

RENEWABLE Energy
FROM WASTE
CONFERENCE

Kent County, Michigan Resource Recovery Park

Steve Simmons
Senior Vice President
Gershman, Brickner & Bratton, Inc.
McLean, VA
October 4, 2017

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

RENEWABLE Energy
FROM WASTE
CONFERENCE

Kent County Waste Management System

- Kent County is the home of Grand Rapids Michigan
- Population of 600,000
- Department of Public Works operates an integrated waste manage system:
 - 170 TPD Material Recovery Facility
 - North Kent Transfer Station / Convivence Center
 - 600 TPD Waste to Energy facility
 - 1,000 TPD Landfill (MSW and ash)

WTE become operational in 1990



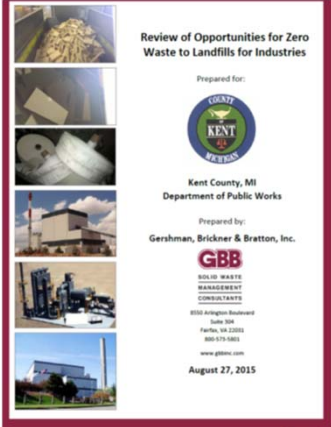
GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

2

RENEWABLE Energy
FROM WASTE
CONFERENCE

Kent County System Review


- 2015 GBB engaged to review County waste management system and to make recommendations for change
- Surveyed existing infrastructure
- Conducted stakeholder meetings with local industry
- **Found strong support for zero waste to landfill initiative**



GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

3

RENEWABLE Energy
FROM WASTE
CONFERENCE



May-Sept. 2015: GBB Conducted Efficiency Review

May 2016: Launch of "Imagine Trash" Vision

September 2017: Launch of Resource Park Project

2020
REDUCE LANDFILL WASTE
20% by 2020 | 90% by 2030
2030

Key Component of Strategy: Establishment of Resource Park.

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

4

RENEWABLE Energy
FROM WASTE
CONFERENCE

Fitting Resource Park into the County's Solid Waste Business Plan

- Expand capacity for processing of source-separated recyclables and mixed waste
- Increase opportunities for residents and businesses to divert waste from disposal
- New initiatives to help manufacturing industries achieve zero waste to landfill
- Emphasize local markets for both feedstocks and products

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

5

RENEWABLE Energy
FROM WASTE
CONFERENCE

Project Planning Parameters

- Use co-located or networked-sites
- Inter-agency project: Involve leaders with expertise and experience
- Create circular economies, not retail fronts or business incubators

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

6

RENEWABLE Energy
FROM WASTE
CONFERENCE

Role of Local Government

Mostly to do with “getting” the site

- Site selection and preparation; purchase or eminent domain
- Support and guidance through SW planning
- Regulatory support and oversight
- Set up an authority or agency to run the project

Some operations “outside the fence”

- Operating scales
- Maintaining easements
- Outreach and Education

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

7

RENEWABLE Energy
FROM WASTE
CONFERENCE

Two concepts for a Park

Resource Recovery Park

- Takes waste directly
- Processes mixed trash, recyclables, organics, and construction debris
- Usually includes a disposal facility
- Some direct sale, but most outputs are raw materials, fuels, or energy

Eco-Industrial Park

- Is not a solid waste management facility
- Takes in materials to re-manufacture or further refine them
- Co-locates and connect circular economies
- Some direct sale, but mostly to wholesale or distributors

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

8

RENEWABLE Energy FROM WASTE CONFERENCE

Resource Recovery Park: Maximizing Diversion

An RRP is often co-located at a landfill or an energy-from-waste facility. Wastes come in and various processes retrieve as much recoverable material as possible.



Inputs

- Recyclables, yard waste, food scraps, construction waste, trash, industrial manufacturing by-products

Processes

- Mixed waste processing, recycling processing, baling and distribution, digestion and composting, and refining



Outputs

- Commodities, soil amendments, refuse-derived fuel, biofuel, energy-from-waste, few finished products like mulch or gravel



GBB SOLID WASTE MANAGEMENT CONSULTANTS

9

RENEWABLE Energy FROM WASTE CONFERENCE

Resource Recovery Park

(Moving from Waste Management to Resource Management)



Disposal Facility

Non-recyclable waste

Construction Debris

Reuse & Repair Center

Composting Facilities

Materials Recovery Facility

Special items: electronics, appliances, etc.

Hauler Entrance

Public Entrance

Source: Rochester Greenovation

GBB SOLID WASTE MANAGEMENT CONSULTANTS

10

RENEWABLE Energy FROM WASTE CONFERENCE

Eco-Industrial Park: Supporting businesses

The primary role of government in developing an EIP is to get the site .
 Instead of one, perfect site, a network of sites can be used.

Minimum

- Roads and ports; Suitable buildings to use or rehab; Loading docks, heavy duty pavement, etc.

Basic

- Buildings, utilities, parking; Interior spaces for admin, production, labs, and storage; Exterior spaces for staging and loading

Ideal

- Wastewater treatment and digesters; Access to steam, gas, sufficient power; Tanks, drains, and sewers; Fiber-optic and other networks

GBB
SOLID WASTE MANAGEMENT CONSULTANTS

11

RENEWABLE Energy FROM WASTE CONFERENCE

Kent County Resource Park Site

With property adjacent to the Kent County landfill, the facility could contain elements of both a Resource Recovery Park (RRP) and an Eco-Industrial Park (EIP).

GBB
SOLID WASTE MANAGEMENT CONSULTANTS

12

RENEWABLE Energy
FROM WASTE
CONFERENCE

Thank you!

Steve Simmons
GBB Senior Vice President
703-573-5800
ssimmons@gbbinc.com
www.gbbinc.com

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

13