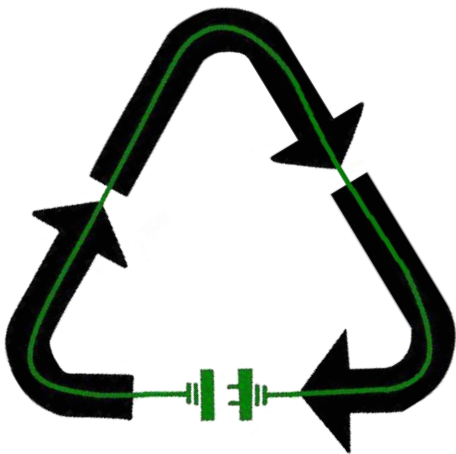


BROWN COUNTY RESOURCE RECOVERY



2017 Annual Report



Message from the Director

During 2017, the efforts of the Solid Waste Board and staff were designed to meet the goals and objectives of the newly adopted 2017 Resource Recovery Strategic Plan and the overarching mission and vision for the Brown County Port & Resource Recovery Department.

For more than 40 years, the Department has been providing cost-effective, efficient and environmentally responsible solid waste management services for Brown County and, more recently, northeastern Wisconsin. As an Enterprise Fund, Brown County Resource Recovery uses revenues solely gathered through operations to fund its activities. There were a number of activities accomplished in 2017 that will increase the effectiveness of the Department's solid waste management services.

The Recycling Transfer Station's concrete tipping floor was completely replaced. After researching the most cost effective solution, it was determined that the best option was to shut down the recycling transfer station for one week in order for the work to be completed. Staff did a great job in communicating with customers and partnering with Advanced Disposal to complete this project flawlessly and without any unforeseen disruptions or extra costs.

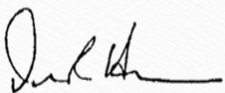
The Department is focused on providing effective solid waste management services and excellent customer service with a focus on resource recovery.

The Household Hazardous Waste Facility changed its name to the Hazardous Material Recovery Facility. This name better reflects the activities performed at the facility and the connection with VSQG (Very Small Quantity Generators) businesses that utilize the facility. The program saw an increase in business participation and overall volume of material. In-house processing of lamps was also evaluated. Although this option was found not to be cost-saving, staff will continue to pursue additional cost-saving measures.

The planning and preparation efforts for the future South Landfill continue to move forward. This past year, leachate management options were evaluated. A wetland delineation was completed on the Section 18 South Landfill property. In 2018, staff will be entering into disposal and discharge agreements.

Brown, Outagamie and Winnebago Counties agreed to determine the value of working together over the past 14 years and based on the findings, the three entities will consider options and alternatives to continue working together beyond the South Landfill.

Looking forward to 2018, the Department will continue to be focused on providing effective solid waste management services and excellent customer service with a focus on resource recovery. The Department is also focused on professional development of staff, enabling us to better pursue new strategic business development opportunities while providing cross training and an improved team environment.



Dean Haen

Port & Resource Recovery Director



Department Overview

The Resource Recovery side of the Port & Resource Recovery Department offers solid waste management services which include operating a Solid Waste Transfer Station with resource recovery activities, a Single Stream Recycling Transfer Station, a regional Hazardous Material Recovery Facility, an East Landfill Gas-to-Energy Facility, maintenance of two closed landfills, and coordination of household sharps and pharmaceutical collection and disposal programs. The Department also provides resource recovery programs for shingles, construction & demolition (C&D) material, clean wood waste, tires, Freon-containing and other appliances, electronics and a food waste drop-off program. The success of these programs is based on a forward-thinking Solid Waste Management Board and staff that build and maintain long-term relationships with the public and private sector. These relationships have resulted in long-term agreements for solid waste, recycling and other resource recovery activities. The Solid Waste Management Board and staff are committed to learning about and pursuing emerging solid waste management technologies that are economical and environmentally beneficial.

The Department is part of the Tri-County regional solid waste and recycling agreements between Brown, Outagamie and Winnebago Counties known as the BOW. The three counties coordinate their waste disposal sequentially, starting with Winnebago County's landfill, currently using Outagamie County's landfill, and eventually using Brown County's south landfill. BOW also uses a centralized single stream recycling facility, and the sharing of administrative and operational costs. This partnership has created economies of scale that have maintained some of the lowest tipping fees in Wisconsin and have saved millions for our municipal, industrial and commercial customers. The Tri-County recycling facility is one of the largest publicly owned and operated single stream recycling facility in the country.

Resource Recovery's vision is to provide Brown County municipal, commercial and industrial customers cost-effective and sustainable solid waste management systems with the focus on resource recovery primarily through recycling, repurposing and energy recovery.

Mission

The 2017 Brown County Strategic Solid Waste Management Plan serves as a long range guiding document that identified strategic issues to address while establishing goals and objectives to strive toward. This annual report helps to ensure the strategic plan's goals and objectives are being advanced. The Department's mission statement is as follows:

"The Port & Resource Recovery Department will meet the solid waste management needs of local communities, residents and businesses through methods that are environmentally sound and economical. These methods incorporate waste reduction, material reuse, recycling, household hazardous materials treatment and disposal, composting, solid waste disposal and waste-to-energy to the extent that these practices are technically feasible and economically appropriate."



Solid Waste Management Board

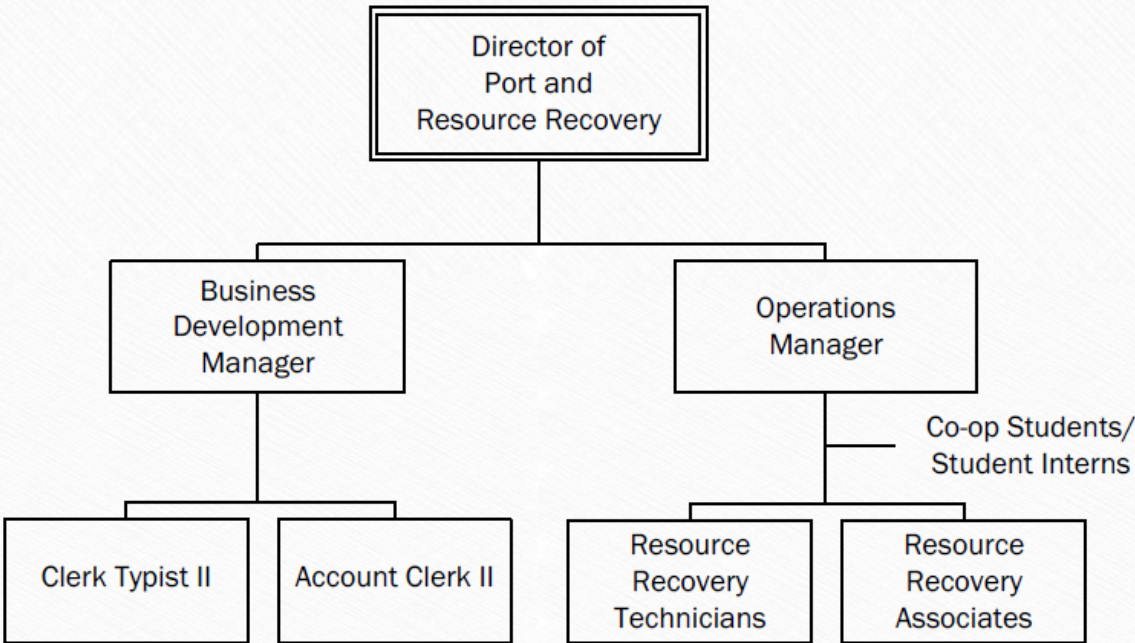
The Brown County Solid Waste Management Board (SWMB) sets policy for the Department’s services. It is authorized by Wisconsin State Statute Chapter 59.70 (2) and Chapter 12 of the *Brown County Code of Ordinances*. The nine members of the SWMB are appointed by the County Executive and serve as an oversight committee of the County Board. The County Board’s Planning, Development and Transportation Committee oversees the SWMB and the Department. Three members of the SWMB are from the city of Green Bay, three are from incorporated non-Green Bay municipalities and three are from unincorporated areas of the County. Two SWMB members are County Board Supervisors. SWMB members serve three-year terms. Minutes of the Solid Waste Management Board meetings are reviewed and approved by the County Board.



Solid Waste Board Members

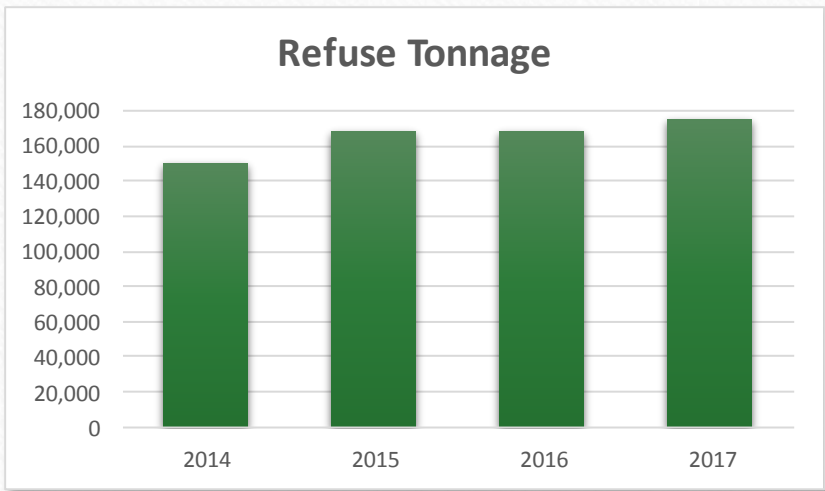
- | | |
|-----------------------------------|---------------------------------|
| John Katers, President | Ryan Holzem |
| Mark Vanden Busch, Vice-President | Dave Landwehr |
| Lisa Bauer-Lotto (January) | Doug Martin (February-December) |
| Norb Dantinne | Bill Seleen |
| Hallet "Bud" Harris | Mike VanLanen |

Port & Resource Recovery Table of Organization



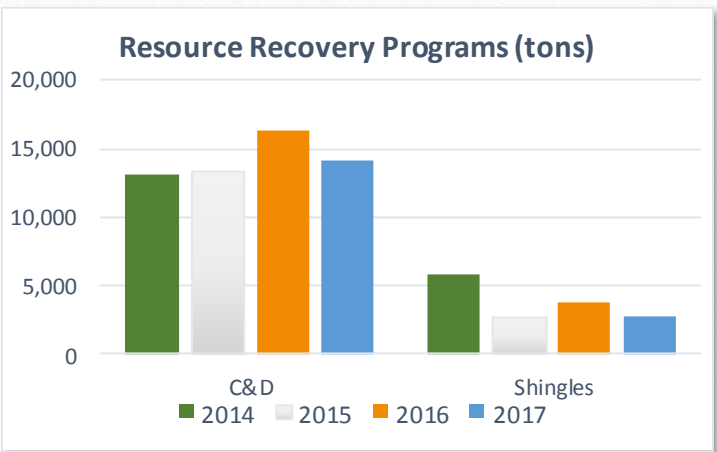
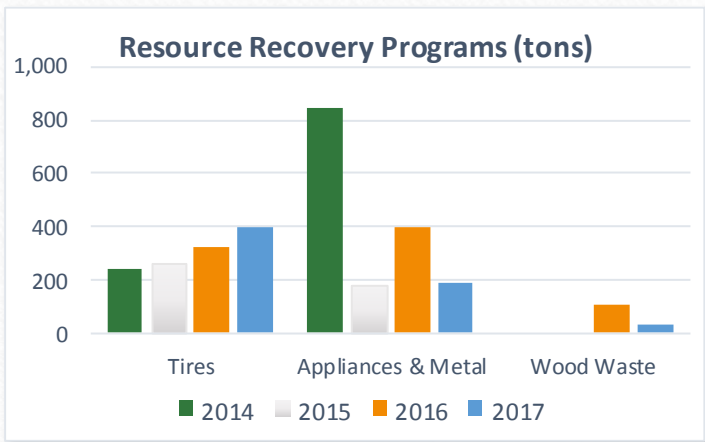
Solid Waste & Resource Recovery

The Department operates a Solid Waste Transfer Station that receives, compacts and transports refuse produced by county residential, commercial and industrial users to the current BOW landfill. More than **151,100 tons of refuse** were processed through the Brown County Solid Waste Transfer Station in 2017 with



another **24,100 tons of refuse delivered** directly to the BOW landfill for a **total of 175,200 tons**. In addition, another **21,300 tons of alternative daily cover** were delivered to the BOW landfill which accepted more than **615,822 total tons** of material in 2017. Changes were made at the Solid Waste Transfer Station to create queuing lines and signage to stage more vehicles within the property, improving safety for vehicles.

In 2017, **14,112 tons of C&D material** and **2,787 tons of shingles** brought to the Solid Waste Transfer Station were recycled, as were **397 tons of tires** and **193 tons of appliances and scrap metal**. Affordable tire recycling prices at Brown County are resulting in more delivery of scrap tires. Just over **35 tons of wood waste** were recycled in 2017. After getting weighed, wood is transported to a local wood waste recycling company that grinds it for use as boiler fuel. The wood recycling market for boiler fuel has dried up, preventing wood resource recovery. A reduction in shingles was due to a processing facility opening up across the road. Appliance and scrap metal prices have dropped, decreasing tonnage.



East Landfill Gas-to-Energy Facility

In 2017, the East Landfill Gas-to-Energy Facility produced **3,106,516 kW of electricity** from waste that had been placed in the East Landfill; this is an 18.5% increase in kW from 2016.

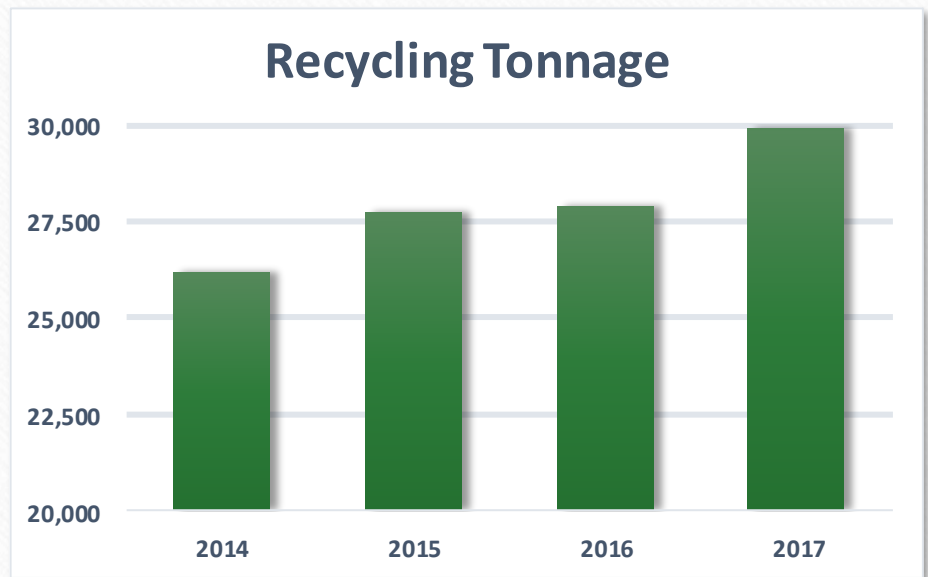


Recycling

The Department operates a Recycling Transfer Station that collects and transports single stream recyclables produced by residents, municipalities and commercial users to the BOW regional single stream Materials Recovery Facility (MRF) in Outagamie County. This BOW facility is one of the largest municipal MRFs in the country. The MRF processes and markets comingled residential and commercial recyclable containers from the three counties and other Wisconsin communities.

In 2017, **29,929 tons of single stream recyclables** were hauled from the Brown County Recycling Transfer Station to the Tri-County Recycling

Facility which processed more than **115,000 tons of recyclables**. Single Stream Recycling includes recycling of all plastic bottles and caps, tubs and containers, aluminum and tin cans, glass and all paper products. Starting March 1, 2018, a new labor contractor will operate the Single Stream Facility for BOW.



Food Waste & Organics Drop-Off Program

The Department operates a drop-off food waste and organics program at two locations in the county; one at the Recycling Transfer Station and a new east side location at the village of Allouez Yard Waste site, which



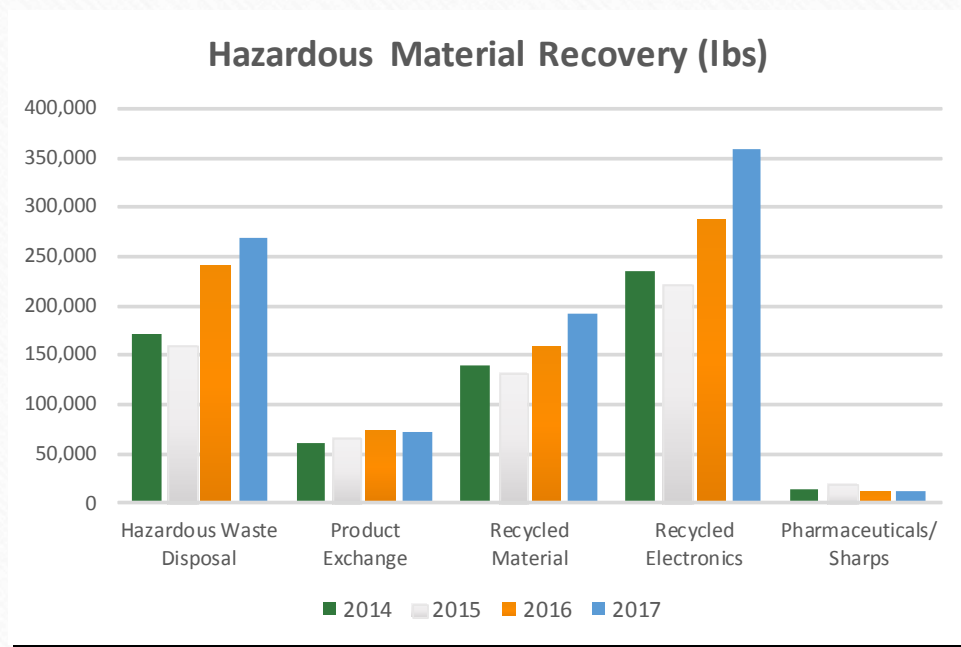
opened late in 2017 after the original east side location at the UW-Extension was closed earlier in the year. A total of **19,270 pounds of material** was collected which was just slightly less than the previous year. Brown County residents who are collecting food waste and organics from their home may participate in the free drop-off program. Currently more than 170 households participate in the program.



Hazardous Material Recovery

The Department operates the Hazardous Material Recovery Facility (HMR) providing an environmentally responsible outlet for hazardous, universal and special wastes for residents of Brown County and northeast Wisconsin. This program is funded in partnership with NEW Water, the Oneida Tribe and other rural municipalities not connected to the NEW Water wastewater treatment facility. Additionally, Brown County provides cost-effective HMR services through out-of-county collection agreements with Calumet, Outagamie, Shawano, Waupaca and Winnebago counties. The program also provides regional businesses that qualify as Very Small Quantity Generators (VSQGs) with economical disposal options for hazardous, universal and special wastes.

During 2017, the HMR facility took in **834,150 pounds of hazardous materials** from **7,325 residential and business sources**. The facility was able to recycle or make available to the public more than a quarter of the collected material while **268,000 pounds of hazardous waste** was kept out of the environment and properly destroyed. Staff managed several counties' collection events, assisted with another county's collections, and served as the disposal outlet for material collected from a different county's hazardous waste program.



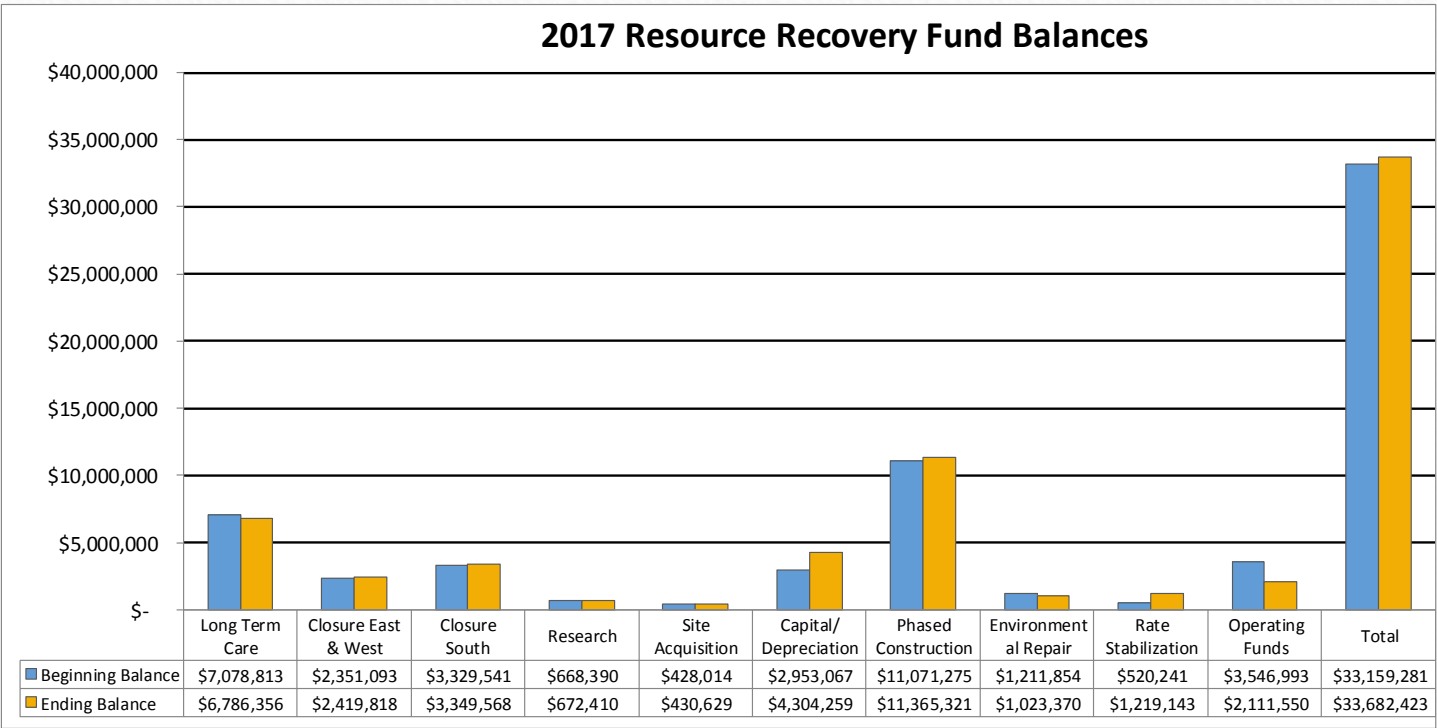
Sharps & Pharmaceutical Collection Programs

Since 1996, the Department and the Brown County Health Department have collaborated in managing the Brown County Household Sharps Program collecting nearly 178,000 pounds of sharps (needles, syringes and lancets) with over **10,000 pounds** collected in 2017. The Department also provides law enforcement with regulatory and disposal guidance along with a low cost disposal outlet for non-controlled pharmaceuticals. These efforts have led to an average of **3,800 pounds** of pharmaceuticals collected each year in the County.



Financials

The Department’s services are among the least expensive and most complete services offered by any operation in the State of Wisconsin. The Department operates as an Enterprise Fund, solely using revenues gathered through operations to fund its activities. The low cost of solid waste disposal is an economic engine to the economy of northeastern Wisconsin. Landfill tipping fees are low and help keep local municipal budgets stable while strengthening businesses, especially manufacturing businesses, and giving them a reason to stay in the area. Single stream recycling programs continue to be operated successfully with efficient processing and the ever-changing commodities markets in which the recyclable are sold.

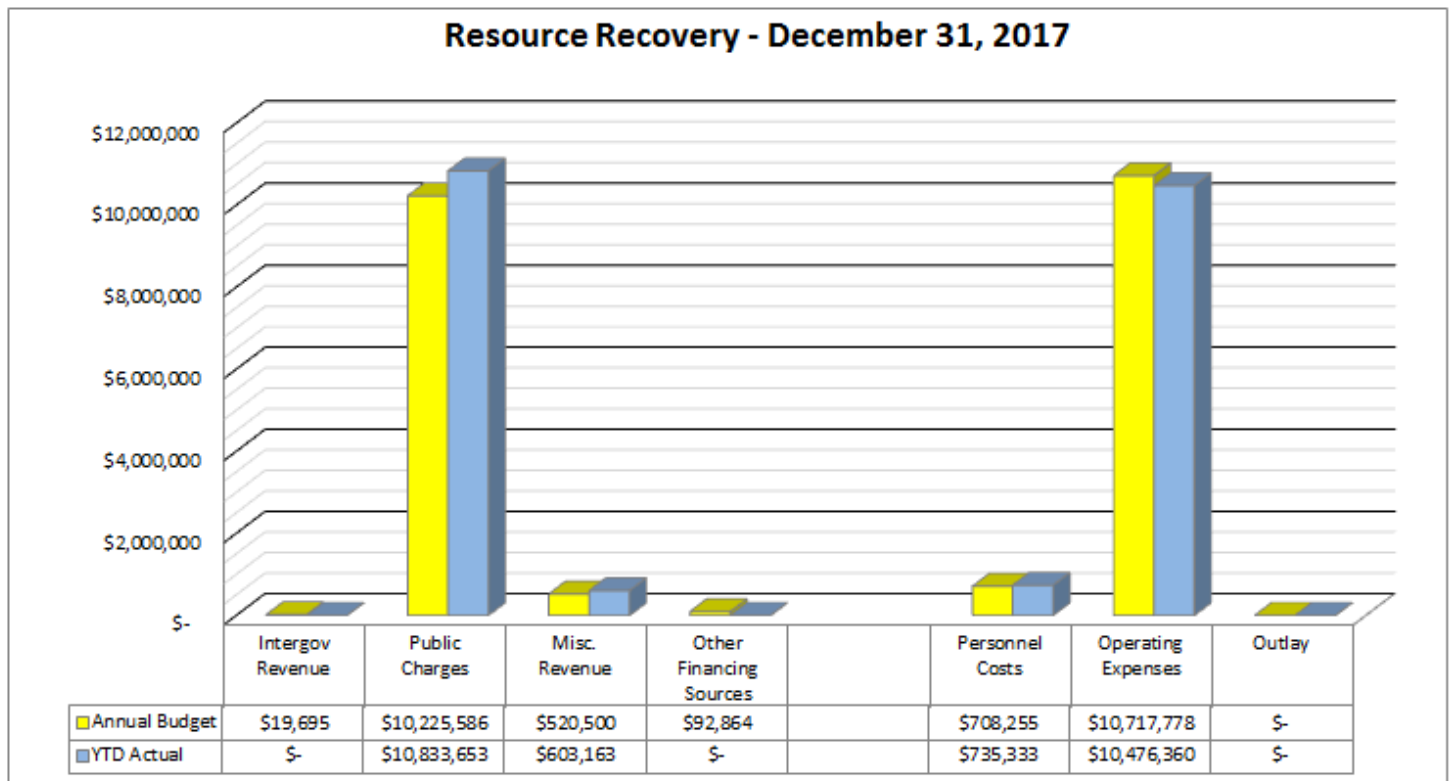


**Financials are unaudited and will be finalized in March.*



Brown County Port & Resource Recovery Department
Resource Recovery Area Budget Status Report
December 31, 2017

		Annual Budget	YTD Actual	YTD %	YTD Total	Comments Intergovernmental Revenue difference reflects a HHW grant of \$19,695 to be received by year's end. Misc. Revenue is interest earned and includes the market value on a specific day. Variations is the change in market value not actual cash value. Other Financing revenue is the estimated Gas-to-Energy profit after expenses. Personnel costs were higher because of a pension adjustment that was unbudgeted. Actual not yet determined at year's end.
Revenue	Intergov Revenue	\$ 19,695	\$ -	0%		
	Public Charges	\$ 10,225,586	\$ 10,833,653	106%		
	Misc. Revenue	\$ 520,500	\$ 603,163	116%		
	Other Financing Sources	\$ 92,864	\$ -	0%		
					\$ 11,436,815	
Expenses	Personnel Costs	\$ 708,255	\$ 735,333	104%		
	Operating Expenses	\$ 10,717,778	\$ 10,476,360	98%		
	Outlay	\$ -	\$ -	-		
					\$ 11,211,693	



**Financials are unaudited and will be finalized in March.*

2017 Goals

Completed

- ♦ **Revised 2012 5-year Solid Waste Management Plan.** The 2017 5-year Solid Waste Management Plan was adopted by the Solid Waste Board and the County Board and sets the vision for the next five years.
- ♦ **Implemented “Black Ice Software.”** This software for electronic recycling and solid waste transfer station scale tickets verification and billing purposes was successfully implemented.
- ♦ **Evaluated in-house processing of florescent, incandescent, and LED lamps.** The evaluation was completed and the processing was determined not to be financially feasible.
- ♦ **Evaluated Regional Composting Feasibility Study.** The thesis was completed by a University of Wisconsin-Green Bay Student. Findings determined that Brown County may have a future role. Municipalities are working together, but at this point, they have not requested County involvement.
- ♦ **Marketed recycling services to neighboring counties and made retention calls to existing municipal customers.** These marketing efforts were focused on Door and Kewaunee Counties. Existing contracts with three private customer were extended an additional three years. Seventeen private and municipal customers were contacted regarding existing contracts to maintain strong relations and seek input.
- ♦ **Marketed landfill and resource recovery services to neighboring counties and made retention calls on existing municipal customers.** These marketing efforts were focused on Door and Kewaunee Counties. Existing 5-year contracts with 22 private and 17 municipal customers were extended an additional five years. One new commercial customer signed a 5-year contract.
- ♦ **Conducted Hazardous Material Recovery Process Map for collection, storage and processing of hazardous materials.** This completed effort involved developing an outline, timeline, assignment of responsibilities and fulfillment. During the map development, it was determined that building modifications should include a separate entrance for product exchange room. Other modifications will include adding a second scale and cash register, increasing the existing door opening to processing area and adding a second door opening to processing area.
- ♦ **Replaced one mile of asphalt road.** The road at the Solid Waste Transfer Station was replaced and queuing lines and signage were created to stage more vehicles at the scale on the property.
- ♦ **Replaced Recycling Tip Floor.** The concrete TIP floor at the Recycling Transfer Station was replaced. The County worked cooperatively with a private transfer Station during the week the RTS was closed. Effort was exceptionally coordinated with municipal and commercial customers.



In Progress

- ♦ **Evaluate Leachate Management Options for South Landfill.** Evaluation is underway of trucking, piping and on-site treatment options. The most cost effective management option was found to be trucking. The most cost effective waste water treatment facility is NEW Water. The evaluation found that the County leachate unloading station in the De Pere industrial park is the most cost effective option. The County is currently working on treatment agreements with the NEW Water and discharge agreements with De Pere and Ledgeview.
- ♦ **Modify South Landfill Feasibility Determination and submit for Department of Natural Resources (DNR) approval.** No modification of the South Landfill Feasibility Determination is required. Wetland delineation and re-design of the landfill was completed in preparation of new Plan of Operation submission to DNR in late 2018 or early 2019.
- ♦ **Convert existing Gas-To-Energy (GTE) plant to passive flare including building modifications and sale of existing equipment.** Conversion plan has been developed. GTE plant continued to operate through 2017. GTE plant will shut down no later than the expiration of the Power Purchase Agreement, which is June 30, 2019.
- ♦ **Excavation of South Landfill Clay.** 8,800 cubic yards of clay were excavated from the South Landfill in 2017. Efforts to excavate clay will continue in 2018. A clay mass balance study will be conducted in 2018 to identify how excavated clay will be used and where it will be placed.
- ♦ **Conduct BOW Waste Technology Committee research.** An analysis of Mattress Recycling was initiated in late 2017 with the outcome to be determined in 2018.

Deferred

- **Evaluate Existing BOW Landfill Agreement and potentially renegotiate extension.** BOW landfill agreement efforts were initiated in late 2015. BOW planning effort will resume in 2018.



2018 Goals

- ◆ Excavate an additional 20,000 cubic yards of South Landfill Phase 1 Clay.
- ◆ Execute South Landfill leachate discharge and treatment agreement(s).
- ◆ Work on South Landfill wetland delineation.
- ◆ Determine strategy for dealing with South Landfill mass balance of clay.
- ◆ Implement Conversion Plan for existing Gas-To-Energy (GTE) plant to passive flare including building modifications. Sell equipment and develop a use for the facility.
- ◆ Determine benefits of existing BOW Cooperative Landfill Plan and develop alternatives and options for future BOW Cooperative Landfill Plan.
- ◆ Revise *2013 5-year BOW Solid Waste & Resource Recovery Management Plan*.
- ◆ Market Recycling and Landfill Services to new customers and make retention calls with a third of existing customers and municipalities.
- ◆ Evaluate adding additional hours to HMR collection day and implement HMR Building modifications.
- ◆ Replace Solid Waste Transfer Station compactor, Recycling Transfer Station Front-end Loader, Quick Doors and HVAC unit.
- ◆ Award 15 year Agricultural Land Lease and Farm Building Lease.
- ◆ Assess leasing of non-landfill land to Dynamic Concepts for animal waste bio-digester facility .
- ◆ Complete BOW Diversion Committee evaluation of mattress recycling.

Brown County Resource Recovery

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