

Southeastern Oakland County Resource Recovery Authority

Materials Recovery Facility (MRF)
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SOCRRA Materials Recovery Facility (MRF) Dual Stream Conversion Project

Brief History

- SOCRRA's MRF was constructed with \$2.3 million in State grants in 1992.
- The facility was designed with the idea that the truck driver picking up recyclables at the curb would perform sorting into 5 different compartments on the truck:
 - 1) clear glass bottles
 - 2) brown glass bottles
 - 3) metal cans and small metal objects
 - 4) fiber products (newspaper, magazines, phone books, etc.)
 - 5) plastic bottles and jugs with a #1 or #2 on the bottom.

Operation at the MRF (pre-dual stream)

- Trucks dump their contents into 5 different locations, for further sorting and processing.
- Clear glass bottles, brown glass bottles and metal cans--no sorting; just shipped to reclaimers.
- Fiber products deposited inside MRF and processed through sorting system into 3 streams: newspaper (with magazines, phone books, office paper); paperboard (cardboard boxes, brown grocery bags) and trash (plastic bags, miscellaneous contaminants).
- Plastic bottles deposited inside MRF and processed through sorting system into 4 streams: natural HDPE (milk jugs); colored HDPE (detergent bottles); PETE (water bottles) and trash.

Why the Switch to Dual Stream Recyclables Collection?

- Trucks save time and fuel traversing route since pickup at curbside is much faster (truck driver pulls bags of fiber material from recycle bin and place in one compartment, then simply dump contents of bin in second compartment).
- Consultant estimates collection contractors save 8%-42% in costs!
- SOCRRA members expected to share part of these savings as collection is much more efficient.
- Conversion allows private companies to deliver recyclables to SOCRRA (which will enhance SOCRRA's cash flow).

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Procurement Process

- Resource Recycling Systems, Inc. (Ann Arbor) hired as project engineer in December 2003.
- Procurement of design/build contractor begun in November 2004.
- AKA Sandford, Inc. hired in January 2005 to design/build system.
- Total construction cost for project: \$562,000.
- Dual stream conversion acceptance testing completed October 2005.

How does the Dual Stream Sorting System Work?

- Trucks dump commingled containers (clear glass bottles, brown glass bottles, metal cans and miscellaneous scrap metal objects, and plastic bottles) inside concrete-walled storage area.
- Containers flow from ground to elevated sorting platform via 45-degree conveyor.
- All large debris pulled from mix and placed in large rolling cage to be baled and landfilled.
- All large metal objects pulled from mix and placed in different cage for delivery to reclaimer.
- Some water bottles (PETE plastic) pulled from mix to be baled and sent to a plastics reclaimer.
- Magnet removes almost all of the ferrous cans and conveys them to one of the 8 huge metal bunkers. Cans baled and then shipped to a metal reclaimer.
- Glass bottles and remaining plastic bottles then are conveyed to main sorting station, where Sorters hand-pick materials off line into various categories: plastic bottles (dairy HDPE, colored HDPE, PETE); non-ferrous cans (aluminum food and beverage containers, aluminum foil, pie tins); brown glass and clear glass.
- This system will allow the addition of other recyclable materials in the future.