Appendix C

Chemung County Comprehensive Recycling Analysis
Final Comprehensive Recycling Analysis

Prepared by:
Chemung County Solid Waste Management District

In partial compliance with DEC Part 360
December 14, 1989

Printed on recycled paper
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A. Introduction

In the early 1970s Chemung County, like many jurisdictions in New York State faced a major question: What to do with their solid waste? Should they send it out of county, let the private sector take control or should the County take the lead. The County chose the proactive route and decided to form a special solid waste district. During the past 18 years, Chemung has processed all of its solid waste and disposed of it in a state-of-the-art landfill meeting DEC requirements, a goal achieved by very few other jurisdictions.

Now in 1989, Chemung again is at an environmental crossroads. We now have the option of letting events lead, or we can again take the proactive route and direct a County-led recycling effort. We have once again chosen the proactive route. The top half of Figure 1 illustrates the existing solid waste processing system in Chemung County while the bottom half reveals the plans to integrate this existing system into the Recycling Plan.

We in Chemung have been and will be serious about handling, processing and disposing of the solid waste we generate in the county. This positive attitude will now permeate our new recycling program. The County presently recycles almost 11 percent of its solid waste, all from the commercial side, and expects to meet and exceed the state's goal of 40 percent by 1997. During September 1989, the Chemung County Solid Waste Management District (CCSWMD) received notification from DEC for a grant to conduct and complete a Solid Waste Management Plan to integrate with this recycling plan and to give the County direction for the next decade on solid waste management.

One of the major tactics we will use to encourage recycling in the county will be through the increased user fees. In 1990, the CCSWMD has proposed increasing solid waste disposal costs significantly (about 33 percent), while accepting the vast majority of recyclables at no charge.

We look forward to dealing with DEC on the matter of this Recycling Analysis and intend to use this as a 3 to 4 year working document to be changed as the situation requires. During the next few weeks we hope to submit permit applications for the MRF and Composting Operation to the DEC. Also, we realize that our landfill and other facility permits hinge on timely and complete submission of this report.

As described in the following chapters of this document, the intent of Chemung...
FIGURE 1. Existing solid waste collection system and proposed recycling collection system in Chemung County.
Existing Solid Waste Processing System in Chemung

100,000 County Residents

Public and Private

Municipal Solid Waste

Milling Station

Municipal Solid Waste Landfill

Construction and Demolition Materials

C & D Landfill

Proposed Recycling System

Public and Private

Materials Recycling Facility

Processing and transportation to Markets

Glass

Paper

Aluminum

Plastics

White Goods

Haulers

Compost Facility
County is to maximize the amount and quality of materials to be recycled within budgetary and financial constraints. The CCSWMD produces about 116,000 tons of solid waste annually, however the DEC has informed the CCSWMD on several occasions in writing that 10,000 tons of annual sludge production and 21,000 tons of foundry sand produced annually must be landfilled and may not be recycled.

When DEC and the CCSWMD agree that these materials are recyclable, the CCSWMD will then actively and seriously pursue recycling alternatives for these two components. Until then the CCSWMD will focus on maximizing the amount recycled from the 85,000 tons.

Over 98 percent of the solid waste in the County is brought to one of two sites, the Milling Station in Elmira or the Construction and Demolition (C & D) Site in Lowman. Less than 2 percent is collected at five transfer stations located at various sites throughout the county. The solid waste collected at these five stations is transported to and processed through the Milling Station. This report focuses mainly on the Milling Station, the C & D Site and the future MRF and Composting Operation. Furthermore, we plan to mandate the use of Recycling Drop-off Centers at each of our five transfer stations.

The MRF and Composting Facility will be constructed and operated on a "staggered" schedule, building the MRF shell initially, then properly sizing equipment to meet the demand. When the operations begins, the CCSWMD will inform DEC of equipment and processing line modifications as they occur. We feel that this staggered process will allow us to install proper equipment based upon the actual quantities and types of materials received.
B. Executive Summary

This document contains 8 chapters. The first 7 chapters essentially address the requirements of the 7 subsections as outlined in Part 360-1.9(f), while Chapter 8 contains an Appendix to this report. The first chapter provides the reader with the type and quantity of solid waste produced in Chemung County and what could potentially be recovered or recycled. The figures presented here are updated and revised from our July 1989 CCSWMD Composition Study, but the figures still rely on the methodology and percentages from the July report.

The second and third chapters focus on marketing, both potential markets and the current regional problems of marketing certain items. A chart illustrating the four "Basic Recycling Groups", residential, commercial, bottle bill and scrap, is presented here. It also discusses the outstanding commercial efforts which are currently responsible for recycling almost 11,000 tons of materials. These chapters also describe potential as well as existing markets for this material.

Chapter 4 then discusses the Four Recycling Scenarios Chemung County officials evaluated in arriving at the chosen system. Included in this discussion is the possibility of locating a REGIONAL RECYCLING FACILITY for use by one or more surrounding counties. In the current plan we chose not to include other counties. However the receipt of recyclables from other counties may be possible by simply adding a second and/or third shift. There are currently three shifts presently operating at the Milling Site for the orderly processing of Chemung's Solid Waste, so three recycling shifts could fit in well with the current operation.

Next we present our reasoning for selection of a possible alternative for implementation of recycling in the County. Chapter 5 revolves around two central diagrams. The first diagram illustrates the time schedule for bidding, engineering work, ordering equipment and construction of a Materials Recovery Facility. The second diagram outlines in general phased utilization schedule for the MRF. Initially 35 percent of the service area will be served by late 1990 with the remainder of the county being served within 4-12 months after.

We have included in Chapter 6 an explanation of our local law, which was adopted in August 1989. This law includes numerous definitions associated with solid waste management which were based on the definitions in New York State's Part 360 Solid Waste regulations. It also includes sections on disposal privileges for haulers, allows
for the processing of waste generated in Chemung County only, the definition of recyclables, licensing and fee requirements and processing, and enforcement actions. A copy of the entire law is contained in the Appendix.

During the next few months, the Recycling Manager and Solid Waste General Manager will meet with the County Executive and the County Legislature to discuss enactment of additional rules which will require Chemung residents to separate recyclables from their solid waste.

In the final chapter we discuss the existing recycling programs and the possibility of increasing the service area for the MRF. We will attempt to meet the state’s 10 percent solid waste reduction goal by eliminating brush, wood, leaves and grass from being disposed of in our landfill. Engineering work, as well as legal, construction, educational, and other functions are outlined in a diagram. Finally, we discuss our purchase of recycled paper for use as letterhead at the Chemung County Solid Waste Management District and for use by other agencies, and the use of financial incentives for recycling.
Chapter 1

PART 360-1.9(f)(1)i - 
COMPOSITION STUDY- In the draft version of this report (June 1989), we outlined a strategy to accomplish a composition study. During the summer of 1989 the CCSWMD hired two college interns, one from Elmira College and the other from Cornell University to help design and conduct solid waste composition studies.

The CCSWMD Composition Study completed in July 1989 describes the make-up of the solid waste produced by the residents of Chemung County. Revised estimates presented here show that county residents produce 116,000 tons of solid waste each year. The solid waste was sorted into 34 categories. Aluminum deposit cans made up 34 tons, cardboard over 9,900 tons, plastics 2,935 tons, organics 30,266 and glass almost 4,565 tons.

Figure 2 illustrates the types and amounts of solid waste produced in the county. A complete description of the methods and results is given in the report entitled 1989 CCSWMD Solid Waste Composition Study. We used these results to estimate the types and quantities of potentially recyclable materials that would be processed through our MRF and Composting Facility.

POPULATION PROJECTIONS - During May of 1969, the former Chemung County Refuse Agency finalized a report entitled Chemung County Solid Waste Disposal Study which described among other items the projected population of Chemung County. In this report the population for the County was projected to reach 132,000 by 1980 and increase to 159,000 by 1990.

In actuality, the 1980 US Census revealed 97,656 residents of the county while the 1990 census projections range between 102,000 and 109,000. The CCSWMD will not use these population projection figures from 1969 for planning the increase in the solid waste volume for the next 10 years. In fact the population for Chemung County during the past 40 years has remained steady as illustrated by the US Census figures listed below:

<table>
<thead>
<tr>
<th>Year</th>
<th>County population</th>
</tr>
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<tbody>
<tr>
<td>1950</td>
<td>86,020</td>
</tr>
<tr>
<td>1960</td>
<td>98,677</td>
</tr>
<tr>
<td>1970</td>
<td>101,599</td>
</tr>
<tr>
<td>1980</td>
<td>98,656</td>
</tr>
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</table>

Population estimates now indicate that the County will reach about 106,000 residents for the 1990 census and about
FIGURE 2. Tonnage of solid waste and potentially recyclable products produced in Chemung County by category.
1989 Commercial Recycling, C&D Landfill, Milling Station, Foundry Sand and Sewage Sludge Combined Composition Study {In Tons}

**1. Milling Station {57,000 T/Yr}**

- Other Paper 10745
- Foundry Sand 0
  - Cardboard 4030
  - Office Paper 1881
  - Newspapers 4583
  - Aluminum 34
  - Other 6891

- Organics 17516

2. Mill + C&D {74,000 T/Yr}

- Other Paper 10745
- Foundry Sand 0
  - Cardboard 4030
  - Office Paper 1881
  - Newspapers 4583
  - Aluminum 34
  - Other 11141

- Organics 30266

3. Mill, C&D, Commercial Recycling {85,000 T/Yr}

- Other Paper 10745
- Foundry Sand 0
  - Cardboard 9900
  - Office Paper 4041
  - Newspapers 4583
  - Aluminum 34
  - Other 11141

- Organics 30266

4. Mill, C&D, Commercial Recycling, Sand, Sludge {116,000 T/Yr}

- Other Paper 10745
- Foundry Sand 0
  - Cardboard 9900
  - Office Paper 4041
  - Newspapers 4583
  - Aluminum 34
  - Other 11141

- Organics 30266

**Recycled Paper**
115,000 residents by the year 2000, if the economy remains moderately strong. Based upon this potential population increase, the CCSWMD has sized the proposed recycling processing facilities to meet the future requirements of this increased population. We estimate that the solid waste produced in Chemung will increase to 117,486 tons for 1990 {86,468 tons Municipal Solid Waste (MSW) and 31,245 tons of sludge and foundry sand, or 1,632 pounds per person per year of MSW}. By the year 2000, we estimate that Chemung County will produce over 118,000 tons of "solid waste" {84,429 tons of Municipal Solid Waste, equaling 1,468 pounds of MSW per person per year- almost a 10 percent reduction over 1990}. More detailed population, recycling and solid waste figures are presented in Figure 3 and a full year-by-year breakdown is presented in the Appendix.

A more detailed description of population, solid waste generation and management techniques will be provided in the Chemung County Solid Waste Management Plan to be prepared by early 1991. This report will include update population figures from the 1990 US Census and more accurate corresponding solid waste production figures.

**PART 360-1.9(f)(1)ii** - In Table 1 {page 11 &12} we have listed what products could potentially be recycled, or are being recycled presently. As of this time, we plan to expand the existing office paper recycling project in the Commercial Sector, and plan to begin bi-metal, newspaper, glass, plastic and aluminum curbside collection from the Residential Sector during 1990.

Table 2 lists the type of materials which will be collected at curbside, which will be a drop-off item, which will be taken to the C & D Site and which will be separated out by the Commercial Sector. Table 3 {pages 28 & 29} lists the amount of materials recycled by the Commercial Sector in Chemung during 1988.

In general Figure 3 lists both the projections of population and Municipal Solid Waste production over the next 10+ years. Listed in the Appendix is a com

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<td>Waste oil, auto batteries, newspapers, scrap aluminum, appliances</td>
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<tr>
<td>Drop-off at C&amp;D Landfill</td>
<td>Construction and demolition material, wood, brush, trees</td>
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<td>Office paper separation and separate recepticals for solid waste and recyclables</td>
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TABLE 1. List of materials which could potentially be recycled in large quantities in Chemung County.
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<td>Office Paper</td>
</tr>
<tr>
<td>Green Glass</td>
<td>Computer Paper</td>
</tr>
<tr>
<td>Brown Glass</td>
<td>Junk Mail</td>
</tr>
<tr>
<td>Waste Oil</td>
<td>Brush</td>
</tr>
<tr>
<td>Telephone Books</td>
<td>Trees</td>
</tr>
<tr>
<td>Aluminum</td>
<td>Leaves</td>
</tr>
<tr>
<td>Ferrous Metals</td>
<td>Grass Clippings</td>
</tr>
<tr>
<td>Non-ferrous Metals</td>
<td>Auto Batteries</td>
</tr>
<tr>
<td>(including appliances)</td>
<td>Household Batteries</td>
</tr>
<tr>
<td>Cardboard</td>
<td>Household Hazardous</td>
</tr>
<tr>
<td>Sludge</td>
<td>Waste</td>
</tr>
<tr>
<td></td>
<td>Plastics</td>
</tr>
<tr>
<td></td>
<td>C &amp; D Material</td>
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plete breakdown in detail of the types and quantities of materials expected to be recycled.

**TIRES** - Presently, tires, which account for about 1 percent of the waste stream or about 1,100 tons annually, Below is a detailed description of how the CCSWMD intends to collect, process and/or prepare for market the various materials listed in Tables 1 & 2 are shredded according to DEC guidelines and landfilled at our Lowman, NY lined cell. Rimless tires are accepted at the Milling Station presently, however the CCSWMD is considering four actions which could result in reuse or recycling. Initially we are encouraging as many local area dealers to recap the tires before they are brought to us. This effort will expand during 1990 as we intend to conduct a mass mailing to all the tire dealers in the County encouraging this action.

Secondly the CCSWMD is considering a process where the tires could be sold to a plant with a state approved burn permit and hence be used as a fuel. Next, in a related fuel supplying scenario, they could be burned at existing power generating plants by mixing them with other fuel sources such as coal or wood. We intend to contact local power companies in 1990 and 1991 to investigate any interest in this subject.

Finally, we have investigated the possibility of shredding the tires and "storing" them in a separate, dedicated underground cell awaiting the time when tires could be reused. The tires in this case would be dug up at the time tire recycling became executable. We would assure that any facility contract with has a DEC permit for proper handling/disposal of these tires.

**GLASS** - We plan to have glass collected at curbside and then separated into three colors (brown, clear and green). There are two major options which we can select from for glass recycling. The first option entails selling the glass to a market which would transport the glass to a remote facility for processing.

The other option would have the CCSWMD sign a contract with the local glass manufacturer or Returnable Container facility, both located less than a mile from our proposed Materials Recycling Facility, and transport the glass to them. In both scenarios, the glass could be separated as is or crushed and processed according to the contract. We will design the MRF equipment to separate/process glass as the market dictates.

**WASTE OIL** - Presently, the CCSWMD accepts small quantities {usually less than 4 gallons at one time} from county residents. {We do not accept waste oil from any business or commercial establishments.} The waste oil is collected in two 300-gallon tanks and is periodically removed by a local waste oil processing company. We plan to continue to operate this drop off system at the Lake Road Transfer Station.
Presently we do not have plans to extend this operation to any of the four other transfer stations operated by the CCSWMD. However, we intend to evaluate the success of the present program at the end of 1990 and decide then if we will expand the program. Another option we will consider in 1990 and 1991 is residential curbside collection of waste oil in clear plastic containers.

**TELEPHONE BOOKS** - In some communities telephone directories are collected each year when the new ones are distributed. We will work to identify markets for this potential resource. If a market is found, we will attempt to accept and recycle phone directories each year.

**ALUMINUM** - This resource falls into two categories, scrap and deposit cans. From our Composition Study, we estimate that approximately 30 tons of aluminum deposit cans will potentially be available for recycling. {These deposit cans represent the 10-15% discarded by the public under the Returnable Container Law system, and will reenter the deposit loop when we deliver them to Central Recycling, located one mile from our MRF.} Aluminum cans is an item that we plan to have collected at curbside.

The second category, scrap aluminum (mainly aluminum doors, windows and lawn chairs) composes about 10-20 tons of material yearly. We plan to continue the "recycling" of this material. This material is presently accepted at the Milling Station only and then transported off-site and recycled by a local scrap dealer. The CCSWMD plans to continue this operation when recycling begins.

**FERROUS METALS** - {Including appliances} - The CCSWMD recycled about 800 tons of metal in 1988. We plan to continue this operation for the foreseeable future.

During the September 1989 CCSWMD Administrative Board meeting, the members voted to begin the bid process for the purchase of a dedicated white goods baler. This baler would be located temporarily adjacent to the Milling Station and be operated until such time it could be moved either into a special area of the Materials Recycling Facility or of the Milling Station.

When the white goods baler is operational, residents will be able to unload their appliances into this separate "White Goods Recycling Area" and then the CCSWMD will bale the material in preparation for shipment. The City of Elmira, which serves 35% of the County's residents now operates a limited curbside collection program for appliances, and may continue to provide this service for the future.

**CARDBOARD** - There are two systems for cardboard processing in Chemung, one recycling and one disposal. Certain businesses, as outlined in Table 3 {page,26} such as supermarkets, have been recycling cardboard on their own for the past few
years. The other system involves residents and all other commercial establishments discarding the cardboard at our landfill.

To assure the continued success of cardboard recycling in the future, we want to take two actions. The first is to encourage the continued recycling of cardboard by the selected commercial establishments and the second is to design a system to facilitate cardboard recycling for those who currently waste such material.

During the next few months when the CCSWMD contemplates the potential guidelines under the Chemung County Local Law #2, a section on requiring each business/commercial establishment to recycle cardboard will be discussed.

**SLUDGE**. As described in our Composition Study, sludge makes up approximately 10,000 tons of the County’s solid waste stream. During 1987 and 1988 the CCSWMD repeatedly attempted to have DEC allow the CCSWMD to conduct a final cover utilization project for sewage sludge composting, but was informed that the sludge was not suitable for anything but landfilling. We have enclosed several letters from Fagan Engineers, the CCSWMD consultant and NYSDEC regarding this issue in the Appendix.

If DEC reevaluates their position and allows municipalities to begin tests to reuse even poor quality sludge, Chemung will be one of the first Counties to apply.

**NEWSPAPERS**. The CCSWMD has two scenarios for newspaper recycling. The first scenario is being tested presently as a pilot program, which began in October 1989. This program entails the shredding and baling of newspapers, which are then to be used as animal bedding. The CCSWMD intends to give the bedding materials away free and if the farmers like the material, the pilot program will be expanded to a full-time operation. However the CCSWMD may eventually charge for this service to offset the costs of this labor intensive operation.

Presently we accept newspapers from two sources - residents and the commercial sector. The newspapers from the residents are accepted free of charge providing there are no colored sections or funnies. The newspapers from the commercial sector are those remaining from overprinting, and they are charged the regular disposal rate because of the separating costs the CCSWMD incurs.

These papers are then shredded and baled on-site. If this program becomes successful, we plan to make this a way of recycling in which everyone can participate. We feel that in the mid-term (one-three years), there will be little or no opportunity to market our newspaper outside of the County. As a result, Chemung will attempt to internalize this process.
However the CCSWMD is designing their Materials Recycling Facility for a second scenario. This entails a MRF design allowing for enough space to sort and store newspaper in anticipation of out-of-county marketing. This marketing could entail shipment to other counties for use as animal bedding or making recycled newsprint or other paper. Chemung County will continue to seek new markets or ideas for recycling newspaper as technology changes.

**OFFICE PAPER** - Office paper may be one of the largest components of the commercial recycling sector. In 1988, the Chemung County Environmental Management Council began a pilot program of office paper recycling in the Chemung County Human Resources building. This program is still being operated and will serve as the model for all other office paper recycling programs in the County.

The County plans to provide desktop paper collection boxes and larger storage containers for each office in the County. Each person would store "scrap" paper in these desktop boxes, and when full, they will be dumped into the large office collection boxes. Once each week or as often as necessary, the office paper will be collected from each office and brought to the MRF for processing for market. The goal of the CCSWMD is to have each office in the county recycling office paper by 1993.

**COMPUTER PAPER** - The CCSWMD has narrowed to two the methods it can select to recycle computer paper. One method is to mix the computer paper in with the office paper and process the mixed batch for market. This however would decrease the value of the material.

The second method is to collect computer paper in a similar manner as office paper (in separate bins) and then bring it to the MRF for processing. In this method the CCSWMD could achieve a higher price for computer paper, but the processing costs may not justify this method. We plan to use the first scenario above, the comingle option initially and then evaluate its success or failure. If the second scenario looks achievable, we will implement it.

**JUNK MAIL** - Many municipalities have experimented with the option of collecting junk mail in with their newspaper collection system. Presently, we plan to "recycle" newspapers for use as animal bedding material, and as stated previously, we will not be encouraging the mixing in of colored materials. Therefore, unless we discover either a separate market for junk mail or a market which will take newspapers and junk mail, we will not recycle this material in the foreseeable future.

**TREES & BRUSH** - Presently, all brush and trees are disposed of in our Construction and Demolition (C&D) area at the County landfill in Lowman. During the next year Chemung County intends to discontinue accepting brush
for disposal in the County. We are considering two options on the future "reuse" of brush and trees.

The first option is working with each of the County's eleven towns to arrange for a brush storage area. Presently, brush piles are not regulated by DEC. These piles would be composed of just brush and tree limbs - no leaves, grass, or construction debris, which does require a DEC permit. In this scenario, the County would purchase a large tub grinder and travel from town to town periodically and grind the brush into wood chips for use by the town.

The second option would be that all brush would be brought to the CCSWMD property either in Elmira or in Lowman for storage and the tub grinder would be stationary and not a traveling system.

**LEAVES & GRASS** - Initially we will encourage any and all homeowners to reuse leaves and grass in their own gardens and yards. However there are many people in the County who do not have gardens or do not want to store leaves and grass on their own property. For this component of our waste stream, we plan to use an integrated plan of curbside collection and drop-off. For those who do want to find another solution, the county will offer the option described below.

Grass and leaves will be considered as one component by the District for the purpose of the yard waste Composting Operation. We plan to place roll-off containers at the MRF where individuals or haulers can place leaves and grass. The leaves and grass would then be carted to the Composting Facility for aerobic decomposition over a period of time. We are considering the option of bagging and selling the finished product to residents of the county who would like to use it as a soil conditioner. We will probably mandate that the leaves and grass not be bagged.

**AUTOMOBILE BATTERIES** - For over a year, the CCSWMD has been accepting auto batteries for recycling at the Milling Station. The batteries are accepted at the Milling Station and stored for a short period of time on pallets. When three or more pallets are filled, District employees transport the batteries to a local scrap yard where the District is paid 4 cents per pound.

When our recycling program begins in earnest, we plan to continue and even expand our battery recycling program. We plan to do this by increasing the advertising for this service.

**HOUSEHOLD HAZARDOUS WASTE**: Presently, the CCSWMD accepts only small quantities of used motor oil and no other liquids. This includes pesticides, herbicides, paint and other household chemicals. Any questions that the County receives on proper disposal are answered by the Cooperative Extension, the Chemung County Environmental Management Council or the NYSDEC. The response is the same in each case. If you have paint or other liquids, we encourage that you give
them to an individual or a community group who might need them. The second option is that they set the material outside in a safe place, take the lid off and let the material evaporate. At that time we can accept the solidified material.

We have contemplated operating a Household Hazardous Waste Collection Day, however counsel for the County have balked at the idea for liability reasons. The long-term solution for this problem is obviously a permanent Household Hazardous Waste Collection program operating 5 days a week. We await word from the state, as most other Counties do, on associated liability questions.

Cost is another factor considered to be a limiting factor for Chemung County. Surrounding counties have paid between $79,000 and $500,000 for just a one day household hazardous waste collection program. In 1990 or 1991 the CCSWMD intends to re-open this question and perhaps consider a permanent household hazardous waste collection facility which would be located near the MRF. In addition we will be working closely with the Northeast Hazardous Waste Exchange to solicit new ideas for exchanges of materials such as paint and other less toxic materials.

**HOUSEHOLD BATTERIES** - Presently, the CCSWMD has no viable options for recycling household batteries. We investigated the possibility of using the Albany, NY based company Mercury Refining Company, but the necessary local and state permits required for expansion were not granted. The CCSWMD intends to investigate other options for this potential resource in 1990 and 1991.

The CCSWMD will also support state legislation which requires a deposit on household batteries.

**PLASTICS** - Plastic materials will be a large part of our successful recycling program in Chemung. Plastics represent approximately 8 percent of the total composition of the Chemung County solid waste, and much of that will arrive in the form of deposit bottles. These plastics will be collected at curbside and brought to the MRF for processing.

Again we have several scenarios from which to choose. Initially all the deposit bottles will be separated out and shipped to the local Returnable Container Law facility (Central Recycling Co-op {CRC}) located one mile from our MRF site. The remaining bottles could be given/sold to CRC or taken to another recycler under a separate contract.

The other option would entail the CCSWMD forgoing the deposit route and sell/pay for all the plastic containers to another recycling concern. Both of these possibilities will entail some sorting, packaging and transportation, but we would like to avoid having residents or the CCSWMD remove labels from the bottles.
FIGURE 3. Two charts, the first illustrating Chemung County's goals and 5 proposed milestones for materials to be recycled during the period 1988 through 1997. The second illustrating the county population, municipal solid waste produced and amount to be recycled.
CHEMUNG COUNTY RECYCLING MILESTONE

- 1. Begin Compost Operation
- 2. Begin Office Paper Program
- 3. Begin curbside collection in remaining portions of Chemung County
  Begin office paper recycling

- 1. Add remaining office to paper recycling program
- 2. Increase Compost Operation
- Increase education

- Fully implement curbside collection, enforcement, and office paper recycling

Beginning curbside collection in the City of Elmira
(glass, newspapers, bi-metal cans and plastics)

- Actual: Shaded
- Goal: Striped

CHEMUNG COUNTY SOLID WASTE MANAGEMENT DISTRICT
POPULATION, SOLID WASTE PRODUCTION and RECYCLING ESTIMATES
FOR THE YEARS 1988 THROUGH 2000

LEGEND

...... Solid Waste

--- Population

...... Recycling

YEAR

POPULATION
104200  107800  111400  115000

SOLID WASTE-IN TONS
74000  61798  46716  46068

RECYCLING-IN TONS
11000  26389  37324  36381
C & D MATERIAL. All C & D material is now disposed of in a special cell in Lowman. Much of this material is composed of old lumber, lath, and wood products. The CCSWMD intends to purchase a large tub grinder in which we will grind up a portion of this material. At that time, we will grind as much of the material as possible and accomplish two goals. One would ential grinding to save space in the C & D landfill. The other would be reuse of wood chips as a bulking agent for yard waste composting or landscaping material.

We have contacted power generating companies regarding their potential use of wood chips as supplemental fuel, but none seem willing to attempt this "cogeneration."

Part 360-1.9(f)(1).iii. Chemung County will use a multi-pronged strategy for reduction of the amount of solid waste. In general the community is primed for recycling.

As stated previously in this report, the CCSWMD will construct a "phased" MRF. Under this procedure, the CCSWMD will construct the building and install two operation lines {one for paper, one for comingled}. After proper determination of the recyclable characteristics, we will install properly sized baling and processing equipment in the MRF. The CCSWMD realizes that the state has set a goal of recycling/reuse of 50 percent by 1997, but this is only a goal. Because of our proven track record on processing all of our solid waste during the past 18 years, we plan to reduce/recycle as much as is economically and technically feasible.

Realizing that most residents are only aware of the RESIDENTIAL portion of recycling, we will give special attention to education of the businesses and industries to the COMMERCIAL portion. Our nine point strategy is listed below:

1) Encourage commercial facilities which already recycle, to continue recycling. Table 3 lists the names of the facilities which are currently recycling and the quantity each recycled during 1988. Figure 3 then takes the almost 10,000 tons and compares that against our goal over the next ten years to comply with recycling.

In 1988, Chemung recycled approximately 11,000 tons of materials. During the next decade, CCSWMD intends to meet five milestones {See Figure 3}. The first in 1990, after successful construction and operation of our Materials Recycling Facility, Chemung plans to reach a 15 percent goal. We intend to begin curbside collection of recyclables with the City of Elmira which contains 35 percent of the county population.

Our second milestone, to be achieved in 1991 will be accomplished by beginning one new program, and expanding two others. Initially, we plan to begin the Composting Operation for Elmira residents. Next we plan to add the rest of the population of the county to the curbside collection recycling network.
And finally we hope to expand the office paper program even further.

Next, in 1992 and 1993, the CCSWMD intends to add more offices to the computer/office paper recycling program, while at the same time increasing the participation in the Composting Operation by adding the remaining residential service area of the County.

The fourth {1994-1995} and fifth milestone {1996-1997} will entail increased education for the general public on the existing programs for recycling. This should take us to our 40 percent recycling goal or over if DEC allows the CCSWMD to reuse sludge and or foundry sand. Included here will be increased outreach, school appearances, speeches and newsletters.

4) Another method of getting recycling into the public eye was the use of recycled paper for County letterhead. During May 1989, the county purchased several cases of high quality recycled paper and it was used for letterhead by various county agencies including the Solid Waste Management District. Additionally, much of this report is printed on recycled paper.

Also the CCSWMD printed its envelopes on recycled paper and has sent out over 100 letters to local businesses asking if they would like to have their letterhead printed on recycled paper. {See appendix for a copy of the letter.}

5) On several occasions the CCSWMD presented the basic points of this plan to a joint session of the County Legislature, the City of Elmira and most of the towns and villages of the County. These meetings were open to the public, and additional meetings at their request can easily be arranged in the future.

6) The CCSWMD has published the first in a proposed series of informational brochures entitled the Chemung County Recycling Newsletter and a copy is enclosed in the Appendix. This newsletter was drafted with a desktop publishing software package in-house and printed by a local printer for a low fee. Since the CCSWMD now has the capability to disseminate information
FIGURE 4. An outline of Chemung County’s 4-pronged public participation and outreach program.
CHEMUNG COUNTY SOLID WASTE DISTRICT
Public participation and outreach

ENVIRONMENTAL GROUPS

- Work with the Chemung County Environmental Management Council
- Film and distribute video on recycling
- Educate employees on office paper recycling

COMMERCIAL ESTABLISHMENTS

- Encourage continued commercial recycling
- Work with haulers
- Help commercial establishments begin recycling

THE GENERAL PUBLIC/MEDIA

- Give speeches to community and civic groups
- Organize a Recycling Week for county schools
- Produce a 'Recycling Newsletter'

ELECTED OFFICIALS

- Meet with and inform public officials about recycling
- Prepare an annual report
quickly and at a low cost we will continue to publish such newsletters.

7) Also the CCSWMD computer is capable of processing press releases under a word processing and mail merge program. After finalizing a press release, the computer will generate individually addressed press releases and other mass mailings.

8) The CCSWMD has been working closely with the Chemung County Environmental Management Council in helping disseminate information on proper solid waste management practices. Specifically, the EMC, with help from the CCSWMD, printed a brochure entitled A Short Guide to Proper Disposal Methods. A copy of this brochure was inserted in each of 20,000 copies of the October 19, 1989 Elmira Star-Gazette. Another 10,000 are available for distribution from the EMC and the CCSWMD.

9) The CCSWMD has and intends to continue to work with local, regional and national manufacturers on how to reduce the quantity of waste such as excessive packing. Representative of Johnson and Johnson from New Brunswick, NJ visited the CCSWMD facilities to discuss packaging. We will be formulating County Policy Papers on source reduction for the consumer and as a formal policy to send to major manufacturers.

10) When the curbside recycling containers are distributed, each will have a sheet of paper with short and simple directions on when to put the container at the curb and what materials to place in the box. We will advertise the same information in the print and visual media to reinforce the main points of recycling.

For the commercial Sector we will provide educational sheets attached to each box that will be used for collection of office paper.

11) The CCSWMD has obtained a mailing list of the 30,000 property owners in Chemung County. We plan to send letters to most if not all of the people listed and use this list when Residential Recycling begins. The property owners names will be selected by zip codes which correspond to the area in which we will be recycling. Using this method, we can personalize the recycling effort requesting their participation and can inform them of new services.
Chapter 2

Part 360-1.9(f)(2)

After conducting a detailed evaluation, we estimate that commercial establishments in Chemung County recycled approximately 11,000 tons of materials in 1988 (Table 3). Included in this estimate are 1,800 tons of glass, almost 5,100 tons of cardboard and almost 2,200 tons of paper. Chemung County will encourage continued recycling of this material by the Commercial Sector as we would NOT like to see it return to the waste stream, thereby adversely impacting our future landfill capacity. A detailed breakdown of the amount of recycling being accomplished in the commercial sector is outlined in Table 3.

The materials recycled by the Commercial/Private Sector include plastic, cardboard/paper and glass. Groceries stores are the main group responsible for recycling cardboard. Cardboard is collected and baled at each store in the County and shipped back to a central warehouse where it is sold to recycling firms in large quantities. Three additional establishments recycle cardboard on a large scale totaling almost 3,800 tons each year. Also, one of the companies, Keystone Bindry is responsible for recycling over 2,000 tons of high grade paper each year.

The largest plastics recycler, Howell, Inc. ships out almost 400 tons of high grade plastic material which is designated for recycling out of state. Glass recycling has two forms in Chemung County. The first is reuse of over 800 tons of half-gallon milk bottles by one particular dairy, and the other is a glass recycling center operated by Anchor Glass. Residents can bring three colors of glass to the facility for recycling Monday or Friday from 10 a.m. to 3 p.m. Anchor recycles almost 1,000 tons of glass each year. By 1993 or 1994 the CCSWMD expects to have each commercial/business establishment tied into an additional recycling system.

CCSWMD Pilot Projects

Chemung County has two pilot projects in operation presently. The first operation is a Pilot Office Paper Recycling Project. During late 1988 this project was established in one of the County office buildings, and it successfully continues today. The program is responsible for recycling approximately 10 tons annually. The Chemung County Environmental Management Council purchased small paper collection boxes for each desk and larger boxes for each office for collection of recyclable paper. The Chemung Association for Retarded Citizens collects the paper from the offices once a month and delivers it to a local market. During early 1990, CCSWMD will take over the lead in the
TABLE 3. Types and amounts of material recycled in Chemung County during 1988.
MATERIALS RECYCLED BY COMMERCIAL ESTABLISHMENTS IN CHEMUNG COUNTY DURING 1988 (in tons).

<table>
<thead>
<tr>
<th>commercial establishment</th>
<th>cardboard</th>
<th>glass</th>
<th>office paper</th>
<th>plastics</th>
<th>metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Recycling (d)</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>Rose, Kimball &amp; Baxter (b)</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ArtisticGreetings (b)</td>
<td></td>
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<td></td>
<td></td>
<td>50</td>
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<tr>
<td>United Dividers (e)</td>
<td>25</td>
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<td></td>
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<tr>
<td>McMillen-Blodel (a)</td>
<td>2400</td>
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<td></td>
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<tr>
<td>Howell (b)</td>
<td>840</td>
<td></td>
<td></td>
<td></td>
<td>360</td>
</tr>
<tr>
<td>Keystone Bindry (c)</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td>2100</td>
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<tr>
<td>Corning, Inc.—Big Flats (a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Wise Markets (b)</td>
<td>624</td>
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<td></td>
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<tr>
<td>Tops Friendly Markets (a)</td>
<td>375</td>
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<td></td>
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<tr>
<td>P &amp; C Markets (a)</td>
<td>260</td>
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<tr>
<td>Super Duper (a)</td>
<td>260</td>
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<tr>
<td>Byrne Dairy (d)</td>
<td></td>
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<td></td>
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<td>800</td>
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<tr>
<td>Anchor Glass (b)</td>
<td></td>
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<td></td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>Chemung County</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>800</td>
</tr>
</tbody>
</table>

|                     | 5809      | 1800  | 2160         | 370      | 800   |

**TOTAL** 10939

FOOTNOTES:
(a) = Disposed of material, then began recycling after 1982
(b) = New business in County, began recycling 1985 or after
(c) = Moved into Chemung in 4/87, began recycling on 2/88
(d) = Moved into County in 1980, increasing sales each year
(e) = Unknown
operation and then expand this effort to any interested public or private office in the County.

The second Pilot Project entails use of shredded newspapers for use as animal bedding material. The CCSWMD expects to operate this project for two to six months beginning in October 1989. The CCSWMD accepts newspapers only {no funnies or colored sections} for a source for this bedding material. The CCSWMD expects to produce over 1000 bales {depending upon the reliability of the shredder and baler} and then give the bales away to local farmers who are interested in using it.

If the baling system works as expected and the farmers like the product, the CCSWMD may choose to institutionalize this system for a year or longer in the planned MRF.

PART 360-1.9(f)(2)ii - Most of the recycling done in the county presently will NOT be adversely affected by this recycling plan which basically encompasses residential waste and an expansion of commercial recycling efforts. The four recycling programs in Chemung are listed below and are outlined in Figure 6.

SCRAP MARKET - Scrap dealers like Kaplin, Shulman's and Speigel have been in business in the community for years. We do NOT intend to enter this market as competitors, but in fact when we find significant quantities of scrap materials either in the solid waste or recycling stream, we will make business arrangements to sell/pay to have the material recycled. Presently we take our "scrap" auto batteries, used oil, aluminum and white good to local scrap dealers. In fact the CCSWMD is now paying $32.50/ton for recycling white goods.

RETURNABLE CONTAINER LAW - Again, we will NOT compete for any of this market. However if the CCSWMD finds a significant amount of deposit aluminum, glass or plastic in the curbside collection program we may decide to enter into a contract to sell the material to the local recycling firm, Central Recycling Co-op, who recycles the Bottle Bill containers.

COMMERCIAL - We intend to educate and encourage the commercial sector to begin or continue recycling cardboard, plastics, office paper and glass. Since we realize that this sector could potentially compose one-third of our recycling goal, we will pay special attention to this sector. We have been meeting with commercial establishments who are interested in recycling. We also plan to accomplish several mass mailings to businesses in the County informing them of potential cost savings from recycling and to provide information on recycling.

In December 1989, the CCSWMD, in cooperation with the Chemung County Chamber of Commerce and the Chemung County Environmental Management Council, is planning a seminar on new solid waste and recy-
FIGURE 5. Chemung County recycling categories. The two categories on the right (Scrap and Bottle Bill) already exist and will NOT be the focus of this recycling effort. The two categories on the left (Commercial and Residential) are subject to the 1988 New York State Solid Waste Law.
CHEMUNG COUNTY RECYCLING CATEGORIES

New 1988 NYS Law

RESIDENTIAL

- Part of the state plan
- County will take lead, build MRF
- Use current system of public
  and private haulers
- Goal of 40% recycled by 1997

Existing

BOTTLE BILL

- System will not change
- Central Recycling and Seneca Bev.
  will continue to operate as normal
- Recycling legislation does NOT
  affect this system

COMMERCIAL

- County will encourage commercial
  recycling
- Already recycling 10,900 T of
  cardboard, office paper & glass
- CCWMD will begin a county-wide
  office paper recycling
  program in 1990

SCRAP

- County will be minimally involved
- Recycling legislation does NOT
  affect this program
cling requirements. This half-day seminar will focus on new state requirements and more specifically future local laws affecting business and commercial recycling.

**RESIDENTIAL**: Except for a small percentage of newspaper and glass being recycled by the community, there has NOT been a large-scale residential recycling effort. This sector will be focused on greater than the others as this is where the greatest behavioral change will take place.

Specifically two existing programs—glass and newspaper recycling—are discussed here. Until January 1989, the community had several markets for the recycling of newspaper. However with the decline of the newspaper recycling market, most of the newspaper in the County has been landfilled. The CCSWMD intends to resurrect newspaper recycling on a county wide scale through curbside collection.

Secondly, the CCSWMD may process glass at the Materials Recycling Facility (MRF). The County would then advertise for bids to take the glass. This process could result in one of three actions. It could take the current glass supply from the local manufacturer and sell it to a competitor which underbids Anchor, it could significantly increase Anchor’s quantity if they are awarded the bid or it could alter their recycling process if the County signs a contract with Anchor Glass Co. to accept all the glass in the County.
Chapter 3

Part 360-1.9(f)(3)i - Chemung County Office of Recycling has inventoried the county markets, and has used several New York, Pennsylvania and New Jersey publications to ascertain the location of markets. Included are the Ontario County Recycling Plan, local telephone directories, several national publications including but not limited to *Waste Age, BioCycle, The Official Recycled Products Guide* and the *New York State Recycling Resource Handbook*, and information obtained at conferences.

The CCSWMD intends to proceed with marketing the recyclable materials under four contracts. Initially we will continue to recycle the 800 tons of white goods (ferrous metals) through a local scrap dealer. Secondly, all deposit cans, bottles and plastic containers will be sold to Central Recycling Co-op {CRC} which described earlier as being located less than a mile from the proposed MRF site.

Next we would like to see the remaining materials {cardboard, bi-metal cans, non-deposit cans, glass, and plastic containers, and office paper} handled under one contract. We have been speaking with several companies who would like a hand in designing as well as operating the MRF. These companies include Empire Returns, CM Fibers, Railroad Valley Recyclers and various other companies. Obviously this will entail a County bid process, but we have a very clear idea of how we want the marketing process to operate. The CCSWMD does not have a contract for recycling auto batteries, newspapers, scrap aluminum, waste oil and white goods presently. Even though the CCSWMD recycles relatively small quantities of these materials now, if the quantities increase we may soon formalize these agreements. We have included a partial list of Available and Potential Markets for Recycled Products in the Appendix.

The CCSWMD is dedicated to meeting the state’s 10 percent reduction and 40 percent recycling goals. We have not investigated solid market prices for many items {including household batteries, tires, and many other materials} because we will recycle these materials even if there is a slightly negative market. The reason is simple - we have not had enough time to research these markets yet. However researching markets for these materials will be a top goal for 1990 and 1991.

Part 360-1.9(f)(3)ii - Chemung County will most likely market recyclables with a mix of internal marketing skills and outside professional marketing help {See Figure 9}. For the outside help, the CCSWMD conducted a partial survey of national, regional and local market. During the next few months, the
CCSWMD will enter into an agreement with one or two recycling/marketing companies to market/take our recyclables.

Using the Syracuse, N.Y., the Bronx, N.Y., and the Cape May County, N.J. Materials Recycling Facilities {MRF} as models, Chemung plans to own and operate a MRF in a similar manner. The county will attempt to match the estimated amount and type of materials entering the facility {as described in the CCSWMD Composition Study} with the equipment selected and the intended design.

However the quantity of recyclable materials actually entering the MRF may be the most complicated item to predict because of two factors. The first factor is the existing recycling efforts. If the commercial recycling efforts fail because of markets becoming non-existent, Chemung will be forced to process almost 11,000 tons of additional "solid waste" each year. The second factor would be the potential of a multi-county agreement in which Chemung would operate a MRF for Chemung as well as for one or more surrounding counties. So the selection process as to the size of the MRF would be a deliberate one.

As illustrated in Figure 7, the CCSWMD began engineering and design work on the MRF and Compost Facility in the second half of 1989. Equipment capacity concerns and other questions will be addressed during the design phase.

All the markets we are speaking with can operate in one of three ways. They will provide containers and/or trailers to the CCSWMD for recyclable material collection. Secondly the CCSWMD can provide our own containers for these materials. And lastly, there can be a mix of these two strategies depending upon the material. We do not believe containers are a major or even a minor concern for the CCSWMD as we can easily buy/rent/borrow containers of any size or shape from our other facilities or sister county agencies.

Specifically, the draft MRF design layout has space for four to eight storage trailers on the loading dock and room for several additional ones. Presently, the CCSWMD owns and operates four tractors capable of hauling full-size trailers. We may elect to use these trailers for transportation of recyclables over short distances with the long distance hauls being made by outside contractors.

The CCSWMD intends to use one company {such as Peter Carter, Railroad Valley Recyclers, or Empire Returns} to design this facility and equipment and processing operation. A more detailed description of the process lines, size of the facility, and marketing strategies will be provided in the permit to Construct and Permit to Operate Applications to be submitted in late 1989.

Part 360-1.9(1)(3)iii - Chemung County is dedicated to collecting and producing the highest quality material possible. For example, the draft design of the
FIGURE 6. Projected schedule for engineering, design, construction, permitting and shakedown of recycling operation in Chemung County.
Chemung County Solid Waste Management District
Project schedule for MRF Implementation, 1989-1990

<table>
<thead>
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<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
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<tr>
<td>Submit Permit Appl &amp; Recy Anal</td>
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<td>Bids &amp; Engineering Design</td>
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<td>Order/receive recycling equip</td>
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<tr>
<td>Funding</td>
<td></td>
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<tr>
<td>Educate Public</td>
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<tr>
<td>Begin operations</td>
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</table>
MRF includes a glass cullet operation. Initially this seems like an expensive operation, but with several large sources and potential markets of glass available in the region, this may be a viable option. Secondly, the CCSWMD will request that newspapers for collection at curbside be placed in paper bags when rain or snow is forecast. This method has been used successfully in other New York State municipalities.

**Part 360-1.9(1)(3)iv** As Chemung County has scores of private haulers, railroad facilities and roads, few problems are expected with transportation. The storage of materials will be handled in the MRF or in nearby storage space the CCSWMD would rent and would be prepared to match as closely as possible market requirements. We have discussed the possibility of long-range storage with THE CENTER AT HORSEHEADS, which is within one day’s trucking distance of 51 percent of all of the US and Canadian manufacturing plants and 45 percent of the North American population. The facility has more than two million square feet of space and is located six miles from the Milling Station, the proposed site for the MRF. Additional information on THE CENTER AT HORSEHEADS is enclosed in the Appendix.

In addition to potential storage at the MRF, in trailers surrounding the MRF and the CENTER AT HORSEHEADS, the CCSWMD owns a building at the Lowman site which contains about 3,500 ft² which can also be used as temporary storage. So in general, the CCSWMD has the options described here for storage plus many other ones not described here.

**Part 360-1.9(1)(3)iv** - Current market restrictions on recyclables include the almost nonexistence of the newspaper market. Future restrictions are somewhat more difficult to forecast. However Chemung County is dedicated to the process of recycling so we are considering two options for meeting NYS goals. One option would include processing the recycled material and storing it until the market price rises to an acceptable level. The second option would be to save any rental cost for storing the material and either get paid or pay to have the material taken away for recycling despite any negative market prices.

Chemung is dedicated to the highest quality of the product and for example if paper has to be source separated at the offices into white, computer, envelopes, yellow or pink, this process will be done.
Chapter 4

Part 360-1.9(f)(4)i - A solid waste incinerator is NOT a considered option at this point. The County will address the topic of a solid waste incinerator in its Solid Waste Management Plan to be prepared by early 1991. The state of Massachusetts has recently enacted legislation to stop construction of incinerators for a period of three years and New Jersey has introduced legislation to do the same. Chemung County plans to readdress this issue in 1994 after this issue is further studied and addressed. There is presently a bill before the New York Legislature that would prohibit new construction of Resource Recovery Facilities for a period of not more than three years.

As a guide, we plan to use the NYS DEC Solid Waste Management Plan, but more specifically the April 5, 1989 Division Technical and Administrative Guidance Memorandum from Director Nosenchuck which describes in more detail the planning and use of incinerators and landfills. A copy is attached in the Appendix.

Part 360-1.9(f)(4)ii - The land disposal site presently under use recently obtained a permit to construct a new cell from DEC. This new dual lined six acre landfill cell was completed in September and a Construction Certification Report was submitted to the DEC Solid Waste Division of Region 8. Currently the County is awaiting approval of this report and issuance of an Operational Permit for the new cell.

Estimates on the life of the landfill vary, based on the actual quantity of waste to be landfilled over time. If the landfill can take 85,000 Tons per year for the next 15-25 years, then recycling 30,000 to 40,000 tons per year may extend it by 5 to 10 years. However, specific, detailed and reliable calculations will have to be made by a professional engineer for inclusion in the Solid Waste Management Plan.

All the relevant information on the landfill was recently summarized in a small brochure entitled CHEMUNG COUNTY SOLID WASTE LANDFILL EXPANSION PROGRAM, a copy of which is enclosed in the Appendix.
Chapter 5

Part 360-1.9(f)(5) - Selection of the Chemung County Recycling Program - During the past few months the CCSWMD staff, Administrative Board, engineering consultant and legal representative discussed several scenarios for implementing county-wide recycling in Chemung. We evaluated four scenarios as outlined in Figure 8. Scenario 1, the delaying of recycling was rejected as the County realizes that we are required to begin recycling by September 1992.

The remaining three scenarios were more closely focused upon. Scenario 2 was rejected because we felt no mid or large sized company would likely take on Chemung County as a possible client because of our relatively small size. Scenarios 3 and 4 are the most likely candidates because the County would be proactive and take control of the situation. However Scenario 4 we ruled out because the County does not presently collect solid waste and we do not intend to collect recyclables. Therefore, Scenario 3 is our choice.

a) Plan and scope of operation - This section will be the foundation of the Recycling Plan, and the main tenants are outlined in Scenario 3. The Recycling Analysis outlines existing collection systems as illustrated in the attached sheet indicating that most of the County (almost 65 percent) relies on private haulers to cart their waste away. Our goal is to integrate the existing system of municipal and private haulers to ascertain the best system for them to collect and haul recyclables. (Please refer back to Figure 1). This may include tag-a-long trailers or the purchase of sectioned trucks.

We have decided that the existing county-wide collection system be maintained and integrated into the recycling system. The recycled material would be brought to the existing Milling Station site where a MRF would be constructed and operated by the county. The haulers would collect the recyclables and solid waste at the same time on the same day and deliver both to the above mentioned MRF site.

The CCSWMD feels that there are two major advantages of having the county build and manage the operation of the MRF. One would be the MRF would be located just feet away from the Milling Station. This would make a central point for both solid waste and recyclables to be dropped off. Secondly the county would have more control over the operation and markets if the operation were conducted by the county rather than a private concern.

b) Time-frame - By mid-1990 the CCSWMD expects to have bids let for the construction of the MRF. Within five weeks after construction and shake-down, we expect to distribute 12 or 14-
FIGURES 7. A listing and discussion of the pros and cons of the 4 scenarios considered by the CCSWMD for a recycling program in Chemung County.
CHEMUNG COUNTY SOLID WASTE DISTRICT
Recycling Scenarios

SCENARIO 1—County decides to delay recycling

--Advantages
  # Costs less in the short term

--Disadvantages
  # Cost a GREAT DEAL more in the long run
  # DEC could withhold approval for all SW permits
  # Increase landfill tonnage

SCENARIO 2—County decides to contract out entire project
to 11 towns or a private firm for hauling and processing

--Advantages
  # Small initial start-up $

--Disadvantages
  # Loose control of project
  # If markets fail, contractor could discontinue operations
  # Cost increases in proportion to risk and capital
costs assumed by the contractor
  # Towns do not have expertise in this area
CHEMUNG COUNTY SOLID WASTE DISTRICT
Recycling Scenarios

SCENARIO 3--County builds MRF, buys equipment, and contracts out operation and uses present hauling system

-- Advantages
  # Uses state monies for equipment
  # Possible staffing by sheltered workshop

-- Disadvantages
  # Control only by contract terms

SCENARIO 4--County totally responsible for MRF operation and collection of recyclables

-- Advantages
  # Control over entire operation
  # Part of the long-term SW solution
  # Could accept recyclables from other jurisdictions (NOT SW)

-- Disadvantages
  # Increased labor costs
  # Large start-up costs
gallon recycling boxes (made from recycled plastics) to each of the 11,000 households in the City of Elmira and begin the collection of recyclables at curbside within 2 weeks after that.

1. **Residential** - We would like to operate the recycling program within the City of Elmira for about three to six months and then we anticipate the distribution of the remaining 22,000 plus recycling boxes to all the rest of the households in Chemung County.

2. **Commercial/Office** - Within two months after each household begins curbside recycling, the CCSWMD will begin focusing on the commercial establishments. The CCSWMD expects to expand its pilot program of office paper recycling. We plan to begin with the remaining County Office Buildings and extend to all other local, state and federal office buildings in the County. This program will entail locating an office paper collection bin on each persons desk. From there it will be deposited in larger containers throught out each office. From there it will be collected periodically and brought to the MRF.

   After the governmental offices in the County are participating, we will focus on the private offices. We will again be recommending that all desks have office paper collection boxes. When countywide recycling is fully operational, every business and household will be linked to the same recycling program. We do not plan to have different systems for different parts of towns or the county. (over 98 percent of the solid waste is processed through curbside and the remaining 2 percent is processed through the five transfer stations). The Transfer Stations will be equipped with proper drop-off containers for recyclables and any resident who uses these Transfer Stations will be required to bring in recyclables if they bring solid waste.

   **c) Enforcement** - The CCSWMD will provide encouragement to both residents and the commercial sector to comply with the new Recycling Program. Initially, we are considering the use of three methods to accomplish our recycling goal.

Initially, the County recently adopted Chemung County Local Law #2. This law provides the framework for enforcement, permitting, hauling, recycling, disposal and penalties for those who deal in solid waste and recyclables. We plan to hire a 20-hour per week, 50-week-per year County Sheriff's Deputy to enforce our Local Law #2 for 1989. This person will educate judges and elected officials about Local Law #2, check for violations of this law and issue summons to violators.

**d) Education** - One of the largest portions of this outreach will be education in all the local schools, including grammar, high school and college. At each school the CCSWMD hands out educational recycling sheets for the students to work on.

**e) Equipment to be used** - Equipment listed in the Appendix is
specific for the MRF. We are recommending several different types of collection vehicles for recyclable collection to the haulers but will not purchase any of the equipment. When solid waste collection began County-wide in 1973, the CCSWMD did NOT recommend or purchase any collection equipment at that time either. In Chemung County, the haulers will be required to purchase new collection equipment, or retrofit their equipment to collect recyclables and solid waste on the same day.

Obviously collection of recyclables and solid waste will be closely interrelated. As mentioned previously, there is a mix of private and public haulers in Chemung County and they are simply categorized below:

<table>
<thead>
<tr>
<th>Type of Hauler</th>
<th>% of County Population Serviced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public (City of Elmira)</td>
<td>35%</td>
</tr>
<tr>
<td>Private (Rest of County)</td>
<td>65%</td>
</tr>
</tbody>
</table>

The County has never collected solid waste and does not intend to begin collection of recyclables. The CCSWMD believes that collection of solid waste and recyclables would best be handled by the existing mix of public and private haulers.

We have not inventoried the needs of the existing collectors nor do we intend to become involved beyond providing information. However the CCSWMD has met on several occasions with the haulers to discuss the mandates in the NYS Law, the Chemung County Local Law #2 for 1989, the changes in hauling practices and describing potential recycling collection equipment.

We have explained that compliance with the recycling rules will happen through two mechanisms. The first is the use of clear plastic bags at curbside. In that way the haulers can easily view the contents of the bag and know immediately if there are grass, leaves, and solid waste or any recyclables mixed in with the solid waste. If any recyclables are mixed in with the solid waste, then the hauler will not pick up the solid waste. In turn, it will be difficult for the haulers to ignore this rule as the CCSWMD will mandate that each load entering the Milling Station carry a specific amount or quantities of recyclables. This method has been used in other jurisdictions as a reliable enforcement and educational tool.

The second advantage of clear plastic bags is easy identification by the haulers of the contents of the bag. The haulers can then easily place the bag into the correct compartment {solid waste, leaves or grass for example}.

Equipment to be used in the MRF has not been sized but will include at least two large balers {one for white goods and the other baler for the remaining products such as newspaper, cardboard, plastics, aluminum and office paper}. Also planned are conveyors storage carts, glass crushers.
and shredder for tires/glass. The CCSWMD staff has 17 years experience repairing and replacing solid waste processing equipment and their expertise could easily be applied to the set-up and maintainance of the MRF.

f) Role of the residents - The CCSWMD will use the KISS paradigm {Keep It Simple Stupid}. In general, we plan to ask the resident to do as little as possible. For example, we will only ask each resident to rinse each can, glass bottle or plastic container, but we will not ask them to remove labels. The residents will then place the recyclables in the recycling box {comingled} and place it at the curb once each week beside the solid waste. Again, we will use an enforcement tool which has been used successfully elsewhere, and that is refusing to collect the solid waste if the recycling box is not out at the curb at collection time.

The CCSWMD intends to order 35,000 14-gallon recycling containers made from a minimum of 15 percent recycled plastics. We have been evaluating the types of recycling containers other municipalities have selected for their use and we will use their experiences as our guide. If boxes with lids are recommended, the CCSWMD may decide to purchase them to assure protection of recyclables from the elements.

g) Role of the Business Person

Obviously those businesses now recycling are urged to continue recycling. However the CCSWMD will begin the collection of office paper from larger offices and governmental offices in the County initially. The program will then be expanded to smaller businesses as time progresses.

In the near future {one to five years}, businesses will be required to provide separate collection bins for recyclables {such as cardboard, glass, computer paper} and separate containers for solid waste.

h) Collection arrangements -

The County has never collected solid waste and intends not to enter the recyclables collection arena. Each hauler, public and private will be required to bring a certain percentage of recyclables to the Milling Station\MRF if they want to use the disposal facilities.

The CCSWMD is preparing a countywide rule requiring that curbside collection and source separation be mandatory under Local Law # 2. The final intricacies of the rule are yet to be worked out but it should be completed by mid-1990 and the rule could be easily changed if circumstances change. Again we would rely on the existing hauling system for collection of solid waste, and to begin the collection of recyclables, perhaps with some modifications as necessary.

These modifications would include method of collection of commercial establishments, for example. Presently, commercial establishments mix all their regular solid waste into one container. When recycling becomes mandatory, each commercial establishment will be
required to have two containerS, one for recyclables {mostly paper} and one for solid waste. Haulers will then be required to pick up an additional container for recyclables at each location. However the amount of material produced will be the same before and after recycling begins.

The City of Elmira owns six Packer Trucks all of which are now operating beyond their life expectancy. The City will consider ordering new equipment during the next 18 months. This would be the perfect opportunity to begin planning the ordering of new collection and recycling equipment at the same time. The CCSWMD has met with all the major haulers, both public and private and has distributed a questionnaire, a copy of which is enclosed in the Appendix. The results of the survey indicate that both public and private collectors would be amenable to purchasing their own equipment.

i) Processing and storage - At this time we would like to bring all the material to the MRF, sort it according to market requirements and either store it at a County-owned warehouse or ship it directly to market. The MRF would be designed with two process lines, one for office paper, computer paper, cardboard, newspaper and the other for mixed residential recyclables {glass, plastics, aluminum, bi-metal, etc.}.

Grass and leaves would be brought to a Compost Facility located on adjacent county property, while we may request each of the 11 towns to operate a brush pile. The County would then purchase a portable "Tub Grinder", trail it from town to town periodically and grind any brush or small tree parts.

The CCSWMD anticipates that some material destined for recycling markets will be stored more than 30 days at District facilities. We realize that this situation may need DEC concurrence and we will inform the Department of this activity well in advance of its occurrence, as outlined in Part 360-12.

j) Market agreements - As mentioned earlier in this document, the CCSWMD is shipping the ferrous metals {white goods} to a market in Corning {Steuben County}, NY. We expect to continue shipping out the white good during the next few years.

The county plans to initiate request for bids for glass, newspaper and aluminum markets. We plan to advertise for bids during 1990. We would like to sign a two to three year marketing agreement with a broker who will market all of our products instead of signing several single product contracts with different vendors.

Newspapers will continue to be shredded and baled on-site and we will continue to look for new and innovative ways to reuse newspaper. As plans stand presently, deposit aluminum, glass and plastic containers will be separated out and transported to Central Recycling Co-Op as described earlier in this report.
Any market agreement the CCSWMD signs in the future will be modeled on the experience of past contracts entered into by the CCSWMD. Each year the Solid Waste District enters into scores of various contacts, and has done so for almost two decades. The CCSWMD has a great deal of experience in this area.

We plan to use this experience in signing any future contracts for recyclables. Initially we will seek out reputable companies to do business with. Secondly, we will look for realistic, long-term commitments {two to three years). Finally we will be closely inspecting any transportation or storage costs involved with marketing these products. Also we will demand an accounting of the material shipped out to confirm it was actually recycled and not disposed of.

k) Funding sources - Chemung County envisions two potential funding sources to construct and equip the MRF. The first source envisioned is in the form of a State grant through the Environmental Quality Bond Act (EQBA).

The second source entails a local Chemung County bond. A 1988 $16 million bond already exists and contains $750,000 earmarked for recycling. However this bond was finalized before the 1988 Recycling Law was signed by the Governor and inadequate funding was included for Recycling. Now the CCSWMD and County officials have verbally agreed to raise funds through an additional bond ranging between $2.5 and $3.5 million. The final dollar value of the bond issue will be determined by the final design of the facility and subsequent engineering reports.

The above described funding methods relate to the Capital Costs. The Operating Costs for recycling and composting will be derived from restructuring the fee structure. The CCSWMD intends to significantly increase the costs of solid waste disposal while accepting recyclables at no charge. We feel that this will drive the residents as well as the Commercial Sector to focus on recycling from a purely financial point of view- cost avoidance.

We have proposed significant rate increases for solid waste in our 1990 budget. This will help finance the part time Sheriff’s Deputy we plan to hire in 1990.

l) Responsible entity - Chemung County would be the jurisdiction responsible for managing the MRF and Composting Facility and assuring that the materials are marketable. Figure 8 indicates the groups responsible to carry out each facet of the recycling program.

As mentioned earlier in this report, the residents will be responsible to rinse out plastic, bi-metal, glass and aluminum containers before setting them out on the curb. Also they will be required to bag grass and leaves separately in clear plastic bags so haulers can easily identify the contents of the bags.
FIGURE 8. A listing of functions and responsible entities for successful and on-time completion of recycling operation.
**Chemung County Solid Waste District**
Planning, Construction and Operation of a MRF and Composting Facility

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>RESPONSIBLE GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule/DEC Compliance</td>
<td>CCSWMD/Administrative Board</td>
</tr>
<tr>
<td>Planning</td>
<td>CCSWMD/Consultant</td>
</tr>
<tr>
<td>Location</td>
<td>County owned property</td>
</tr>
<tr>
<td>Funding</td>
<td>State/County</td>
</tr>
<tr>
<td>Purchase of equipment</td>
<td>County/Haulers</td>
</tr>
<tr>
<td>Hauling</td>
<td>City of Elmira/Private Haulers</td>
</tr>
<tr>
<td>Construction</td>
<td>Contractor</td>
</tr>
<tr>
<td>Operation/Staffing</td>
<td>CCSWMD/Sheltered Workshop</td>
</tr>
<tr>
<td>Marketing</td>
<td>Broker and/or CCSWMD</td>
</tr>
</tbody>
</table>
The existing system of public and private haulers will be the responsible entity in delivering the solid waste and recyclables to the CCSWMD facilities. At the MRF and Composting Facility, the County will employ the necessary staff to complete the task of sorting and processing the products for market. The final marketing agreements for selling/buying the material will be the place and time for final decision on how materials are taken to market.

For the commercial sector, they will be responsible for collecting office paper at each desk and then marshalling it in one area, for separate hauling to the MRF.

m) Availability of staff - We may elect to contract most of the labor intensive portion of the MRF operation out to a local sheltered workshop. Retarded Citizens are presently being successfully used in Chemung County’s office paper recycling project. The expanded responsibility for sorting this increased volume might be bid between two agencies in the County.

Staffing of the Composting Facility will again be the responsibility of the CCSWMD and as illustrated in Figure 10, the proposed CCSWMD Recycling Budget.

n) Timing - The timing for the commencement of recycling in Chemung County is relatively simple. As illustrated in Figure 9 (and to a certain extent in Figure 3), the CCSWMD expects to begin residential curbside collection in the City of Elmira during the second half of 1990 and follow with all other areas of the county by early 1991. The Commercial Sector will also begin in late 1990. By the end of 1992, we expect the entire County to be integrated into the CCSWMD Recycling Scheme.

Again this Recycling Analysis is quite simple. We do NOT plan different programs, collection bins, collection schedules or pilot programs in any areas of the County. Again, the City of Elmira will be first to begin, with the rest of the County to follow within a few months. Materials to be collected tentatively include bimetal cans, plastic, glass, newspapers, and aluminum in the recycling bins.

During the months to follow we plan to accept bagged leaves and grass in clear plastic bags for use in our composting facility which is expected to be completed in 1991. Again, we will begin accepting bagged leaves and grass from the City of Elmira and then follow with all remaining portions of the County shortly thereafter.

Part 360-1.9(f)(5)ii - The CCSWMD services all of Chemung County with a 1980 US Census population of 97,656. A schedule for implementation of recycling is presented in Figure 10. In summary, the CCSWMD’s engineering firm is presently completing the design and engineering work on the MRF and Composting Facility. Concurrently, the CCSWMD has submitted Parts 1, 2 and 3 of the NYS State Environmental Quality Review {SEQR} to all involved agencies and parties.
FIGURE 9. Chart illustrating the expected beginning dates for commercial and residential recycling in Chemung County.
Chemung County Solid Waste Management District

Implementation schedule for recycling in 1990 and 1991

City of Elmira

 Remainder of County Residents

Composting

Office Paper

Cardboard, plastics,
The CCSWMD’s engineering consultant is preparing permit applications for the Materials Recycling Facility and intends to submit them to DEC during late 1989. Construction of the MRF Facility could begin in the first half of 1990, with operation slated for mid or late 1990. Purchasing of “Blue Boxes” for curbside collection and all other equipment would take place during mid-1990.

Throughout 1990 and 1991 the CCSWMD will constantly evaluate the reuse of foundry sand, tires, household batteries, sludge and other materials. The District would very much like to use foundry sand and/or sludge for demonstration projects and then for long-term recycling projects. These would be excellent methods of reducing significant portions of solid waste which are now landfilled.

**Part 360-1.9(f)(5) iii** - The CCSWMD staff and Administrative Board Members have attended many regional and national solid waste and recycling conferences and are aware of some ways to maximize markets. One way would be to increase our quantities of materials by accepting recyclables from surrounding counties. This would allow Chemung County to perhaps derive a higher price for the recyclables. We intend to use other strategies, as they develop, to enhance markets. However, we will be seeking guidance from DEC on this matter also.

**Part 360-1.9(f)(5)iv** - Chemung County has enacted an extremely comprehensive four pronged outreach program. The four prongs are listed in Figure 4 and are described in detail below:

1) **ENVIRONMENTAL GROUPS** - The Chemung County Environmental Management Council is the appropriate group in Chemung. It is the only broad based environmental group in the County. As mentioned earlier, the EMC initiated an office paper recycling program during 1988, an effort which continues today. This program will be expanded in 1989 and 1990, and will include all office buildings by 1994.

   Also, the Recycling Manager has requested that the Chemung County Solid Waste Administrative Board, the county solid waste governing body, formally approve a five member Recycling Advisory Board to guide the Recycling Manager on recycling matters and education.

   In cooperation with the Chemung County Environmental Management Council we are preparing two videos, one on recycling and the other on anti-littering. Both are being produced by a local company who has high technology video and audio equipment. These videos will be distributed to schools and libraries in the County to help educate students as well as teachers and the general public.

2) **GENERAL PUBLIC/MEDIA** - The Recycling Manager has begun an aggressive campaign to inform the media and residents that recycling will begin soon. The Recycling Manager has
made contact with all of the school districts in the county and has visited many schools already. The local nightly TV news media has requested background footage for their coverage.

Enclosed in the Appendix is a copy of the New Jersey Department of Environmental Protection's Guide to Solid Waste: Here Today, Here Tomorrow. The CCSWMD has been using this as a guide to inform both teachers and students from 2nd grade to high school about solid waste and recycling.

In addition we have prepared and distributed several press releases and held several news conferences about such topics as receiving a LLRP grant.

3) ELECTED OFFICIALS: The Recycling Manager has proposed that he visit each of the county's 11 towns during March and April to inform them of the Office of Recycling's efforts and New York State's requirements.

We have prepared a slide show for the elected officials and have extended it use to the general public and the commercial establishments.

4) COMMERCIAL ESTABLISHMENTS During March and April 1989, the Recycling Manager conducted a telephone survey of most of the major commercial establishments in the county to ascertain their effort in recycling. The results are listed in Table 1. Those facilities which are presently NOT RECYCLING {such as the Arnott Mall which produces from 1,000 to 2,000 tons of cardboard annually and which could be recycling it} will be sent a letter encouraging them to recycle it to avoid increased disposal costs. We have met with the Arnott Mall representatives and plan to do so again.

As mentioned earlier, the CCSWMD in conjunction with the Chemung County Chamber of Commerce and the Environmental Management Council, are sponsoring a December 8, 1989 seminar on recycling and solid waste. Representatives from DEC, the Department of Economic Development, IBM, CCSWMD, and the Environmental Management Council are scheduled to make presentations. Brochures outlining the details of the seminar were mailed to over 500 business and commercial establishments in the County.

During January 1990, the CCSWMD will mail a questionnaire to the Chemung County commercial establishments requesting the amount and types of material that they recycle. These results will then be compared to the 1988 figures.

Also the District is investigating the use of glassphalt for paving purposes, the use of recycled plastics in the curbside collection boxes, and is using letterhead made from recycled fibers.
Chapter 6

Part 360-1.9(f)(6)i - To date we have NOT discovered any laws or local ordinances which could pose any restrictions on the plan presented here. Furthermore, our attorney has extensive experience dealing with Chemung County and keeps current with any change. Any newly discovered legal problems will be reported to DEC.

Chemung County recently passed Local Law #2 which includes definitions of recycling and solid waste, sets registration standards for haulers, and outlines enforcement actions against those who break the laws.

During the next few months the CCSWMD will be drafting another county regulation, this one focusing on mandating recycling in the County.

Part 360-1.9(f)(6)ii - As mentioned earlier in this report, the Chemung County Legislature has adopted and the County Executive has signed into law Local Law #2 for 1989 which outlines the basic principals of solid waste and recyclable collection, transportation, processing, and operational requirements. Based upon this law the CCSWMD will propose administrative rules to mandate recycling at the commercial and residential sectors. We will be discussing the proposed rules further during the next few months operate under draft ones when recycling begins during the second half of 1990, and formally adopt workable rules before September 1992.

Again the main points of these proposed administrative rules will be:

- **Residential sector**
  1. Having the County provide 14-gallon collection boxes to each of the 33,000 plus households in the County including instructions taped to each box.

  2. Each resident will be responsible to place glass, bi-metal, aluminum, newspapers, rigid plastic containers or what ever materials the CCSWMD requests into the recycling containers and then place the recycling container at the curb once each week along side of the solid waste.

  3. Each resident must place all other materials in clear plastic bags or in containers which have the contents easily visible (unbaged solid waste in a garbage can for example). This includes the separate bagging of grass and leaves in clear bags.

  4. The haulers will not collect the solid waste unless the recycling containers are set out at the curbside along side the solid waste.
5. The haulers will not be allowed to dispose of the solid waste collected unless they bring at least a certain percentage of recyclables in at the same time.

-Commercial Sector

1. Each office in the county will be equipped with a desk-top office paper recycling container. Each individual will place certain types of office paper (white, colored, computer papers are examples) in these containers and when full, place the contents into a larger office-wide collection bin. This office paper will then be collected periodically or as needed and then transported to the MRF for processing.

2. Each commercial establishment will have separate collection bins for other recyclable materials such as cardboard, plastic or glass.

3. Each business, commercial establishment, volunteer organization, school will all be defined under this proposed rule, so each organization will know their particular requirements. Also we may begin with all the places of business over a certain number of employees and then gradually work down to the small facilities.

4. Again we plan to increase significantly the cost of solid waste disposal and accept recyclable materials at no charge to encourage businesses to recycle.
Chapter 7

**Part 360-1.9(f)(7)ii** - Chemung County has taken several actions so that it and other surrounding small counties could recycle at a greater rate. In 1988 Chemung, Schuyler and Tioga began discussions on a Southern Finger Lakes Regionals Recycling Cooperative. There is an opportunity for adjacent counties to join the processing, marketing stream with Chemung if they wish.

The Cooperative was created to carry out the recycling functions which could potentially be conducted on a regional basis in support of participating counties. It is anticipated that Chemung will begin operations of a Materials Recovery Facility in late 1990 in the City of Elmira (population 35,000) and after 6-12 month shake down period, then CCSWMD will then collect outside of the city. At that time, the CCSWMD will be in a position to entertain requests from surrounding counties for use of the processing facilities/marketing.

Initial efforts will focus upon the generic promotion of recycling and planning for special educational materials and assistance for County Recycling Manager. The direction of this cooperative is as yet undeveloped but one county, perhaps Chemung may act as a leader in a regional process and as a broker for the materials.

**Part 360-1.9(f)(7)ii** - Chemung receives approximately 250-325 tons of solid waste per day. We intend to construct a Materials Recycling Facility which will process up to 80 tons per 8-hour shift when the peak is reached.

**Estimated** tonnage of recyclable material in the existing Commercial Sector, the tonnage through the County operated MRF and the material at the Composting Facility for 1997.

<table>
<thead>
<tr>
<th>Type</th>
<th>Tons per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial {existing}</td>
<td>10-12,000</td>
</tr>
<tr>
<td>MRF {8-hr/day operation}</td>
<td>14-19,000</td>
</tr>
<tr>
<td>Composting Facility &amp; C&amp;D</td>
<td>7-15,000</td>
</tr>
<tr>
<td></td>
<td>31-46,000 Tons/year</td>
</tr>
</tbody>
</table>

This MRF combined with a Composting Operation will account for reaching the goal of 40% recycled by 1997. The MRF we plan to construct would operate two processing lines, one for paper and one for the rest of the recyclables (plastic, glass, aluminum, etc.). We expect the final engineering report to detail a MRF which will encompass 25,000 square feet and be located on the same property as the current Milling Station in Elmira, N.Y.
The CCSWMD intends to locate the Composting Facility on the same County owned property as the above described facilities, and is already lined with concrete. This facility would process 10,000 to 15,000 tons per year, depending upon resident participation. However if the facility can not be located near the Milling Station/MRF site, another site option would be the Landfill in Lowman or some other suitable County-owned property which would meet all DEC criteria.

Part 3601.9(f)(7)iii - When the curbside recycling program is beginning in Chemung County the CCSWMD will offer $25 US savings bonds to randomly-chosen residents who are complying with recycling rules. This program will be modeled after the one used successfully in Seattle, WA. Periodically, the Recycling Manager will travel to a specific town on solid waste/recyclables collection day, and randomly select one resident who has their recycling box out in front of their house. This program will essentially reward people who are complying with the spirit recycling in Chemung County.

Those who do not put their recycling container at the curb with their weekly pick-up will be subject to not having their solid waste collected. The County-wide law would be enforced by the County Solid Waste Sheriff’s Deputy, which is a budgeted position.

Also we plan to closely monitor the programs that other municipalities use to successfully implement recycling.

We will obtain this information at conferences, from site visits and from telephone conversations. Since most of the ideas we plan to implement here in Chemung County came from other jurisdictions, we believe constant communication with surrounding agencies is a must.

In order to meet the state’s requirement of waste reduction, the CCSWMD’s efforts will be centered around two areas. One will entail reduction of brush, wood, leaves and grass being deposited in our lined cell or in the C & D cell. Secondly we will focus on encouraging national, regional and local companies to re-examine how the produce and package goods. By actively pursuing both of these areas, we hope to reduce Chemung County’s solid waste by 10 percent.
## PROPOSED 1990 CCSWMD RECYCLING BUDGET

### PERSONNEL
- Recycling Manager: $34,650
- Clerk: $11,313
- Temporary Help: $20,680
- Overtime: $7,500
- Shift Diff. (CSEA): $500
- Other (CSEA): $1,500

**TOTAL:** $76,143

### EQUIPMENT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>403</td>
<td>1. Office Equipment</td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Bookcase</td>
<td>$3,200</td>
</tr>
<tr>
<td>b.</td>
<td>Periodical Subscriptions</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>AT &amp; T Phone upgrade</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Stationary, envelopes, etc.</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Computer table</td>
<td></td>
</tr>
<tr>
<td>402</td>
<td>2. Other Recycling Equipment</td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Telefax Machine</td>
<td>$1,750</td>
</tr>
</tbody>
</table>

**TOTAL:** $4,950

### CONTRACTUAL

<table>
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<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>404</td>
<td>2. Travel &amp; Conferences</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Equipment Rental</td>
<td></td>
</tr>
<tr>
<td>405</td>
<td>a. Newspaper shredder</td>
<td>$4,000</td>
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<tr>
<td>b.</td>
<td>Newspaper baler</td>
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</tr>
<tr>
<td>c.</td>
<td>Hand trucks</td>
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<tr>
<td>e.</td>
<td>Truck/trailer rental</td>
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<tr>
<td>406</td>
<td>4. Equipment Maintenance</td>
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<tr>
<td>5.</td>
<td>Contracts</td>
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<tr>
<td>408</td>
<td>a) 5 ARC workers (6 months)</td>
<td>$25,000</td>
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<tr>
<td>b)</td>
<td>200 hours of computer consulting</td>
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<tr>
<td>c)</td>
<td>Newspaper Recycling</td>
<td>$25,000</td>
</tr>
<tr>
<td>d)</td>
<td>Aluminum Recycling</td>
<td>($7,500)</td>
</tr>
<tr>
<td>e)</td>
<td>Glass Recycling</td>
<td>$6,000</td>
</tr>
<tr>
<td>f)</td>
<td>Plastics Recycling</td>
<td>$7,500</td>
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<tr>
<td>g)</td>
<td>Bi-metal</td>
<td>$10,000</td>
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<tr>
<td>h)</td>
<td>Composting operation</td>
<td>$9,750</td>
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<tr>
<td>401</td>
<td>i) Advertising</td>
<td>$9,250</td>
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<tr>
<td>413</td>
<td>6. Utilities</td>
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<td>470</td>
<td>7. Extra Help</td>
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<td>487</td>
<td>8. Mill supplies &amp; sw disposal</td>
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<tr>
<td>417</td>
<td>9. Uniforms</td>
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<tr>
<td>490</td>
<td>10. Fringe Benefits</td>
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<td>433</td>
<td>11. Computer Supplies</td>
<td>$5,800</td>
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<tr>
<td>412</td>
<td>12. Books and Magazines</td>
<td>$500</td>
</tr>
</tbody>
</table>

**TOTAL:** $89,250

### TOTAL

**TOTAL:** $278,643
| ITEM               | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12  |
|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|     |
| TOTAL SOLID WASTE VOLUME | 7,206 | 7,211 | 7,216 | 7,221 | 7,226 | 7,231 | 7,236 | 7,241 | 7,246 | 7,252 | 7,257 | 7,262 | 7,267 |
| POTENTIAL MRF RECYCLING FACTOR | 0.0% | 5.0% | 10.0% | 15.0% | 20.0% | 25.0% | 30.0% | 35.0% | 40.0% | 45.0% | 50.0% | 55.0% | 60.0% |

**EXISTING RECYCLING**

- CARDBOARD: 925
- OFFICE PAPER: 8
- NEWSPAPER: 20
- ALUMINUM: 0
- BI-METAL CANS: 4
- METAL: 9
- GLASS: 12
- PLASTICS: 11

**TOTAL RECYCLING**: 925

**% OF TOTAL WASTE RECYCLED**: 12.8%