

**Madison County  
Department of Solid Waste and Sanitation**

**DRAFT**

**Comprehensive Solid Waste  
Management Plan Modification**

**April 2009**



*Engineers • Environmental Scientists • Planners • Landscape Architects*

**290 Elwood Davis Road  
Box 3107  
Syracuse, New York 13220**

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Department of Solid Waste and Sanitation

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Management Plan Modification

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Prepared For:

Madison County Department of Solid Waste and Sanitation  
P.O. Box 27  
Wampsville, New York 13163-0027

Contact Person: James A. Zecca, Director of Solid Waste

Prepared By:

Barton & Loguidice, P.C.  
290 Elwood Davis Road  
P.O. Box 3107  
Syracuse, New York 13220

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## **Executive Summary**

Madison County (hereinafter referred to as “the County”) completed its original Final Solid Waste Management Plan (SWMP) in 1991. In general, the County’s original SWMP called for the continuation of its integrated solid waste management system consisting of a regional landfill, central and intermediate solid waste transfer stations, and recyclables collection facilities. In accordance with the SWMP, these facilities continue to be in operation today.

Madison County’s integrated solid waste management system consists of one central sanitary landfill in the Town of Lincoln, three transfer stations (located in the Towns of Hamilton, Cazenovia, and Sullivan), a central materials recovery facility (MRF) located adjacent to the landfill site, and four yard waste and recyclables drop-off locations (at the three transfer stations and the sanitary landfill). In addition, at the landfill drop-off location the County recycles special wastes such as used ink jet and laser cartridges, vehicle tires, vehicle batteries, dry cell batteries, white goods, and other bulk metals. Madison County also continues to encourage its residents to properly dispose of their household hazardous wastes, by paying for the disposal of such household hazardous wastes (up to specified limits) by County residents at the Environmental Products and Services household hazardous waste facility in Syracuse.

Madison County has met the milestones outlined in their original SWMP, which expires at the end of 2010. The milestones include the permitting and development of a landfill expansion to allow for continued landfilling of wastes, as well as the continued operation of the materials recovery facility, yard waste composting facility, sharps collection program, and public recycling education program. The County has also further bolstered its solid waste management system beyond the milestones outlined in its original plan, as described in the biennial compliance reports. Due to the fact that

the County has met these milestones, and that there are no major changes needed in the County solid waste management system, the County is seeking to extend the planning period for another ten years until the year 2020. The County has however, identified some enhancements to the system that it would like to complete during the extended planning period in order to further enhance its solid waste management system. These enhancements are described in this SWMP Modification document.

This SWMP Modification report has been prepared in accordance with NYSDEC Part 360 Regulations for Comprehensive Solid Waste Management Planning and DEC Policy DSHM-SW-03-15, Extending the Term of a Local Solid Waste Management Plan (LSWMP) Planning Period. In accordance with subpart 360-15.11(e), a detailed description of the proposed modifications and the reasons for these modifications are included in Section II of this report; the revised implementation schedule is included in Section III; and the remaining required components for a SWMP modification are included in sections IV through VII.

## I. Overview of Madison County's Solid Waste Management System

Madison County's integrated solid waste management system consists of one central sanitary landfill in the Town of Lincoln, three transfer stations (located in the Towns of Hamilton, Cazenovia, and Sullivan), a central materials recovery facility (MRF) located adjacent to the landfill site, and four yard waste and recyclables drop-off locations (at the three transfer stations and the sanitary landfill). In addition, at the landfill drop-off location the County recycles special wastes such as used ink jet and laser cartridges, vehicle tires, vehicle batteries, dry cell batteries, white goods, and other bulk metals. Madison County also continues to encourage its residents to properly dispose of their household hazardous wastes, by paying for the disposal of such household hazardous wastes (up to specified limits) by County residents at the Environmental Products and Services household hazardous waste facility in Syracuse.

### A. Major Milestones from Approved Solid Waste Management Plan and Compliance Reports

#### i. Major Milestones from Approved Solid Waste Management Plan

Madison County's NYSDEC-approved Comprehensive Solid Waste Management Plan (SWMP) contains an eleven point plan for managing the County's waste for the duration of the 20-year planning period. The eleven elements of the Plan and the status of each are described below:

##### 1. *Continue To Utilize Landfilling For Disposal of Non-Recyclables*

This element of the Plan was implemented through the development of the County's West Side Expansion Sanitary Landfill. Construction of Phase I of the landfill was started in the

summer of 1993. Operation of Phase I of the landfill began in the summer of 1996 and continued through 2002. Plans and specifications for construction of Phase II of the landfill were prepared in 2000 for submittal to NYSDEC, along with other engineering information required for NYSDEC's review and approval of the Phase II construction plans. Construction of Phase II of the landfill was substantially completed in 2002, and active landfill operations commenced in Phase II of the landfill in 2003. In 2008, the County commenced construction of the first cell in its newly permitted landfill expansion, Cell #7. Construction was completed in late 2008, with waste placement anticipated in early 2009.

2. *Develop a Landfill Expansion Adjacent to the Existing Landfill*

Engineering and environmental analyses in support of a landfill expansion permit were completed and submitted to the NYSDEC in early 2006 for a long-term expansion of the existing county landfill. After some revisions due to NYSDEC comments, the permit application was approved and the County received a Part 360 Permit for the 63 acre landfill expansion in November 2007.

3. *Continue Operation of the Materials Recovery Facility (MRF) to Process Recyclables Collected as a Result of the County's Mandatory, Source-Separated Recycling Program*

This element of the Plan has been implemented since 1990 when the MRF opened. The local Madison County Association for Retarded Citizens (ARC) has operated the MRF since its opening.

4. *Continue the Yard Waste Composting and Brush-Chipping Program*

This element of the Plan has been in operation since 1988 when the County established yard waste composting and brush chipping sites at its three transfer stations and at the central landfill site. These sites are still in operation today and divert leaves, brush, and other green wastes from the County's landfill and produce a useful material available free to County residents.

5. *Continue and Expand, Whenever Feasible and Appropriate, the Recycling Programs for Special Wastes Such as Used Oil, Used Antifreeze, Tires, Vehicle Batteries, White Goods, and Other Bulk Metals*

The County has continuously added to its list of mandatorily recycled items since instituting its first recycling program in 1990. As of December 2008, this list includes the following items:

- newspapers
- corrugated cardboard
- glass containers (all colors)
- HDPE and PET plastic containers
- aluminum
- tin-coated steel containers
- glossy magazines and catalogs
- glossy newspaper inserts
- office paper
- junk mail (including envelopes with plastic/glassine windows)
- other miscellaneous paper stock
- textiles
- boxboard
- plastic containers numbered 1-7
- pizza boxes
- inkjet cartridges
- license plates
- computers
- computer monitors/televisions
- plastic bags
- vehicle tires
- vehicle batteries
- white goods

Residents can also voluntarily recycle used cooking oil and dry cell batteries at County facilities.

In addition to these recycling programs, Madison County has implemented household hazardous waste collection, medical sharps collection, yard waste composting, and confidential paper shredding and recycling programs for its residents.

6. *Continue to Encourage and Emphasize Reduction, Reuse, and Recycling by County Residents via Public Education*

This element of the Plan is implemented by the County's part-time recycling educator who continues to educate County residents on recycling, waste reduction, and reuse. The County's recycling educator continues to improve and expand educational displays and programs.

7. *Establish Remote Recyclables Drop-Off Facilities as Needed*

The County continues to operate recyclables drop-off facilities at each of its transfer stations and at the landfill. The County has not established any additional remote facilities beyond this, and has instead focused on encouraging the availability of recyclables receptacles in public venues such as Thruway rest stops and local schools.

8. *Continue the Safe Syringe Disposal Program*

This element of the Plan continues to be implemented at many of the pharmacies located throughout Madison County.

9. *Add Low Technology Composting to the Existing System When Appropriate*

In 1994 and 1995, the County conducted a food waste composting pilot project at the landfill. The results of the pilot project indicated that the composting of food waste is a viable means to reduce the amount of waste requiring landfilling. However, a lack of funding has prevented the County from implementing a long-term food waste-composting program at the landfill drop-off area.

10. *Consider Instituting a Construction and Demolition (C&D) Debris Recycling Program if and When Appropriate*

In 1995 and 1996 the County used a grinder to process a portion of the C&D waste stream which was used to bring up the final grades of the East Side Sanitary Landfill before landfill closure and capping. At that time, the County evaluated the cost effectiveness of landfilling C&D debris versus processing and recycling a portion of this waste stream. The results of this evaluation indicated that it would be more economical to landfill C&D debris.

11. *Develop a Household Hazardous Waste Collection Program*

Madison County first entered into an inter-municipal agreement with the Oneida-Herkimer Solid Waste Authority (OHSWA) in 1996 and entered into a contract in 2000 for the use

by county residents of the Environmental Products and Services HHW facility located in Syracuse. This arrangement provided County residents with the opportunity to take their HHW to the Syracuse facility, with an appointment, year round. Through a grant from the DEC, Madison County is able to provide free disposal of up to 14 wet gallons and 20 dry pounds of HHW to each of its residents.

ii. Other Major Milestones from Compliance Reports

As outlined in their biennial SWMP Compliance Reports, the County has implemented some solid waste management enhancements, which go above and beyond the milestones laid out in the original SWMP framework.

1. *Flow Control*

Madison County does not use tax money to subsidize its waste management and recycling costs. The County's solid waste management and disposal facilities (i.e., transfer stations, yard waste composting sites, and recyclables drop-off centers), and its recycling operations at the ARC MRF are structured to be financially self-supporting. Revenues from landfill tipping fees and recyclables sales are used to operate, maintain, and pay off the debt service for County solid waste and recycling facilities. The County developed these facilities to ensure that wastes generated within the County would be disposed of in an environmentally sound manner and to provide a means to process and market the

recyclables residents separate from their trash. In order to ensure the continued operation of these facilities, in which the County has invested millions of dollars, the County must have a reliable flow of waste and recyclables delivered to these facilities. On January 8, 2002, the Madison County Board of Supervisors adopted Local Law No. 4 for the year 2001 to reinstate flow control for non-hazardous solid waste generated within Madison County.

## *2. Landfill Gas Collection and Destruction*

Madison County has installed an active gas collection system for both the closed East Side Landfill and the active West Side Landfill. This system collects the methane gas produced by the waste with vacuum pressure where it is conveyed via a piping network to a central location. Currently, this collected methane gas is destructed through the use of a landfill gas flare. Burning the methane significantly reduces the release of greenhouse gases to the atmosphere. Due to this voluntary reduction in greenhouse gases, the County is eligible to obtain carbon offset credits. Through an agreement with Waste Management Renewable Energy, LLC, these carbon offset credits are being marketed to end users on behalf of the County. This program is expected to provide an additional revenue source to the County to help offset the costs of the gas collection system installation.

### 3. *Landfill Gas Utilization Projects*

In early 2007, the County began the process of accepting proposals for a landfill gas utilization partnership at the landfill. In November 2007, an agreement was signed with Waste Management Renewable Energy, LLC to construct and operate a landfill gas to energy project at the landfill. In September 2008, a Ground Breaking ceremony was held for commencement of construction of the facility. The landfill gas to energy facility will generate roughly 1.3 megawatts of electricity, or approximately enough to provide electricity to a village the size of Cazenovia. Revenue received during the 20 year agreement with Waste Management Renewable Energy, LLC will help reimburse the Solid Waste Department for investments that were made during the research and development phase of the Landfill Gas Utilization Process.

In April 2009 a Final Request for Proposals was issued by the County to solicit proposals from companies that may have an interest in utilizing excess heat generated from the landfill gas to energy facility. In conjunction with this RFP process, the County has been pursuing the development of an Agriculture and Renewable Energy (ARE) Park on portions of the County's landfill property. Companies that respond to the RFP are invited to locate their business in the County's ARE Park.

In early 2009, the County also began a project to utilize a portion of the waste heat generated from the landfill gas to energy facility to heat the MRF located on the west side of Buyea Road. Waste heat from the facility will be transmitted to the MRF building via a pipeline, and used in lieu of the traditional heating system currently being used.

## **II. Description of Solid Waste Management Plan Modifications and Enhancements**

### **A. Introduction**

The County has implemented a majority of the milestones contained within their original SMWP and therefore proposes to modify this plan to maintain its current system, while identifying new milestones to work toward during a ten-year extension of the SWMP planning period. The milestones set forth below were identified with the goal of further enhancing the reuse and recycling of materials within the solid waste management system to reduce the quantity of materials being landfilled.

### **B. Extension of Planning Period**

The NYSDEC's rules and regulations for Comprehensive Solid Waste Management Planning (Subpart 360-15 of 6NYCRR Part 360) require that all solid waste management plans provide for the management of solid waste within the planning unit for a minimum of a ten-year period. The County's current Solid Waste Management Plan is based on a 20-year planning period beginning in the year 1990 and extending through the year 2010. The current NYSDEC policy for extending the term of a local solid waste management plan provides for the extension of the planning period through means of a SWMP modification, as long as no significant changes have occurred in the method of managing the solid waste generated in the planning unit (NYSDEC, 2003). As indicated in the Annual SWMP Compliance reports, the County has not deviated from the original plan, especially in the areas of landfill development and recycling programs. In light of this, and with the expiration date for the current SWMP soon approaching,

it is prudent for the County to apply for an extension of their SWMP planning period at this time. The County proposes that the SWMP planning period be extended for a 10-year period, through the year 2020.

C. Recycling Data Survey

As described above, the County has a very comprehensive recycling program, with many materials that are mandatory to recycle. While the County offers extensive recycling options, the Annual Solid Waste and Recyclables Inventory produced by the County consistently reports recycling percentages below the County's recycling goals set forth in the original plan. It is the County's belief that this is due to the fact that the reported recycling numbers are based solely on the materials that are handled through the County's solid waste management system. While all solid waste is required to be handled through this system, and therefore is completely accounted for, the same requirement does not apply to recyclable materials. Therefore, large recyclables producers such as big box stores, and even private recyclables collection companies, may ship recyclable products directly to the end user for a profit, bypassing the county recycling facilities. As a result, these materials are not being accounted for in the County's recycling reports.

The County proposes to undertake a recycling data survey, which would be distributed to various sectors of the County in order to compile more complete recycling data. These surveys will be used to help assess what materials could be available for use in new programs such as organics composting and construction and demolition (C&D) material recycling. The survey would most likely be conducted in stages, with the largest waste producers being contacted first. Survey recipients would be asked for data such as recyclable material (metals, plastic, and paper) produced per year, organic material produced per

year, C&D material produced per year, and current disposal/recycling methods. Intermediate facilities such as confidential paper shredding services may also be contacted to determine how much material they receive from within Madison County. This information would then be compiled to help the County determine the actual recycling rate within the County, which recycling efforts are most effective, and which new recycling methods would be most prudent for the County to pursue.

D. Mercury Collection Program

It is well known that mercury is an extremely toxic substance that does not break down easily once released to the environment, and therefore its disposal needs to be controlled. The County will assess the feasibility of developing a program for the collection and proper disposal of mercury containing products such as thermometers and thermostats. The goal of such a collection program would be to provide residents with a convenient and safe method of disposal of these items and reduce the instances of improper disposal.

E. Institutional Organics Composting Program

One recyclable material stream that the County has not yet addressed on a long-term basis is the organic food wastes stream. With three colleges and universities, fifteen K-12 school buildings, two hospitals, and a number of other institutions located within the County, which have the potential of producing substantial quantities of organic food waste, this recycling stream may be readily available. As part of the Recycling Data Survey mentioned above, the County proposes to determine the quantity of material available, and will develop a list of these types of institutions which may be interested in developing source

separated organics recovery programs. If a reliable stream of these types of materials is identified, the County will investigate the feasibility of implementing a composting program for institutional organic wastes.

F. Product Reuse Collection and Distribution Center

Product reuse is one of the most efficient forms of recycling. Madison County proposes to assess the feasibility of providing a system by which their residents can drop off used, but still usable items free of charge. Items would also be salvaged from the existing recycling streams, such as bulk metal, book recycling, and used electronics recycling. These items would then be made available to residents for a fee. This would be similar to the current drop off centers for the Salvation Army, which are currently located at all of the County transfer stations. The materials would be transported to a central location at the existing building on the east side of Buyea Road where the product reuse center would be located.

G. Expand Mandatory E-Waste Recycling Program

As described above, the County's list of mandatory recycled items includes computers, computer monitors, and televisions. As the technology in consumer electronics evolves, the quantity of electronic waste, or E-waste, entering the waste stream will continue to grow. While the County currently accepts all types of E-waste for recycling at its transfer stations, the County proposes to evaluate the feasibility of expanding the list of mandatory recycled items to include other E-wastes such as cell phones and digital cameras. This would require the adoption of a local law to include these items as mandatory recyclables.

#### H. Product Stewardship Framework

Product Stewardship is based on the concept that all producers selling a product should be responsible for designing, managing, and financing a stewardship program that addresses the lifecycle impacts of their products including end-of-life management. It is a nationwide undertaking to encourage government, at the State level, to implement product stewardship legislation based on the same framework principles in order to maintain a consistent starting point for nationwide implementation of a product stewardship policy. It is the intent of Madison County to adopt these product stewardship framework principles through a resolution.

#### I. Backyard Composting Program

While composting of all organic waste can be an effective method of low technology recycling that can significantly reduce the stream of landfilled waste, collection of these materials on a household basis can prove both difficult and expensive. Another option for encouraging the removal of these wastes from the waste stream is to implement a backyard composting program, through which residents are provided information regarding the methods of backyard composting. The County proposes to implement a backyard composting program once it has sufficient sources to do so. This would most likely involve distribution of information on effective composting through pamphlets, advertising, demonstrations, and/or the County website. The County will also explore entering into a partnership with the local Cooperative Extension office to provide composting lessons with master composters.

J. Recycling at Schools, Public Facilities and Special Events

Madison County has recently taken the initiative to promote recycling in local public schools through presentations and distribution of recycling bins. If financial and personnel resources allow, the County proposes to continue this program in the local schools, as well as expanding into public facilities (such as municipal office buildings) and at special events (such as the Madison County Fair).

K. C&D Recycling Program

As discussed above, Madison County previously evaluated the financial feasibility of recycling C&D material and determined that landfilling the waste was more economical. With the availability of more advanced sorting and processing equipment, as well as the increase in public awareness of the importance of “green” construction, the County proposes to revisit the feasibility of implementing a C&D recycling program. One method the County will explore as a means to reduce processing costs would be to encourage the separating of portions of the waste stream at the source. Wood and masonry materials can be recycled fairly easily if properly separated from other materials. In order to reduce costs to the County, instead of separating comingled C&D material at a recycling facility, the County can evaluate the feasibility of offering financial incentives to encourage generators to separate their own waste. The disposal of separated waste loads could then be offered at a lower rate than comingled material in order to encourage source separation.

L. Increase Recycling Staffing Levels

Many of the solid waste management program enhancements outlined above will require considerable effort on the part of the recycling staff to implement and maintain. The County plans to pursue the possibility of hiring additional recycling program staff to help evaluate and implement these programs, specifically the recycling data surveys, backyard composting education, and recycling education at schools, public facilities and special events. The County will pursue the creation of one or more internship positions for students from the colleges located within the County, who have specific interests in public relations and/or environmental sustainability. The feasibility of implementing this program will depend heavily on the availability of necessary funding.

### III. Implementation of Modifications to the Solid Waste Management Plan

While some of the program enhancements outlined above are already in the planning stages, some will require a higher level of feasibility analysis, funding, and planning before implementation. The preliminary implementation schedule for the proposed modifications is outlined in the table below. As pursuit of implementing these proposed modifications continues, and further information is gathered regarding the feasibility of implementing these programs, this schedule will be updated as needed via the biennial SWMP Compliance Reports, which are issued by the County every 2 years.

<b>Table 1 Implementation Schedule for the Madison County Solid Waste Management Plan Modifications and Enhancements</b>	
<b>Task</b>	<b>Timeframe</b>
1. Extension of Planning Period	Current planning period ends 12/31/09. Submit SWMP Modification to NYSDEC for approval by 6/30/09. Receive extension approval by 12/31/09.
2. Recycling Data Survey	Begin survey for select businesses in 2009. If survey is successful, expand to smaller businesses and institutions by 2010.
3. Mercury Collection Program	Currently working with NYSDEC regarding permitting process. Implement program by December 2009.
4. Institutional Organics Composting Program	Use 2010 Recycling Data Survey information to identify potential partnership with a local institution. Work to implement composting program by fall of 2011.
5. Product Reuse Collection and Distribution Center	Tour similar existing facilities in 2009. Develop operating plan and implement program by spring 2010.
6. Expand Mandatory E-waste Recycling Program	Evaluate annually based on recycling tonnages and estimates of waste stream percentage collected.
7. Product Stewardship Framework	Develop and present resolution to County Board of Supervisors by December 2009.

<b>Table 1</b>	
<b>Implementation Schedule for the Madison County Solid Waste Management Plan Modifications and Enhancements</b>	
<b>Task</b>	<b>Timeframe</b>
8. Backyard Composting Program	Develop public information materials in 2009 for posting on website and for public distribution in spring 2010. Evaluate feasibility of implementing training program in subsequent years.
9. Recycling at Schools, Public Facilities, and Events	Continue education program at schools and provide recycling bins as funding allows. Begin education at public facilities and events as staffing allows.
10. C&D Recycling Program	Evaluate markets for end product and conduct cost benefit analysis by December 2012.
11. Increase Recycling Staffing Levels	Evaluate on an annual basis during budgeting process.

#### **IV. State Environmental Quality Review (SEQR) Determination**

A SEQRA review for the SWMP Modification was undertaken and a negative declaration dated May 12, 2009 was made by the County, acting in its capacity as SEQRA Lead Agency. All required SEQRA documents will be maintained in a file at the County Office Building.

## **V. Public Participation/Notification to Neighboring Jurisdictions**

The County will hold a public information meeting on May 19, 2009 to gather public input on the proposed modifications to the SWMP. In addition, all neighboring counties will be mailed a copy of the draft SWMP modification, and it will be posted on the County website for public review and information by May 13, 2009. Public comments will be collected through May 29, 2009 and incorporated into the draft document as necessary.

## **VI. Plans for SWMP Modification Distribution**

All holders of the original SWMP will be sent copies of the final SWMP Modification. Instructions to insert the modification into the original SWMP will be included in the submittal. As stated above, the SWMP Modification will also be available on the County website.

## **VII. Resolution Adopting the SWMP Modification**

The Madison County Board of Supervisors will be responsible for consideration and enactment of a resolution to adopt this SWMP modification. A copy of this resolution will be forwarded to NYSDEC subsequent to its adoption by the County.