than food and beverage containers, such as window pane glass, Pyrex, light bulb glass or other glass that is clearly not acceptable to the market. Arrangements will be made immediately to return such loads to the CCSWMA, the expense of which shall be paid for by CCSWMA.

SECTION 5
REPORTING REQUIREMENTS

5.1 Quarterly Reports

Quarterly reports shall document the tonnage of each type of CCSWMA recyclable material processed at the ICSWA Recycling Facility and shall be due by the 15th of the month after each quarter (January 15, April 15, July 15 and October 15). Reports shall include:

(a) Quarterly summary of the date and weight in tons of CCSWMA loads received at the ICSWA Recycling Facility for clear glass containers, mixed metal containers, waste newsprint, and plastics. This summary shall be based on actual weigh tickets for each load of CCSWMA recyclable materials.

(b) Quarterly break down of the percentage of aluminum containers and of steel containers processed as CCSWMA mixed metal containers at the ICSWA Recycling Facility. This percentage shall be determined by periodic weighing of the aluminum containers separated from mixed metal containers.

(c) Quarterly summary of the total tons of residue separated from recyclable materials processed at the ICSWA and the average percentage of CCSWMA residue separated from CCSWMA recyclable materials processed at the ICSWA. The average percentage of CCSWMA residue shall be determined by periodic weighing of the residue separated from CCSWMA recyclable materials.

5.2 Weigh Tickets

A weigh ticket shall be generated for every load of CCSWMA recyclable material received at the ICSWA Recycling Facility. Each weigh ticket shall contain the following information:

(a) the date of delivery of the recyclable materials to the Recycling Facility;
(b) the identification number of the CCSWMA recycling vehicle;
(c) the gross vehicle weight at the time of delivery;
(d) the tare weight at the time of delivery;
(e) the net weight of the load; and
(f) the identify of the individual receiving the load.

Scales used by the ICSWA shall be certified and inspected on a periodic basis as required by all applicable local, state and federal laws and regulations.

SECTION 6
INSURANCE REQUIREMENTS

6.1 Insurance
The CCSWMA and the ICSWA and their agents shall maintain the following insurance coverage.

(a) Workers' Compensation – The CCSWMA and the ICSWA shall maintain standard workers' compensation coverage for all of their employees and agents as required by law.

(b) Comprehensive General Liability Insurance - The CCSWMA and the ICSWA shall maintain insurance coverage for comprehensive general liability providing continuous coverage against third party claims for property damage and personal injury, with policy limits of bodily injury coverage no less than One Hundred Thousand and No/100 Dollars ($100,000) for each person and no less than Three Hundred Thousand Dollars and No/100 ($300,000) for each accident and with policy limits of property damage coverage no less than One Hundred Thousand Dollars and No/100 Dollars ($100,000).

(c) Vehicle Liability Insurance – The CCSWMA shall maintain insurance coverage for automobile liability, with policy limits of bodily injury coverage no less than One Hundred Thousand and No/100 Dollars ($100,000) for each person and no less than Three Hundred Thousand Dollars and No/100 ($300,000) for each accident and with policy limits of property damage coverage no less than One Hundred Thousand Dollars and No/100 Dollars ($100,000).

SECTION 7
SCOPE OF THE AGREEMENT

7.1 Term
Accept as provided in 7.2 below, the CCSWMA and the ICSWA are obligated to honor the terms of this Agreement for not less than two years from the effective date of this Agreement. Ninety days prior to the completion of the Agreement, the CCSWMA and ICSWA shall determine whether the Agreement shall be renewed, re-negotiated or terminated.

7.2 Termination
The CCSWMA and the ICSWA may terminate the Agreement at any time by giving 120 days written notice to the other party and specifying the reason for such termination.

7.3 Evaluation
The CCSWMA and the ICSWA shall evaluate the implementation of this Agreement on a quarterly basis during the first year and on a bi-annual basis during the second year. The quality and quantity of CCSWMA recyclable materials processed by the ICSWA

shall be reviewed to determine its impact on the conditions of this Agreement. Adjustments to the rate of compensation and credit for CCSWMA recyclable material as well as other amendments to this Agreement may be negotiated between the CCSWMA and the ICSWA after each evaluation as deemed necessary.

8. GENERAL PROVISIONS

8.1 Default

8.1(a) If the CCSWMA shall fail or refuse to perform the CCSWMA's obligations under this Agreement and such failure or refusal is not corrected within thirty days after written notice thereof, then the ICSWA, in addition to all other remedies which the ICSWA may have against the CCSWMA, may, by written notice to the CCSWMA, terminate all the CCSWMA's rights under this agreement.

8.1 (b) If the ICSWA shall fail or refuse to perform the ICSWA's obligations under this Agreement and such failure or refusal is not corrected within thirty days after written notice thereof, then the CCSWMA, in addition to all other remedies which the CCSWMA may have against the ICSWA, may, by written notice to the ICSWA, terminate all the ICSWA's rights under this agreement.

8.2 Indemnification

8.2(a) The CCSWMA shall indemnify and hold harmless the ICSWA from all cost, claims, and expenses (including reasonable attorney's fee) arising by reasons of, or with respect to, any violation of this Agreement by the CCSWMA or negligent, reckless or intentional act or omission of the CCSWMA, or its employee or agents, with respect to the transactions contemplated by this Agreement.

8.2(b) The ICSWA shall indemnify and hold harmless the CCSWMA from all costs, claims, and expenses (including reasonable attorney's fees) arising by reasons of, or with respect to, any violation of this Agreement by the ICSWA or negligent, reckless or intentional act or omission of the ICSWA, or its employee or agents, with respect to the transactions contemplated by this Agreement.

8.3 Force Majeure

Neither the CCSWMA nor the ICSWA shall be liable for the failure to perform its duties and obligations under this Agreement if such failure is the result of an Act of God, riot, insurrection, war, natural disaster, strikes, labor disputes, extraordinary weather conditions, legal action enjoining or threatening the carrying out of the activities hereunder, the adoption or change after the date hereof of any federal, state, county, or local law, rule permit, regulation or ordinance adversely affecting the obligations of the CCSWMA or the ICSWA hereunder, or any other cause beyond the reasonable control of the CCSWMA or the ICSWA and which the CCSWMA or the ICSWA is unable to avoid by the exercise of reasonable diligence. Provided, however, that this Clause shall not apply to the obligation of the CCSWMA to pay for services already provided hereunder by the ICSWA.

8.4 Authorization
The CCSWMA and the ICSWA represent and warrant that they are bodies politic and corporate organized pursuant to the laws of the Commonwealth of Pennsylvania and, as such, they have the power and authority to enter into this Agreement and to consummate the transactions contemplated thereby. Both the CCSWMA and the ICSWA have taken all required official action at duly advertised and constituted public meetings to authorize the execution of this Agreement and all approvals, consents and orders of any governmental authority, board, agency or commission having jurisdiction which would constitute a condition precedent to the performance by the CCSWMA or the ICSWA of their obligation under this Agreement have been obtained.

8.5 Binding Effect
This Agreement shall be binding on the parties hereto and their respective successors and assigns.

8.6 Applicable Law
This Agreement shall be governed by the laws of the Commonwealth of Pennsylvania.

8.7 Savings Clause
In the event any one or more of the provisions contained in this Agreement shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

8.8 Amendment
This Agreement shall not be amended or modified except by a written instrument signed by the CCSWMA and the ICSWA.

8.9 Assignment
The obligations of the parties under this Agreement may not be assigned except upon the prior written consent of all parties.

8.10 Waiver
Unless otherwise specifically provided by the terms of this Agreement, no delay or failure to exercise a right resulting from any breach of this Agreement shall impair such right or shall be construed to be a waiver thereof, but such right may be exercised from time to time and as often as may be deemed expedient. Any waiver shall be in writing and signed by the party granting such waiver. If any representation, warranty or covenant contained in this Agreement is breached by either party and thereafter waived by the other party, such waiver shall be limited to the particular breach so waived and shall not be deemed to waiver, either expressly or impliedly, any other breach under this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and have hereunto set their hands and seals the day and year first above written.

ATTEST:

CAMBRIA COUNTY SOLID WASTE MANAGEMENT AUTHORITY:

By: _____
Joel Bowser, Chairman
William J. Holtz, Vice Chairman

ATTEST:

INDIANA COUNTY SOLID WASTE AUTHORITY:

By: _____
Thomas W. Falcone, Chairman