

CAPE MAY COUNTY MUNICIPAL UTILITIES AUTHORITY COMPREHENSIVE SOLID WASTE MANAGEMENT PROGRAM OVERVIEW

The Cape May County Municipal Utilities Authority (CMCMUA/Authority) serves as the implementing agency for the Cape May County Solid Waste Management Plan (County Plan) as adopted by the Cape May County Board of Chosen Freeholders and approved by the New Jersey Department of Environmental Protection (NJDEP). In its capacity as implementing agency, the CMCMUA has established a comprehensive solid waste management system which encourages recycling in order to minimize the quantity of solid waste ultimately requiring disposal. This system also assures the availability of reliable long-term solid waste disposal capacity to enable the proper disposal of all non-recycled solid waste generated in Cape May County. In accordance with the County Plan, an intrastate flow control strategy is utilized which mandates that all non-recycled solid waste generated in Cape May County, which is not transported out-of-state for disposal, must be disposed of at the CMCMUA's Sanitary Landfill or Transfer Station. Furthermore, the County Plan also specifies that waste generated outside of Cape May County shall not be accepted for disposal in Cape May County.

The CMCMUA provides a wide variety of recycling and solid waste disposal services to approximately 107,000 Cape May County year-round residents and serves a peak summer population estimated at 762,000. To serve the visitors, residents and businesses of Cape May County, the CMCMUA developed an Environmental Complex, which is located on a 457-acre site on the Borough of Woodbine – Upper Township border. The Environmental Complex, which was dedicated to former Authority Chairman, Daniel Riley, on October 15, 1999, is comprised of a wide variety of recycling and solid waste facilities that are all owned by the Authority. All of the facilities and services described herein, with the exception of the Intermediate Processing Facility, are operated by the CMCMUA.

A brief description of the major facilities and programs that comprise the County's solid waste management system is presented below.

Secure Sanitary Landfill

The CMCMUA's Sanitary Landfill (SLF) is a state-of-the-art, double-lined landfill sited within the above noted Environmental Complex which is located in the northern section of the County. This facility began operations in May 1984, on an initial 51-acre area which was constructed in three cells (Phase I, Cells 1A, 1B and 1C) that include a bottom liner and leachate collection system to protect groundwater. The initial 51-acre area of the Sanitary Landfill has been filled to an interim design height and capped with an impermeable synthetic material to prevent rainwater from entering.

The Authority is currently landfilling in Cell 1F which is the third of three (3) new landfill cells located on 42 adjacent acres within the existing site. Construction of Cell 1F was completed in November 2006 and landfilling began in June 2007. Cell 1D, the first of these newer cells, which is now capped with an impermeable material, reached its interim design height at the end of 2003. Cell 1E, the second of these newer cells which will be capped in 2010, reached its interim design height in 2007. The waste disposal capacity of both Cells 1D and 1E was rapidly depleted as a direct result of higher than anticipated incoming tonnage for disposal. The

decade long trend of receiving higher volumes of construction and demolition waste for disposal, which was the result of a County-wide redevelopment boom, finally ended in 2006. Since that time, the volume of construction and demolition waste requiring disposal has declined dramatically. The current economic recession has also reduced the tonnage of municipal waste received for disposal. While some additional declines in the tonnage of waste received for disposal are possible in 2010, it is expected that the tonnage of waste received in 2010 will stabilize near 2009 levels.

Recognizing the need for additional, long-term disposal capacity, the CMCMUA applied to the Pinelands Commission in 2004 for authorization to expand the 93-acre area previously approved for landfilling at the Authority's Environmental Complex. On May 1, 2006, the New Jersey Pinelands Commission formally adopted an amendment to the Pinelands Comprehensive Management Plan to provide landfilling to occur on an additional 74 acres of property already owned by the Authority. The final approvals needed to facilitate this expansion were received in 2009 from the Pinelands Commission and the NJDEP. This permitted landfill expansion, which provides for the development of five (5) additional landfill cells, should extend the current life of the Sanitary Landfill by more than 40 additional years to 2067. The CMCMUA's Sanitary Landfill, which is expected to receive more than 147,270 tons of solid waste for disposal in 2010, now has sufficient capacity to continue to serve both the short and long-term disposal needs of Cape May County.

Sustainable Landfilling

The Authority utilizes innovative technologies to extend the useful life of the Sanitary Landfill. The CMCMUA currently operates Cells 1A, 1C, 1D, 1E and 1F as a bioreactor landfill in accordance with the Landfill's current operating permit. The operation of the Authority's Secure Sanitary Landfill as a bioreactor landfill, which includes the recirculation of leachate, accelerates waste degradation and thereby effectively extends the useful life of the Landfill by increasing the landfilling capacity. The Authority also employs the use of temporary caps, alternate cover materials, geosynthetic clay liners and active landfill gas extraction as part of this sustainable landfilling strategy. Continuing to maximize recycling efforts and pursuing innovative operating and management strategies that are environmentally and technically sound and economically responsible will enable Cape May County to maintain solid waste self-sufficiency for at least the next six decades.

Landfill Gas (Methane) Recovery Facilities

Wells to extract the gas generated by the decomposition of solid waste at the Authority's Sanitary Landfill were installed in 1996 as part of an emissions control system. Since the primary constituent in landfill gas is methane, the Authority expanded that system in 1998 to collect and refine the landfill gas into a marketable product that fuels the boilers at the Woodbine Developmental Center. The operation of the Sanitary Landfill as a bioreactor, as detailed above, has resulted in a significant increase in the quality and quantity of methane generated from this landfill gas recovery project. As a result, the Authority's Landfill Gas Recovery Facility has been expanded to recover increased quantities of methane which are used to produce electricity.

Construction of a facility to refine landfill gas and subsequently use it as a clean burning fuel in combustion engines to produce electricity was completed in February 2007. This facility, which was fully operational in March 2007, and expanded to include a third combustion engine in June 2008, produces more than enough electricity to make the Environmental Complex energy self-

sufficient while preventing the release of greenhouse gas emissions into the atmosphere that would contribute to the problem of global warming. Through a net metering agreement with Atlantic City Electric, electricity not used at the Environmental Complex is sold back to the electrical grid for general consumer use. This net metering agreement generates revenue for the CMCMUA and provides "green energy" to service the electrical needs of other users. Expansion of renewable energy generation at the Environmental Complex to provide additional electric power to the grid is in the planning stage. The Authority's Landfill Gas Recovery Facilities will be further expanded as the Sanitary Landfill continues to be used for the disposal of non-recycled solid waste in the future.

Transfer Station

The CMCMUA also owns and operates a solid waste transfer station on a 19-acre site in the Burleigh section of Middle Township. The Transfer Station transfers waste from municipal and commercial vehicles to larger open-top trailers, which are then hauled by Authority personnel to the CMCMUA's Sanitary Landfill. Each year, the Transfer Station handles almost 80,000 tons of solid waste and recyclables, from eleven of the County's sixteen municipalities as well as transferring recyclables. This facility, which began operations in July of 1984, provides convenient hauling services and minimizes truck traffic from the southern half of the County to the CMCMUA's Sanitary Landfill.

County-Wide Source Separation Program

All sixteen Cape May County municipalities and the Authority jointly participate in a mandatory source separation and recycling program. For convenience and to encourage greater participation, municipalities provide curbside collection of two categories of source separated materials; **mixed paper**, which includes newspaper, corrugated, kraft grocery bags, magazines, office paper, telephone and paperback books, junk mail and shredded paper; and **commingled bottles and cans**, including clear, green and brown glass, aluminum, steel and aerosol cans, and PET and HDPE plastic containers. These source-separated materials are collected from residents, businesses and institutions, parks, beaches and other public areas that are all required to recycle. These materials can either be dropped off at the Authority's Transfer Station, or they can be delivered directly to the CMCMUA's Intermediate Processing Facility at the Environmental Complex.

All sixteen municipalities have also implemented curbside collection programs for other materials that are mandated for source separation and recycling by the Cape May County Solid Waste Management Plan. Fifteen communities also provide drop-off depots for collection of supplemental types and/or quantities of recyclable materials. The County Plan "designates" 41 materials which are mandated for recycling by all waste generators in Cape May County.

Intermediate Processing Facility

The CMCMUA also owns and, under contract with a private operator, operates an Intermediate Processing Facility (IPF) which receives and processes source separated recyclables. The IPF, which began commercial operations in April 1990, emphasizes mechanical sorting and processing of the mixed recyclables received at the facility. It was modified in 2002 to renovate the commingled bottle and can equipment and again in 2005 to renovate the mixed paper processing line. These modifications to replace worn out equipment have increased processing throughput to 25 tons per hour, improved efficiency and reduced operating and maintenance costs.

Source separated recyclables are received, **at no charge**, six days per week from Cape May County municipalities, private haulers, institutions, businesses and residents who utilize the Authority's solid waste disposal facilities. The IPF also receives commingled cans and bottles, under contract, from selected out-of-county sources to generate additional recycling revenues to help reduce any annual operating losses incurred by this facility. In July 2007, the IPF began accepting source separated mixed rigid plastics (MRP) as a separate stream. The IPF sorts, processes and upgrades accepted materials to improve marketability. All recyclable materials processed through the IPF are aggressively marketed to receive the highest prices available from stable, long-term markets. Whenever IPF recycling revenues received by the CMCMUA exceed the Authority's cost to operate the IPF, the net gain is returned to Cape May County's participating municipalities.

Wood Pallet/Crate Recycling

Source separated wood pallets and crates are accepted for recycling by the CMCMUA at both the Environmental Complex and the Transfer Station. Clean, untreated and unpainted wood pallets and crates are processed through a horizontal wood grinder. The resulting woodchips are used either as a bulking agent in the CMCMUA Wastewater Program's Sludge Composting Facility or they are colored to produce a marketable landscaping material. The Authority has currently established a **\$ 0.00 per ton** charge for clean, source separated wood pallets/crates when delivered by private customers. The operating expenses associated with this recycling project are offset by the sales of the finished product.

Tree Stump Recycling

Source separated tree stumps are accepted for recycling at a fee of **\$12.00 per ton**. Tree stumps are accepted at the Authority's Class B Recycling Facility located at the Environmental Complex for shredding and screening into marketable root mulch that is sold to the general public.

Recycling of Branches, Brush and Tree Limbs

Source separated brush, branches, tree limbs and stumps that are commingled are accepted at the Authority's Class B Recycling Facility at a fee of **\$33.00 per ton**. This vegetative material is chipped and converted into marketable wood chips and root mulch and sold to private landscapers and the public.

Christmas Tree Recycling

Natural, decoration-free Christmas trees are accepted CMCMUA at both the Environmental Complex and the Transfer Station **at no cost** and chipped by the CMCMUA, with the resulting mulch available seasonally to the general public **at no charge**.

Grass Clippings and Leaf Composting

Source separated, uncontaminated leaves and grass clippings are accepted and composted at the Authority's Leaf Compost Area located at the Environmental Complex at **\$10.00 per ton**.

The leaves and grass clippings that are composted by the Authority are screened and added to a mixture of topsoil and sludge compost to create a product which is sold locally under the name of "Terragro". A marketable leaf compost is also produced from shredded and composted leaves and grass clippings. The finished compost screened prior to being sold locally.

Tire Recycling

To provide an outlet for the proper handling of used tires, source-separated loads of car and truck tires, as well as segregated loads of oversized tires, are accepted by the CMCMUA and shipped to an out-of-county facility for processing and reuse, rather than landfilling these materials. Oversized tires, including farm equipment tires, will continue to be accepted in 2010 by the Authority at the Sanitary Landfill only. The **tipping fee** per ton charged for tires **varies** depending upon the size and type of tire being disposed.

Automotive and Marine Batteries Reclamation

Automotive and marine batteries are accepted at the Authority's solid waste facilities, **at no charge**, for subsequent recycling. Once sufficient quantities are accumulated, these spent batteries are transported to private processors for reclamation.

Rechargeable Batteries

In addition to encouraging generators to recycle rechargeable batteries through the industry sponsored Rechargeable Battery Recycling Corporation (RBRC), the CMCMUA's Transfer Station serves as a RBRC collection point for Seal Lead Acid and Nickel-Cadmium batteries from residential, business and institutional generators, accepting rechargeable batteries **at no charge**.

Used Motor Oil, Kerosene, #2 Home Heating Oil, Used Motor Oil Filters and Antifreeze Recycling

In an effort to discourage improper disposal, the Authority accepts **without charge** used motor oil, kerosene, #2 home heating oil and used motor oil filters at its solid waste facilities for recycling. Most municipalities have also established collection points to receive used motor oil. At Authority facilities, used motor oil, #2 home heating oil and kerosene is stored in "igloos" and is routinely picked-up by reprocessors and re-refiners for purification and resale. Used motor oil filters are also stored at CMCMUA solid waste facilities in special containers that are routinely picked-up by reprocessors. Used motor oil filters are recycled after the reprocessor recovers the remaining motor oil. The Authority also accepts antifreeze **without charge** at both the Transfer Station and Sanitary Landfill. The antifreeze is also stored until it is picked-up by reprocessors and ultimately re-refined for resale.

Computer and Electronics Recycling

Computer monitors, TV's and other electronics will continue to be accepted for recycling by the Authority from municipalities, businesses, institutions and residents which deliver these components. Consumer electronic components can be delivered for recycling to either CMCMUA solid waste facility during normal operating hours throughout the year at a fee of **\$54.74 per ton**, subject to an Authority established **\$5.00 minimum charge**. Consumer electronic components are accepted at a **reduced fee** from municipalities, schools and non-profit organizations. Components received during normal operating hours at solid waste facilities will be shipped to a demanufacturing facility for recycling.

The New Jersey Electronic Waste Management Act, approved on January 13, 2008, mandates the recycling of computers and electronic devices on a State-wide basis, provides funding, and prohibits disposal of such devices as solid waste, effective January 1, 2010. While the Authority already accepts for recycling all items required by this Act, the CMCMUA anticipates eliminating

the charges associated with this program upon full implementation of the Act, subject to receipt of anticipated funding. As a result, the CMCMUA will no longer conduct special one-day computer or electronic recycling events as the Authority is anticipating the implementation of an on-going program to accept unlimited quantities of computers and electronic devices from consumers without charge.

Paints and Finishes Recovery/Disposal

The Authority accepts water based and oil based paints and finishes as "Universal Waste" on a routine basis from Cape May County generators for recycling and/or disposal. Under this program, latex paints, oil based paints and stains, boat bottom paints, enamels, varnishes, shellacs, lacquers, polyurethane, wood and masonry sealers, wood preservatives and aerosol paint cans are received from residents, schools, public and non-profit agencies and businesses for recycling/disposal to prevent the uncontrolled introduction of these materials into the environment and divert these potentially dangerous materials from the regular solid waste disposal system.

The materials specified above are accepted for drop off throughout the year at the Transfer Station only during normal operating hours. A fee of **\$1.25 per one (1) gallon container and \$6.25 per (5) gallon container is charged**. There is **no charge for smaller containers**.

"White Goods" and CFC Recovery and Scrap Metal

Bulky household metals are accepted for recycling by the Authority at both the Environmental Complex and the Transfer Station. In accordance with Federal and State air quality regulations, CFC refrigerants are also recovered from refrigerators, air conditioners and similar units prior to being recycled. Due to the high cost of removing these refrigerants, the Authority charges a **per unit fee of \$10.00** for each scrap metal item that contains refrigerants when delivered by private customers. The CMCMUA also accepts and sorts scrap metal items, such as aluminum, copper, iron and sheet metal for recycling **at no charge**.

Propane Tanks

Empty 20 and 30 pound propane tanks are accepted from all Cape May County generators at both the Environmental Complex and the Transfer Station for a **nominal fee**. Tanks are reclaimed by vendors that evacuate any residual gas and then refurbish and refill tanks or salvage the empty tanks for recycling scrap metal.

Mixed Rigid Plastics (MRP) Recycling Program

The CMCMUA accepts MRP for recycling at both the Authority's Environmental Complex located in Woodbine and the Transfer Station located in Middle Township. Specific plastics acceptable under this program include: plastic laundry baskets, buckets with metal handles, lawn furniture, flower pots, closet organizers, dish drying racks, traffic signs, garbage cans, VHS tapes, blister packing material, car bumpers, milk and soda crates and drums up to 55 gallon capacity which contained food or other non-hazardous materials. All source separated loads of Mixed Rigid Plastics are accepted **at no charge**.

MRP is currently accepted by the Authority at the Transfer Station and at the Environmental Complex using two different methods. All customers delivering solid waste to the convenience areas at the facilities are asked by the Authority's operating staff to remove rigid plastics from

their waste and place the MRP into a separate container for recycling prior to disposal of the remainder of their load. Public and private customers, including businesses that generate significant volumes of MRP waste, have also been requested to deliver source separated loads of mixed rigid plastics to the Transfer Station or to the IPF located at Environmental Complex. In addition, several municipalities collect or maintain a local drop-off site for MRP. When truckload quantities are accumulated, the municipality delivers MRP to the CMCMUA. When a container load of MRP is accumulated at the Transfer Station, it is hauled to the IPF. Source separated MRP, as well as MRP pulled from the residue at the IPF, is baled and marketed by the IPF operator.

Boat Shrink Wrap/Plastic Film Recycling Program

In 2010, the CMCMUA will continue the recycling of boat shrink wrap and other pre-approved plastic film through a cooperative program that was initiated in 2008 in partnership with the NJDEP's Coastal Management Program, the New Jersey Marine Sciences Consortium and the New Jersey Sea Grant Program. Through this partnership acceptable plastic film, including blue, white and clear boat shrink wrap, greenhouse film and similar shrink wrap utilized by other businesses, can be delivered **without charge** to the Authority's Environmental Complex located in Woodbine or the CMCMUA Transfer Station.

Street Sweepings and Catch Basin Cleanout Reuse

The Authority accepts at the Sanitary Landfill, **without charge** from all municipal cleaning operations, street sweepings and catch basin cleanout materials that are suitable for reuse as landfill cover in accordance with requirements established by the NJDEP. This reuse program was established by the CMCMUA to encourage and promote such pollution prevention activities in support of local and County initiatives directed toward improving water quality.

Contaminated Soil Reuse

Contaminated soil that is waste classified as Type 27, Dry Industrial Waste and approved for "Beneficial Use" as daily landfill cover, is accepted at the Authority's Environmental Complex from in-County and out-of-county sources on a case-by-case basis. Customers are required to submit results of standard testing for contaminated soils to enable the Authority to make a determination of whether the material is acceptable for reuse as landfill cover. If the test results comply with the parameters established by the Authority in the approved Operating Plan for the Sanitary Landfill, the material is accepted with a **fee charged** upon delivery.

Household Hazardous Waste Collection

The Authority conducts programs in the spring and fall of each year to divert potentially dangerous materials from the regular solid waste disposal system. Under this program, household hazardous wastes and other unregulated hazardous wastes are received from residents and other "conditionally exempt small quantity generators" ("CESQG's"), such as schools, public agencies and businesses. These materials are accepted **without charge** when delivered in quantities of 25 gallons/100 pounds or less by households or CESQG. Quantities over 25 gallons/100 pounds, when accepted by the CMCMUA, are subject to a charge of \$5.00 per gallon/\$5.00 per pound. Through this program, more than 420 tons of potentially dangerous materials such as paints, thinners, solvents, cleaners, polishes, gasoline, kerosene,

mercury, pesticides, and herbicides have been removed from the waste stream during the twenty-two years this program has been in operation.

Recycling Promotion/Education

Technical and promotional assistance is provided to municipalities, businesses, institutions, residents and visitors to expand source reduction, reuse and recycling activities. Promotional and technical assistance is provided to private businesses that face unique recycling challenges due to the large influx of summer vacationers. A comprehensive recycling education program provided by the Authority includes an advertising/promotional program along with tours of CMCMUA facilities offered to local schools and the general public. These services are provided by the CMCMUA **without charge**.

Litter Abatement Partnership Program

Under a partnership agreement with participating Cape May County municipalities, the Authority accepts, **without charge**, during any four (4) days within a calendar year, any bulky wastes that are collected as part of a scheduled residential bulky waste collection service. To encourage the clean-up of litter and illegal dumping, the CMCMUA also accepts, **without charge**, roadside litter and other debris collected by the County Road Department along County roads and by participating municipal public works or road departments along local roadways.

Enforcement

Unique and effective recycling enforcement strategies have been implemented by municipalities and the Authority that include substantial fines, refusal to pick up solid waste, monetary surcharges and a ban on landfilling of 41 designated recyclables. The landfill ban established by the CMCMUA prohibits the disposal of all materials designated for recycling at the Cape May County IPF, as well as leaves, grass clippings, brush, tree branches, tree stumps, Christmas trees, "white goods", scrap metals, wood pallets, asphalt, concrete, contaminated soil, propane tanks, consumer electronics, auto and truck bodies, tires, used motor oil, kerosene, #2 home heating oil, used oil filters, anti-freeze, lead acid batteries and consumer rechargeable NiCad and small seal lead acid batteries. The disposal of out-of-County waste, hazardous waste and other specific waste classifications are also prohibited from disposal at the Authority's facilities.

To supplement the inspection and enforcement programs implemented by municipalities, the Authority has implemented an inspection program for loads of recyclables and solid waste delivered to Authority facilities and has established a system of warnings and monetary surcharges for violators. The Authority routinely inspects incoming loads at both the Environmental Complex and the Transfer Station to visually identify and document violations. While the Authority's staff seeks to gain compliance by providing education and technical assistance to waste generators, repeat violators are subject to warning notices and the assessment of monetary penalties.

The Authority's staff also inspects off-site locations, such as construction sites and large commercial businesses, to ensure that designated recyclables are source separated and recovered by the generator prior to waste disposal. The Authority has also been working with solid waste haulers to ensure that they notify their customers of mandatory source separation and recycling requirements and has requested their assistance in advising waste generators of the mandatory recycling requirements.

In addition, the Authority actively enforces the provisions of the Cape May County Solid Waste Management Plan and NJDEP regulations including the requirement that all non-recycled solid waste generated in Cape May County must be disposed of at the CMCMUA Sanitary Landfill or transported out-of-State for disposal. Prohibiting Cape May County generated waste from being disposed at other landfills located in New Jersey will help assure that sufficient tipping fee revenues are received by the Authority to repay the outstanding debt associated with the development of Cape May County's Comprehensive Solid Waste Management System. In addition, by not soliciting and/or accepting solid waste from out-of-County sources, the CMCMUA seeks to maximize the useful life of the Authority's Sanitary Landfill for the disposal of non-recycled solid waste generated by County residents, businesses and visitors.