



Annual Average Unit Cost Trends In Montgomery County Solid Waste Management FY02 – FY13

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INTRODUCTION AND PURPOSE

The purpose of this report is twofold, (A) to provide a trend analysis with respect to the cost-effectiveness of the County's various solid waste management activities (cost centers), and (B) to communicate with interested parties about the cost of those activities.

Comparing costs experienced from one time period to the next provides a type of internal benchmarking. To be meaningful, annual expenses in such a time series must be defined consistently with respect to the scope of the business activities to which they relate. Those costs should be normalized to a measure well understood to drive or otherwise strongly relate to those expenses. For many solid waste activities that cost-driving measure is "tonnage." For other solid waste activities tonnage may be less of a cost driver, but still a predominate measure of what it is that is being managed.

Often, the Department of Environmental Protection, Division of Solid Waste Services (SWS) receives a question such as, "*What does it cost to recycle, or to dispose of, a ton of trash?*" Solid waste is not a homogeneous substance, like water, but rather is comprised of many different types of materials—virtually every substance in our culture. Consequently, managing solid waste services encompasses a variety of activities and the resulting parameters represent activity-based measures of cost performance in the form of "annual average unit costs". We believe a time series of such consistently defined unit costs can aid in identifying increases and decreases in the cost-effectiveness of the County's solid waste management activities. Annual expenses in such a time series are defined in a way with respect to the scope of business activities to which they relate, and are normalized to a measure of what drives those expenses. Moreover, if the expenses associated with each activity are uniformly defined in a manner respecting full-cost accounting, then the approach can help communicate with interested parties the costs of the County's solid waste management.

SOLID WASTE OVERVIEW

The Department of Environmental Protection, Division of Solid Waste Services (SWS) manages solid waste generated within the County in an environmentally and economically sound manner. The Division of Solid Waste Services operates the County's integrated solid waste management system which consists of: methods and technologies, source reduction, recycling, waste-to-energy, contractual out-of-county landfilling, maintenance of closed landfills, and a reserve permitted landfill. Also, the Division provides contractual refuse collection services to single-family households in the lower part of the County and contractual recycling collection throughout the County to single-family households outside of municipalities.

Specifically the solid waste system: provides for the collection, transfer, mass burning, and landfilling of solid waste; promotes reuse, recycling, and composting; directly provides recycling collection services to residential units of six or fewer families in all unincorporated parts of the County; provides Refuse collection to approximately 91,000 residences; and licenses the private haulers which serve the County.

The operation and funding of the solid waste system is governed by (a) Chapter 48 of the Montgomery County Code and (b) the County's covenants contained in the Master Authorization, which is a contractual obligation of the County for the benefit of counterparties to Long Term Obligations. Under County law, the County has the authority to set System Benefit Charges (SBC) at a level sufficient to comply with the Rate Covenant. Pursuant to the Master Authorization, the Rate Covenant requires that the County fix, charge and collect fees for disposal services. The SBC are a user-fee assessed for the use of the County's solid waste system and the benefits derived from the use. Although it is not a tax, it is delivered via property tax bills. The fees are set to recover the costs of solid waste operations.

The County has a Solid Waste Disposal Fund that is managed as an enterprise fund to account for all financial activities of the solid waste system. The primary source of revenue for the County is the SBC, which are collected on the property tax bill of residences and businesses. A rate-setting methodology was developed to equitably calculate the SBC and this calculation reflects as closely as possible the actual costs to the County for providing solid waste services within its solid waste management district. Since 1994, when the County implemented the SBC, system revenues collected through these charges constitute approximately 70% of the Solid Waste Disposal Fund's revenues. The second largest source of revenue is the Tipping Fees, which are charged to the haulers delivering refuse for which disposal charges are not prepaid via the property tax bill.

ANALYSIS AND APPROACH TO FINANCIAL INFORMATION

As has been noted, the County conducts a variety of solid waste management activities. For the purposes of this report, we have comprised a set of 12 solid waste management activities/cost centers, which take into account the costs (full cost accounting – method whereby all costs are recognized) and tonnages associated with each activity. We have done our best efforts to present each set of activities in a distinct and traceable manner based on available cost-accounting and tonnage records. Compiling cost accounting information for each activity, based on the budgetary alignment of the various activities functions, was greatly facilitated by the implementation of the County’s ERP/ORACLE e-Business Suite and Business Intelligent report. The result was a more accurate alignment of costs with each activity and less time was spent on cross-functional allocation based on the perceived interrelatedness of certain activities. We rely more and more on the ERP Systems cost budgetary alignment in order to develop the appropriate cost accounting for each activity and less on interpretation. Below is the list of budgeted activities/cost centers:

- County Refuse Collection
- Satellite Sites
- Hazardous Waste Disposal, Residential and Commercial
- Transfer Station
- Out of County Refuse Disposal
- Resource Recovery Facility & Related Waste Transfer
- Post-Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance
- Recycling Outreach, Education, Enforcement, and Waste Reduction
- Curbside Collection of Recyclable Materials
- Dickerson Compost Facility & Related Yard Waste Grinding
- Recycling Center
- Enforcement Chargebacks

The programs expenses and revenues for all solid waste services are recorded in two funds – Refuse Collection and Disposal. All costs recorded in the Refuse Collection Fund are allocated to the “County Refuse Collection” activity. The Disposal Fund contains the revenues and expenses for all other solid waste programs. These programs’ costs and applicable revenues are allocated to their respective activities. See Appendix D for a crosswalk from program to activity.

The Statement of Revenues, Expenses, and Fund Balance for both funds – Refuse Collection and Disposal are on a Generally Accepted Accounting Principles (GAAP) basis. This means that bond principal payments and encumbrances are not included and the basis of accounting is full accrual. The allocated expenses agree with the GAAP expenses reported in the County’s Comprehensive Annual Financial Reports (CAFR).

The Refuse Collection Fund’s expenses are allocated to the Refuse Collection activity or cost center. These expenses include salaries, insurance, retirement, and other operating expenses. Since these

expenses are on a GAAP basis, capital outlay expenses are not included. Capital Outlay is charged through depreciation expense. Additionally, indirect costs, rents, and desk-top computer modernization are allocated according to personnel expenses.

The Disposal Fund’s expenses are allocated to 11 different activities or cost centers depending on the program. The activities or cost centers are closely aligned with the budgetary programs listed in the County’s annual budget book. These expenses include salaries, insurance, retirement, and other operating expenses. Since these expenses are on a GAAP basis, capital outlay expenses are not included. Capital is charged through depreciation expense. Additionally, indirect costs, rents, and desk-top computer modernization are allocated according to personnel expenses.

Ten of the activities were normalized to the annual tonnages managed by those activities, yielding annual average unit costs. For each of these 10 activities, a bar graph shows the unit costs when the annual expenses are normalized to those annual tonnages. Thus, for all but two activities, each page of text is accompanied by a time series bar graph depicting the resulting annual average unit costs (\$/ton).

Two of the activities—“Enforcement Chargebacks” and “County Landfill Operations”—cannot be meaningfully normalized to any tonnages. The total expenses for these activities are presented so that all solid waste management expenses and trends are recognized.

For each activity, the results are presented in time-series fashion, and the linear regression best-fit trend for the entire 12 -year period appears as a distinctive black dashed line. Since the value of money changes with time (e.g. inflation), it is necessary, as with any time series involving money, to recognize that changing value. Economists sometimes introduce the concept of “nominal dollars”, converting each year’s expenditures into inflation-adjusted results. For the purposes of this report, and its graphical presentation of results, that abstraction is avoided. Rather, each year’s actual expenses are presented in terms of each year’s dollar values (e.g. unadjusted for inflation) and each graphical result includes a continuous red-colored curve showing the annual value of the Consumer Price Index.

This report derives a set of *Annual Average Unit Costs* (AAUC) that encompasses all County solid waste management expenses for fiscal years 2002 through 2013. For the purposes of this report the meaning of AAUC are defined in the following fashion:

| The term: | Refers to: |
|--------------------|---|
| “ <i>Annual</i> ” | Each result is calculated on the basis of an entire County fiscal year, from July 1 through June 30. |
| “ <i>Average</i> ” | Both numerator and denominator values are measured over the same full (fiscal) year period—yielding, for a particular management activity, the cost for managing the <i>average</i> ton during that year. |
| “ <i>Unit</i> ” | One <i>ton</i> (e.g. the costs of the activity are normalized to the <i>tonnage</i> of solid waste managed by the activity during the year). |
| “ <i>Cost</i> ” | The County’s <i>full cost accounting expense</i> of conducting a defined scope of activity. |

Finally, it is important to recognize that the measures derived in this report cannot be used to predict how County costs might change in response to shifts in tonnage from one type of activity to another. Answering such a question as “What happens to County costs if a certain type of waste is shifted from trash can to recycling bin?” requires a different kind of cost parameter—what economists call “incremental” or “marginal” unit costs. This report does not derive incremental or marginal unit costs. The reader is cautioned that the Annual Average Unit Cost results derived here should not be used to evaluate “what-if” scenarios.

Accounting Principles

Full Cost Accounting: Montgomery County manages solid waste under accounting standards and practices that isolate all of its solid waste management costs from the costs of other County enterprises and general government functions. That cost-isolation enables full cost accounting wherein costs that would otherwise be blended-in with general government functions are, instead, fully recognized as solid waste management costs. Such costs as administration, use of shared buildings and shared equipment, overhead and indirect costs can be substantial, and failing to recognize them as solid waste management costs would not serve the purpose of accurately communicating about the costs of solid waste management. Therefore, this analysis takes full advantage of the cost-isolation detail available in the County’s accounting system and presents the measures in terms of full cost.

Generally Accepted Accounting Principles: To enable meaningful year-to-year comparisons, this analysis is prepared on the basis of generally accepted accounting principles (GAAP) rather than a budgetary (cash) basis. The GAAP presentation basis is very useful, for example, because in GAAP, the cost of a capital asset is reported as its depreciation expense over its useful life rather than as single-year expenditure. Additionally, expenses are recognized when incurred (not when paid for) and revenues are recognized when earned (not when received). This basis of accounting allows for a more complete picture of the solid waste activities.

Reconcile to Audited County Financial Statements: Placing the analysis on a GAAP basis also helps the analysis to reconcile directly to the Statement of Revenues and Expenses contained in the County’s audited Comprehensive Annual Financial Reports (CAFR).

Accounting of Tonnages: Montgomery County conducts an accounting of all solid waste flows that occurred during the County’s fiscal year. These tonnages are used in the denominators of the average unit cost per ton calculation for applicable activities. See Appendix E for crosswalk of tonnage streams to activities.

Operating Expense Breakouts

We have distinguished the different types of expenses because we believe that in the context of a time series, in particular, such breakouts help to clarify sources or contributions to overall cost trends. See Appendix B for activities' (cost centers') allocated expenses, as well as, revenues and credits. Total breakouts are as follows:

- Credits or Offsets,
- Recycling Revenue,
- Allocated Administrative Expenses,
- Chargebacks (from other units of County government),
- Interest and Depreciation on Fixed Assets,
- Debt Service , and
- Other Operating Expenses.

Credits and Offsets: In some cases the County has contracted facility operations to a third party, the scope of work includes marketing a product with the stipulation that sales benefit the County in the form of lowered operating costs billed to the County. This benefit is referred to as a “credit and offsets” against operating expense. For example, the Resource Recovery Facility program (RRF), receives revenues for both electricity and ferrous sold, along with investment income. These revenue and income sources are not considered recognizable revenue by the County, and they offset the operating expenses incurred to operate the RRF facility. The contractor operating the RRF facility will reduce their invoiced expenses by the amount of the revenue and income received during that period. For the sake of this report, these amounts are shown as offsets, not actual revenues received. The expense reports have already been reduced according to the revenue and income generated by those sources. See Appendix B for credits/offsets amounts.

Recycling Revenues: Some solid waste management activities generate revenue to the County in the form of sales of recyclable materials from the County recycling center. See Appendix B for recycling revenue amounts.

Allocated Administrative Expenses: Expenses tracked in County budgetary programs entitled “Administration”, “Waste System Program Development”, “Revenue Analysis and System Evaluation”, and “Automation” are not directly associated with specific tonnage-based activities. Full-cost accounting requires an attribution of those administrative costs among each tonnage-related activity. The reason for the attribution arise from the need to manage people, therefore those administrative expenses were distributed among the twelve cost center activities in proportion to the work years budgeted in each non-administrative budgetary program. See Appendix B for administrative expense amounts.

Chargebacks: These are expenses of other County agencies which, for various reasons, are charged to the Solid Waste Fund. The chargebacks from the Department of Finance and the Office of the County Attorney are distributed among the 11 activities in the same fashion as allocated administrative expenses discussed above. Other chargebacks are for scopes of services directly related to the Division of Solid Waste Services' budgetary programs, and thus, are readily associated with the 11 tonnage-related measures. See Appendix B for chargeback amounts.

Interest and Depreciation Expenses: The County may purchase a capital asset in one of two ways—either by an outlay of sufficient capital in one year (capital outlay), or by financing the purchase, such that it pays out debt service (scheduled principal and interest) over multiple-years. In both cases, GAAP accounting assures appropriate recognition of the resulting expenses over multiple years rather than in the

year acquired. In 1993, the County sold Solid Waste Revenue Bonds in order to finance many of its solid waste assets, and these bonds were subsequently re-financed to take advantage of lower interest rates available in 2003 and 2013. On a cash basis, the County experiences payments of scheduled principal and interest. In GAAP, the acquired asset is depreciated (a payout for borrowed principal is not a GAAP expense, depreciation taking its place) and interest payments are expressed on an accrual basis rather than on the basis of cash paid out during the accounting period. Depreciation and interest expenses resulting from County solid waste bond issues are allocated among the activities in this report consistent with the usage records of the bond proceeds. In the case of any capital outlay, cash is traded for an asset, and the asset is then “expensed”, for GAAP purposes, over the useful life of the item purchased. For safeguarding purposes as well as accounting, SWS tracks the location and use of each of its capital assets, and in cooperation with the Department Finance, SWS also maintains a schedule of depreciation for those assets. Those tools provide the basis for properly attributing County depreciation expense to each unit cost measure. See Appendix B for both interest and depreciation amounts (combined).

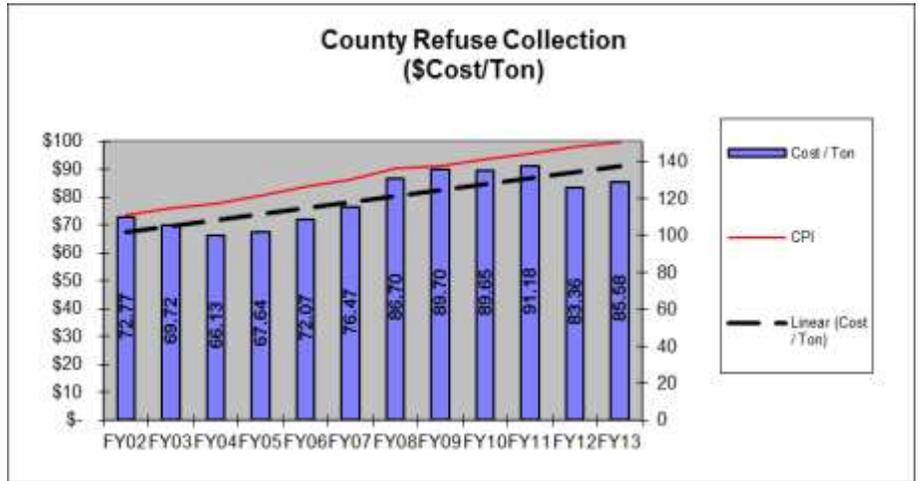
Debt Service: Montgomery County’s Solid Waste Disposal System includes the Montgomery County RRF facility. This facility, also known as a Waste-to-Energy Facility, is owned, for accounting purposes, by a third party—the Northeast Maryland Waste Disposal Authority (the Authority). The capacity of that facility is 100% dedicated to and controlled by Montgomery County, however, the Authority (not the County) issued bonds to finance its construction. The County intends to become owner of the RRF when the Authority’s bonds are paid off, in April 2016, but because it is not the owner during that period, the capital cost of that facility is not depreciated as a County expense. For services provided by the Authority, including dedicated use of the RRF, the County pays the Authority in a manner that enables the Authority to pay off the bonds it issued for the County facility. In effect, part of the annual operating costs that the County pays for use of the RRF, represent the net debt service of the Authority (scheduled principle and interest, less all investment earnings of trustee accounts). Therefore, it is of interest, for the purposes of this report, to give a break-out to that portion of County operating costs resulting from that third party debt service. See Appendix B for debt service amounts.

Other Operating Expenses: This represents the total of all expenses associated with an activity less the above-noted breakouts. See Appendix B for other operating expense amounts.

COST PER TON OF OPERATIONS

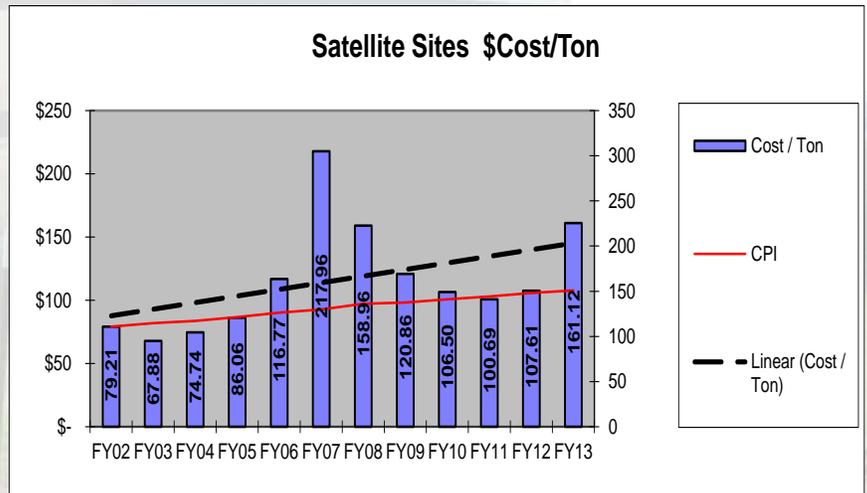
County Refuse Collection

This activity encompasses all solid waste management operations involved in providing curbside collection of waste set out for disposal from single-family and town homes in the County's Refuse Collection District. There are approximately 91,000 homes in this district. All costs associated with the County's refuse collection service are included in this measure. The service includes once-per-week collection of regular household refuse set out for disposal, plus up to five bulk pick-ups per year of non-metallic items, per home served. All waste collected is delivered to the County's Transfer Station.



Satellite Site

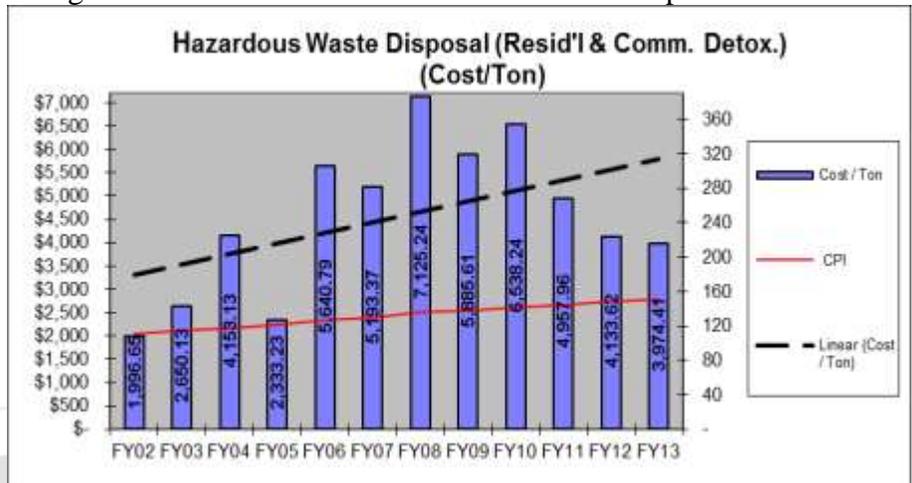
This activity encompasses those solid waste management operations involved in providing a Satellite bulky waste "Drop-Off" Site at the Poolesville Highway Services depot. The Satellite Site helps to limit the temptation to litter roadways with bulky waste. Only loads less than 500 lbs. are allowed and no regular household garbage. (Residents in the outlying parts of the County do not receive County Refuse Collection and must contract with private-sector collectors, the latter tending to charge substantial extra fees for bulky waste collection.) Another purpose of this site is to provide convenience to residents located farther from the County's Transfer Station.



Hazardous Waste Disposal Residential and Commercial

This activity includes the County's cost to accept, store, and dispose of materials received as a result of the special household and small business hazardous waste collection programs. The purpose of these special collection programs is to manage a special type of waste, and in so doing, to reduce the overall hazardous nature of the waste stream that the County must manage.

The Household Hazardous Waste receiving area at the Transfer Station is staffed all hours that the facility is open: 7:00 a.m. – 8:00 p.m. Monday – Friday; Saturday from 7:00 a.m. – 5:00 p.m.; and Sunday from 9:00 a.m. to 5:00 p.m. Businesses that generate less than 220 lbs. of hazardous waste per calendar month may register and utilize an associated ECOWISE program. ECOWISE collections are held from 1:00 p.m. to 5:00 p.m. at the Shady Grove Solid Waste Transfer Station on the second Wednesday of every month, rain or shine, but users must pay the contractor directly according to a posted schedule of company costs. These fees and costs are not included in County expenses.

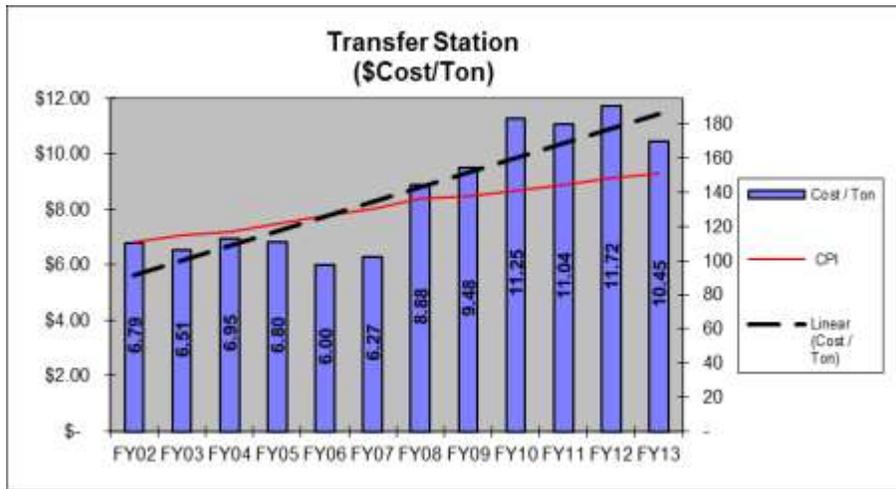


Transfer Station

The County owns and operates a Transfer Station facility located just south of Gaithersburg at Shady Grove Road and Route 355. The primary purpose of a Transfer Station is to receive “disposal waste” from collection trucks and prepare that waste for efficient transportation to more distant locations. Activities occurring at the County's Transfer Station facility include: (1) operation of truck scales for proper tonnage data capture and billing involving approximately 400,000 transactions per year, (2) operation of a public unloading facility (PUF) to help citizens to drop off small loads, (3) compaction of the waste, (4) loading waste for shipment via rail transport and long-haul transfer trailer, and (5) brush to mulch operations. Waste that is “processable” (acceptable for processing at the County's waste-to-energy facility) leaves the Transfer Station by rail and non-processible waste is loaded into over-the-road transfer trailers and sent to rubble recycling and disposal facilities.



Montgomery County recycles a wide array of materials through its Citizen “Drop-Off” Facility located within the grounds of the Transfer Station. Most of the tonnage of these dropped-off materials are paper and commingled containers which are transported immediately next door to the County's Recycling Center for processing. Additionally, dropped-off materials also include: automobile batteries, consumer electronics, donated building supplies, propane cylinders, textiles, tires, scrap metal, used oil and antifreeze, vegetable oil, textiles, books, mixed paper, commingled recyclables, and white goods.



Buyers or users of these materials are found, some at a cost to the County, to assure their recycling. Scrap metal, however, yields substantial revenue from buyers who accept this material at the Transfer Station. Electronics, used oil and textiles also produce some modest revenue. In November of 2000 (FY01), the County began operating a crane equipped with an electromagnet on the tipping

floor of the Transfer Station to recover bulky ferrous material from waste delivered for disposal. The revenue enhancement and other benefits are thought well worth that investment. Although ferrous is recovered via magnet from the RRF residue, recovery of bulky ferrous at the front-end is beneficial to the County for a number of reasons, including this recovery eliminates the cost of transporting it to the RRF, increases the electricity generation rate per pound of waste processed at the RRF, maximizes unit sales price for the ferrous so recovered, and reduces wear and tear on County compactors.

The annual tonnage used to calculate the Annual Average Unit Costs for Transfer Station Disposal Operations is the sum of all tons loaded on rail to the RRF, all outgoing non-processibles (tons not processible at the WTE facility), plus any by-pass. Additionally, drop-off center tons, and Public Unloading Facility (PUF) tons are included in this measure.

One of the highlights of this activity was the installation of approximately 1,250 solar panels on the Transfer Station roof. We estimate that these solar panels will generate approximately 280 kw and will save the County \$200,000 over the 20-year life of the panels. Additionally, an environmental benefit of this project is reduced Co2 emissions for the region. The Transfer Station solar facility project began operations on March 24, 2011.

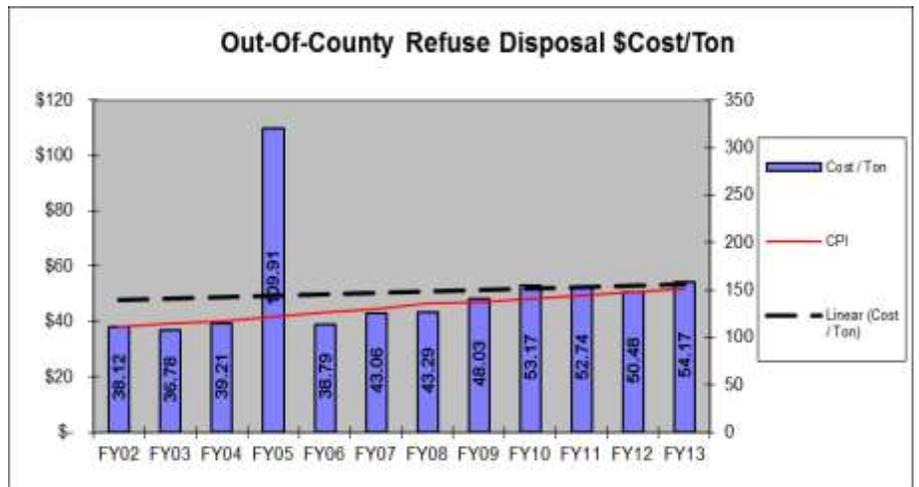
Out-Of-County Refuse Disposal



In 1997, the County entered into a contractual agreement to transport RRF ash, non-processible waste and bypass waste for disposal at a private landfill in Brunswick County, Virginia.. In 2010, this contract was amended to allow the beneficial reuse or recycling of the ash residue at any landfill facility owned by Republic Services.

Ash residue is currently delivered to the Old Dominion Landfill in Henrico County, Virginia where the ash is screened into two grades, one for alternate daily cover and one for road base for internal landfill roads. Additional metals removal also occurs during the ash screening process at Old Dominion Landfill. The County also still retains the right to use dedicated space at the contracted landfill in Brunswick County, Virginia, if ever required.

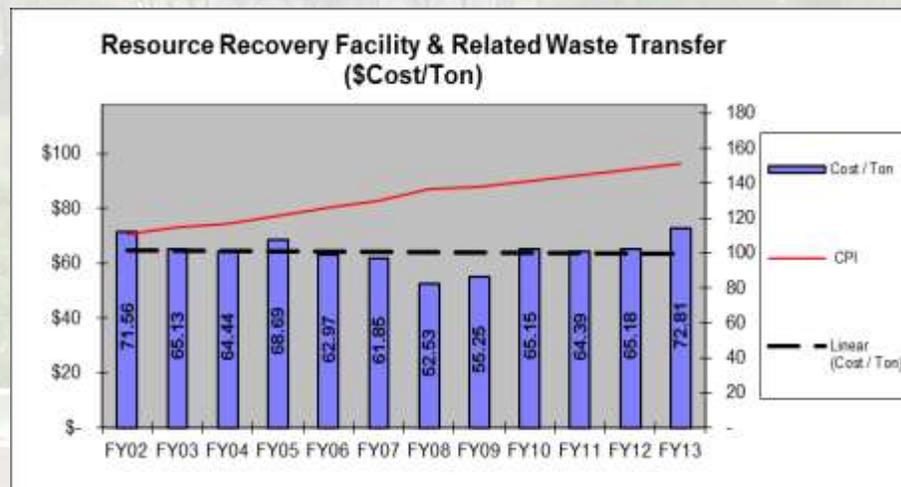
Non-processible waste is sent to the Honeygo Run Reclamation Company Rubble Landfill and Recycling Facility in Perry Hall, Maryland. The County no longer manages Regulated Asbestos Containing Material (RACM) and does not use the landfill for its disposal. The current contact for out-of-county waste transportation and disposal services was extended until June 2017.



Resource Recovery Facility & Related Waste Transfer

The activities of this measure include all County expenses attributable to the processing of waste, and the rail transportation of processible waste to the Montgomery County Resource Recovery Facility” (RRF), the waste-to-energy facility, located in Dickerson, Maryland. This facility is designed to process most types of solid waste delivered for disposal to the County’s Transfer Station. Processing at this facility results in: volume and weight reduction of the waste via controlled combustion; conversion of the recovered energy into electricity for sale; and recovery of ferrous materials.

Weight reduction achieved is about 70%, energy recovered and sold exceeds 560 Kwh/ton processed, and ferrous recovery exceeds 80% of all ferrous metals greater than 1” in diameter. The facility is owned, for IRS rule purposes, by the Northeast Maryland Waste Disposal Authority (the Authority)—the State entity that provided financing for its construction on behalf of the County. Contractual control of the facility, however, including all processing capacity is dedicated to the County. It is a modern facility, involving relatively sophisticated technology, and is operated for the County under a long-term Service Agreement through the Authority, by Covanta of Montgomery, Inc.



The scope of Covanta’s work under that Service Agreement includes certain substantial Transfer Station operations that are County costs and are-not included in this program activity of WTE Processing. These include managing the Transfer Station tipping floor and compacting processible waste into special containers for rail transport.

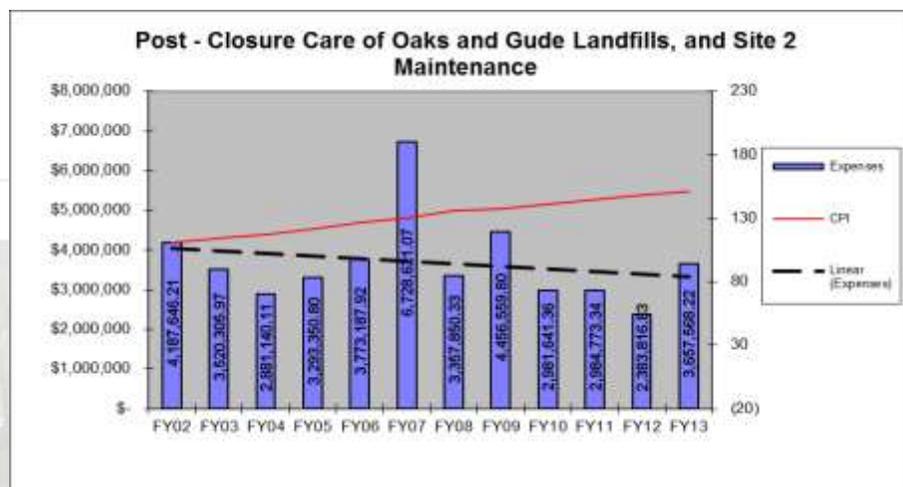
The expenses included in this measure are: County expenses attributable to WTE operation; the cost of Transfer Station operations performed by Covanta; all County costs resulting from the 20-year debt financing of the initial rail component of project construction costs, and the annual operating cost specific to moving each day’s waste from the County’s

Transfer Station to its Waste-to-Energy facility. To calculate the unit costs for this measure, the tonnage used in the denominator of this measure is the annual tonnage loaded on rail and sent to the WTE facility during the subject fiscal period.

The majority of the County’s expense for this activity is comprised of the net debt service of the Authority; this amount is scheduled and billed to the County through the Service Agreement. The facility was refinance in FY2003 and FY2013 to take advantage of lower interest rates, thereby lowering that component of County expense. Sales of electricity and recovered ferrous provide large off-set credits against operating costs otherwise billable to the County.

Montgomery County pioneered the development of a solid waste rail transport system that provides for the reliable movement of waste from its Transfer Station to its Waste-to-Energy (WTE) facility located in Dickerson Maryland. The rail transport component of the County’s Solid Waste Management System avoids over 25,000 truck trips per year from the Transfer Station to the WTE Facility, thereby minimizing truck traffic on County roads. The Rail Component of the County system includes special containers, rail cars, side track, rail yards and overhead gantry-based on-loading and off-loading facilities at each end of the system. The actual movement of each day’s waste-laden train of railcars is carried out by CSX Transportation, a subcontractor, and on tracks owned by CSX. The County pays for this transportation within the scope of its Waste-to-Energy operating Service Agreement.

Post-Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance



County Landfill activities include the ongoing monitoring and maintenance of the County’s two closed landfills (Gude and Oaks), and the maintenance of land held in reserve by the County (Site 2) for possible future landfilling. The cost of maintaining these closed landfills is an ongoing obligation of the County. Since these expenses do not relate to any current year tonnages, they cannot be

meaningfully normalized. Therefore, they are presented in time-series fashion in raw form as total expenses attributed to the maintenance of these three sites.

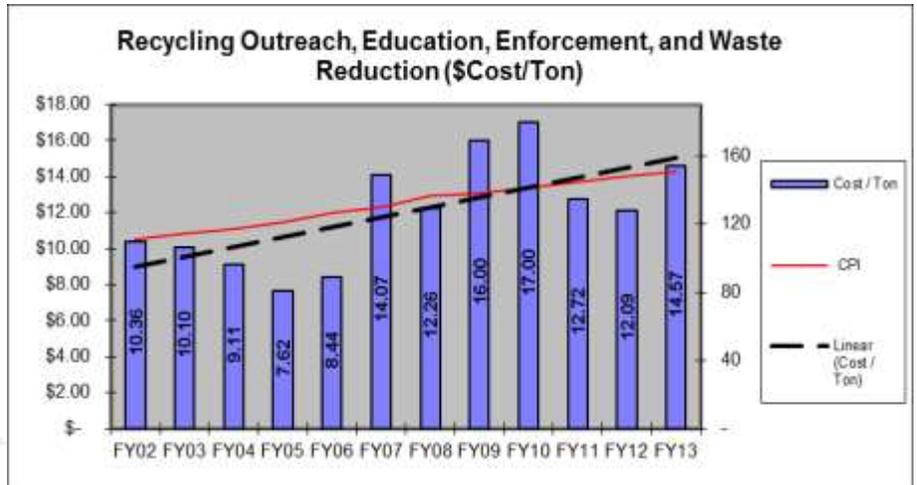
The closed Gude Landfill is located on an approximately 120-acre tract in the central part of the County just north of Rockville. Checks are performed for the presence of landfill gas in gas monitoring wells along the perimeter of the site. Closed since 1982, the County currently monitors the ground water quality at the site. The County has retained a contractor to maintain an active methane gas collection system at the Gude Landfill. Some methane extracted from the closed Landfill is used to generate electricity at a small 0.8 MW on-site power plant. The rest is destroyed through a ground flare system. A larger power plant was previously at the site from 1985 to 2006. The new facility was completed in mid-2009 and is smaller due to reduced expectations concerning gas generation over the next 20 years.

The Oaks Landfill is located on a 545 acre tract near Laytonsville, Maryland. The landfill stopped receiving waste in 1997, and final capping was completed in 2001. The Oaks Landfill has a leachate

pretreatment facility and a gas management facility, which includes a 2.4 MW power plant and a flare system that will continue to be operated throughout the 30-year post-closure maintenance period. The landfill gas-to-energy facility started operation in mid-2009. The Solid Waste Enterprise Fund maintains restricted cash sufficient to complete 30-year post-closure requirements. The County acquired approximately 820 acres along Wasche Road near Dickerson, Maryland to be held in reserve for use in the event economic conditions, changes in law or other circumstances render Out-of-County waste disposal infeasible.

Recycling Outreach, Education, Enforcement, and Waste Reduction

The County conducts a variety of activities to encourage, facilitate or enforce recycling and waste reduction, and not all recycling and waste reduction that occurs necessarily involves the use of County facilities or County equipment. In fact, a substantial amount of waste recycling and reduction takes place almost exclusively at the hands of private companies and/or private individuals (e.g. backyard composting by

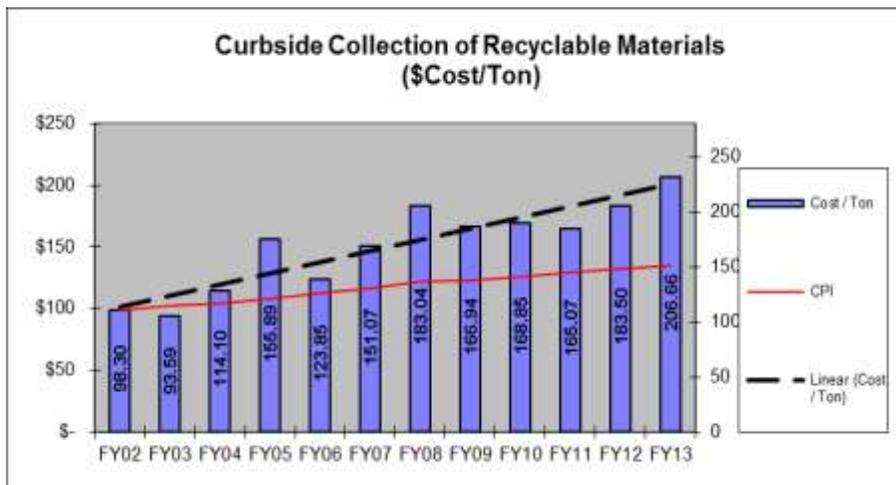


individuals, and private sector processing of materials not collected nor processed by the County). With respect to these tonnages, the County plays a facilitating role. This activity accounts for County expenses that educate, encourage, enforce, or facilitate recycling whether or not County government facilities, equipment or contractors were involved with the physical handling of the material. The tonnages used in the denominator to calculate the AAUC of this activity include source reduction, tons recycled via non-County facilities and a percentage of tons recycled at County-owned facilities.

Curbside Collection of Recyclable Materials

This activity includes all County expenses associated with the County’s Curbside Recycling Collection service. This service is provided to all single-family and townhomes located outside of the municipalities. The service includes year-round curbside collection of all materials that are banned from disposal which residents must separately set out for recycling collection. The County provides weekly collections for: (1) yard waste (bagged leaves and grass) and brush including branches up to 4” diameter; (2) all forms of paper and cardboard that are clean and dry, and (3) commingled (e.g. “mixed”) recyclable materials.

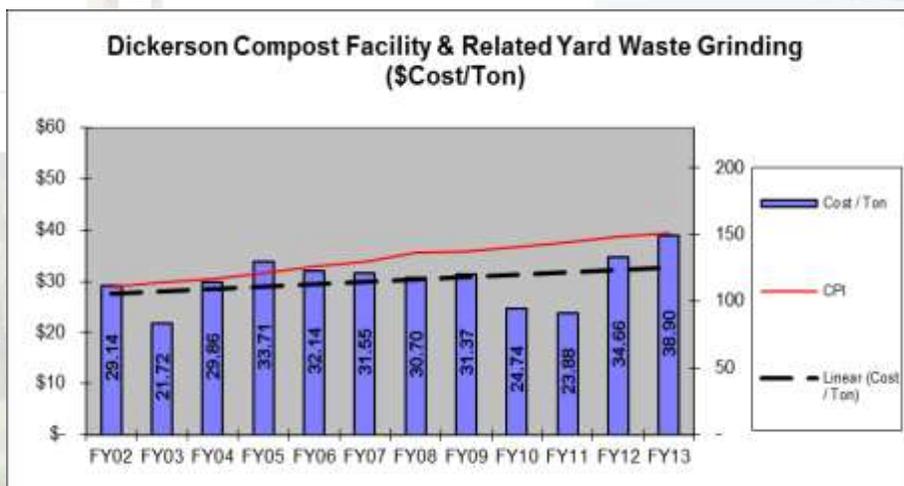
In addition, this service includes “on-call” next-day collection for bulky scrap metal items (major appliances, grills, bikes, etc.). Yard waste and brush are collected in traditional compacting-type vehicle. Mixed paper and commingled containers are collected using a split body compacting truck—one compacting chamber which keeps the paper separate from containers—but allows for differential compaction to each side yet a single-trip to collect both containers and paper. Both paper/commingled and yard waste collection trucks visit each home once per week all year long. In areas where the County also provides refuse collection, recycling collection takes place on the same day as refuse collection.



The scope of this activity includes collection from curbside and delivery to the County Recycling Center only. It does not include costs for processing the collected materials; a separate measure was developed to address the different processing and marketing activities that the County must carry out in order to recycle these materials.

It should be noted that the County has contracted for collection services on the basis of seven year contracts, with cost per service unit indexed to the CPI, but otherwise fixed, and allowing the County two additional years at its option. As a result of these collection contracts, the County provides separate curbside collection for 212,496 single-family households for yard trim, glass bottles and jars, metal and plastic containers, and all types of clean, unsoiled paper.

Dickerson Compost Facility & Related Yard Waste Grinding



Yard waste composting is a key component of the County's recycling infrastructure. Dickerson Composting activities includes: the grinding of leaves and grass received at the Transfer Station, which leaves and grass will be composted, loading of that material for transport to the facility, transportation of the ground-up leaves and grass from the Transfer Station to the facility, the actual composting

of that material at the facility, and the marketing of the compost products.

With respect to County Compost operating expenses, it is important to recognize that the sales of compost product represent revenues to the third-party operating contractor (e.g. are not booked as revenue to the County) but, rather, are netted-out of the operating expenses chargeable to the County by that contractor. Thus, those third-party revenues represent credits against operating costs.

Delivery of yard waste to the County's Dickerson Composting Facility has been restricted, by agreement with the Sugarloaf Citizen's Association (SCA), to 77,000 tons per fiscal year. During years in which that allowance has been insufficient, the County located backup composting capacity at out-of-County locations. The annual tonnages used to normalize the County's total annual composting and related grinding expense is the sum of deliveries to the Dickerson Compost Facility during the fiscal year plus

any tonnage delivered to back-up composting facilities plus tonnages from the grinding of brush at the Transfer Station.

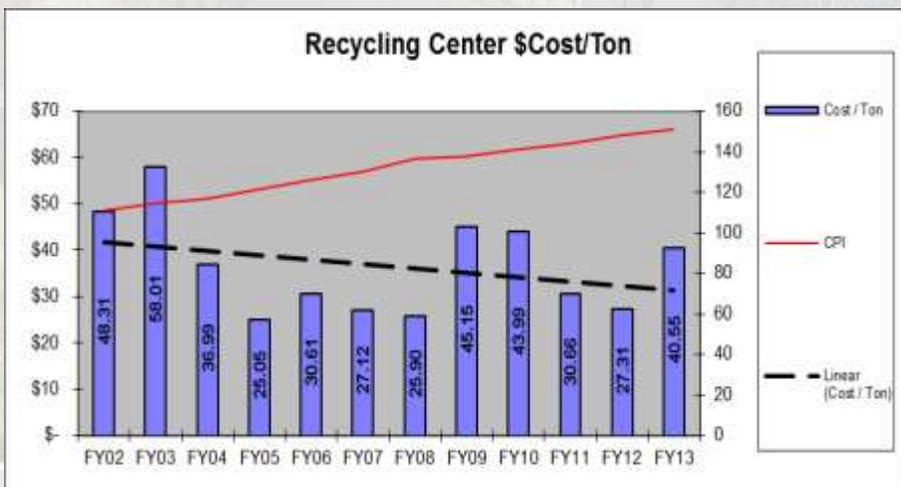
Wood yard trim material (e.g. brush) is not amenable to composting. The County’s experience, however, is that this material can be recycled, if processed to form a desirable mulch product. Most of the mulch is sold to a mulch contractor who further processes the mulch and then sells it. Revenue from the mulch partially offsets wood waste management and grinding costs. The County also has several free piles of mulch for residents, including one next to the County’s Recycling Center. County processing includes grinding all natural wood waste using three heavy-duty horizontal- grinders. This activity occurs at the Transfer Station.

All leaves and grass composted at the Composting Facility are collected either by vacuum truck or curbside collection service and is transported to Dickerson from either the County’s centrally-located Transfer Station, or, in the case of some vacuumed leaves, from the Brookville Depot which is located in the eastern part of the County. The function is achieved by multiple contract services involving 18-wheel transfer trailer, and, in the case of yard waste leaving the Transfer Station, also partly by rail link to the Dickerson site employing special cars and mobile tipping chassis. When the train can accommodate the service, transportation of yard waste by rail is more economically feasible than trucking; also truck traffic is a concern to the residents in the facility area.

One of the FY11 highlights of this program is that Solid Waste initiated development of a formal Environmental Management System (EMS) following the guidelines issued by International Standards Organization (ISO) 14001 for operations of its Yard Trim Composting Facility in Dickerson, Maryland. This EMS goes beyond regulatory compliance, establishing a formal process of continual advances in environmental stewardship.

Recycling Center

This activity captures the cost of processing and marketing container materials of the type that County single-family residents are required to place in their blue bins at curbside, and the processing of paper at Office Paper Systems, Inc. (OPS). Materials such as — glass bottles and jars, aluminum cans and aluminum foil, ferrous and bimetal cans, and almost all types of plastic containers that held nontoxic materials—are all



processed at the County’s Recycling Center. Residential mixed paper is processed at OPS. Glass bottles are sorted by color and accepted Freight on Board (FOB) at the Recycling Center by recycling buyers. Aluminum cans are segregated, baled and sold at top dollar, as is aluminum foil separately baled and sold as a separate grade, as are ferrous and bi-metal cans. The plastic containers are now sorted by type, baled, and shipped to plastics buyers.

The Recycling Center receives these materials from the Drop-Off center, from the County's own Curbside Recycling Collection activities, from municipalities, and from private haulers collecting these materials from multi-family or non-residential properties. The tonnage used to normalize the expenses of this activity include all container materials recycled through the Recycling Center, as measured on an *outgoing* basis, and residue which is returned to the Transfer Station for disposal rather than being recycled.

The County receives all revenues generated from the sale of materials recycled through this facility. Incoming materials includes some non-recyclable materials (residue). Therefore, Unit Costs results are expressed both in terms of tons actually recycled and in terms of tons processed (e.g. recycled plus residue). Under current County rules, any type of paper that is clean and dry, is not only recyclable, it is *banned* from disposal in Montgomery County. If generated at a residence, this type of material is termed "Residential Mixed Paper" (RMP), and the County includes this type of material in its curbside collection service.

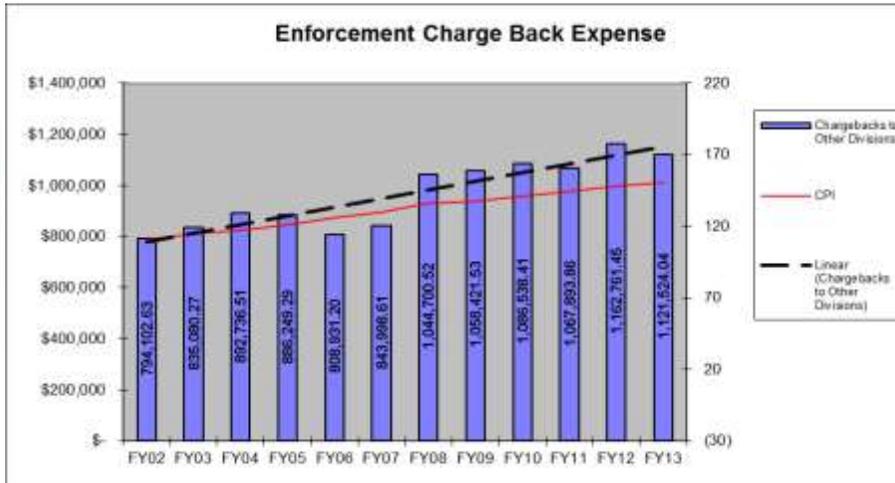
Over a period from 1997 to 2001, the County transitioned from accepting magazines and phone books at its drop-off center, to conducting various pilots for mixed paper collections, to County-wide collection of mixed paper, to the current County-wide ban on the disposal of all forms of clean, dry paper. One very important step, along that evolution, was the creation of an assured outlet for all the RMP that might be collected by the County. Montgomery County entered into an agreement, in 1998, with OPS that assured the existence of sufficient dedicated capacity for accepting, processing and recycling the RMP that the County intended to collect.

A share of the Recycling Center expenses for this measure include the following: the program where the OPS contract is budgeted, plus the costs of managing the contract, plus depreciation associated with County paper acceptance and transfer systems, plus minor associated indirect costs. The associated tonnage is that of the total RMP collected in the County during the fiscal period. This is due in-part to the number of tons of RMP collected each year decreasing because of depressed economic conditions, the light weighting of newspaper, and the advent of electronic weighting. Additionally, an important cost element of the County's processing which commits the County to pay a certain base cost, for any tonnage up to 90,000 tons per year, which base cost escalates at 75 percent of CPI increase is based on the labor rate. Such a put-or-pay condition is not unusual in a contract, the purpose of which is to secure new and needed processing capacity. No revenue is returned to the County under this contract; the contractor keeps what revenue it can get for the paper it processes. By this contracting approach, the County also shielded itself from the risk of having to sell paper into a then-unstable secondary materials market.

During FY11 the County significantly expanded the list of materials that can be recycled. The County most recently added durable/reusable plastic containers, tubs, lids, pails, buckets, flower pots aerosol cans, as well as coated paper, including milk and juice cartons, frozen food boxes, ice cream containers and lids, paper beverage and coffee cups, wax-coated fruit and produce boxes, and juice/drink boxes as items for recycling. In FY12, the County added thermoform PET plastics and black PET to its recycling program. These items include many plastic clamshell containers, trays, baskets, boxes, domes, etc.

Enforcement Chargebacks

The Department of Housing and Community Affairs (DHCA), together with the Department of Environmental Protection (DEP), provide a variety of solid waste enforcement support activities. For the study period, the County's costs for these activities has been budgeted in the "Solid Waste Enforcement Program", which is comprised entirely of the chargebacks to these two agencies, plus associated indirect costs (transfers from the Disposal Fund to the General Fund) in proportion to the work years budgeted within those chargebacks.



DHCA activities, under this program, include staff response to citizen complaints dealing with: storage and removal of solid waste; illegal solid waste dumping activities in the County; storage of unregistered vehicles on private property throughout the County; storage of inoperable vehicles on private property; improper screening of dumpsters, particularly those in shopping areas; and control and

regulation of weeds throughout the County. The DHCA program also includes a "Clean or Lien" component, which, when necessary, pays for the removal of dangerous or unsightly trash, perimeter grass, and weeds on properties which the owners have failed to maintain as required.

Under this chargeback, the Department of Environmental Protection (DEP) conducts a variety of other environmental compliance activities not directly associated with any particular solid waste facility. DEP provides environmental monitoring and compliance activities directly related to County solid waste facilities under other chargebacks; expenses for those DEP chargebacks are allocated in association with unit cost measures already derived.

Since these DHCA and DEP expenses cannot be attributable to the management of any particular solid waste tonnage flow, they cannot be normalized to tonnage to create a meaningful Annual Average Unit Cost measure.

SUMMARY

This report has provided an activity-based full-cost accounting of Montgomery County integrated solid waste management in Montgomery County for the 12-year period of FY2002 through FY2013. The annual costs of all but two major County solid waste management activities have been normalized to the annual tonnage of material managed by each activity, yielding broad trend lines in terms of the annual average unit costs of those activities.

This unit cost approach is useful for internal benchmarking and for tracking cost-performance. While both annual expenses and solid waste tonnages can be influenced by weather and other externalities; the analytical approach demonstrated here has yielded some clear trends.

The range of activities involved in Montgomery County's integrated solid waste management system is broad, but adherence to full-cost accounting, together with an activity-based approach, makes possible a meaningful type of communication about the actual costs of solid waste management. We believe that this report's detailed analytical approach, using a unified overall presentation, will provide a basis upon which to communicate to the interested public about the full cost of solid waste management at any desired level of detail.

Solid Waste's recycling programs encourage responsible environmental practices for the public by offering free drop-offs for almost any type of material; as well as a strong residential curbside collection program. Substantial gains in recycling have reduced the environmental footprint related to waste management in Montgomery County. Through the use of rail transportation for both refuse and yard waste sent to the RRF Facility and the Dickerson Compost Facility respectively, the County removed the equivalent of 120 tractor trailers from the road each day.

Appendix A – DEFINITIONS

Consumer Price Index (CPI) - A measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. The CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them; the goods are weighted according to their importance. Changes in CPI are used to assess price changes associated with the cost of living. This report uses the CPI for all urban consumers for the Washington-Baltimore area (January 1 of each year), not seasonally adjusted.

Full Cost Accounting (FCA) – According to the EPA (EPA530-K-96-001), FCA is an accounting practice that can help local governments identify and manage the actual costs of municipal solid waste (MSW) services. It helps decision- makers understand the direct and indirect operating costs of MSW services, as well as upfront (past) and backend (future) expenses. Through FCA, decision-makers identify, analyze, and report all monetary costs of resources associated with MSW management activities.

Generally Accepted Accounting Principles (GAAP)- According to Auditing Standards Board (ASB, AU Section 411), GAAP is a technical accounting term that encompasses the conventions, rules, and procedures necessary to define accepted accounting practice at a particular time. It includes not only broad guidelines of general application, but also detailed practices and procedures. Those conventions, rules, and procedures provide a standard by which to measure financial presentation.

Capital Assets (fixed assets) – that assets that are used in a productive capacity, which are relatively long-lived (useful life greater than one year) and provide future benefit that is readily measurable. The County’s definition includes the above definition plus the cost of the fixed asset must be greater than \$5,000 for years 2002-2010 and \$10,000 for year 2011 through 2013.

Depreciation – The periodic charge to income that results from the systematic and rational allocation of the cost over the life of a capital asset. The County uses the straight-line method of calculating depreciation (e.g. capital asset costing \$50,000 and use live is 5 years, depreciation expense over the next five years is \$10,000 per year.)

Master Authorization – is a contract between the County and other parties, namely bondholders and long-term contract holders. The MA assures them that appropriate policies and procedures are in place to insure that there will be sufficient flow of funds to repay bondholders and contract holders for the duration of the bonds and contracts.

Municipal Solid Waste (MSW) - The Montgomery County Government defines solid waste as: Garbage (e.g., coffee grounds), Refuse (e.g., wall board, and empty containers), Sludge from a waste treatment plant, a water supply treatment plant, or an air pollution control facility (e.g., scrubber sludge). Other discarded material, including solid, semi-solid, liquid, or contained gaseous material resulting from industrial, commercial, mining, agricultural, and community activities (e.g., boiler slag or fly ash). A good definition of municipal solid waste is that it includes durable goods, non-durable goods, containers and packaging, food wastes and yard trimmings, and miscellaneous inorganic wastes.

Appendix B - Allocated Costs: Activities

FY02

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (14,849,740) |
| Recycling Revenue | - | - | - | (90,357) | - | - |
| Allocated Admin. | 213,699 | 99,062 | 21,013 | 222,139 | 24,015 | 112,570 |
| Chargebacks | 26,111 | 502,497 | 835 | 8,832 | 955 | 47,344 |
| Interest & Dep'n. | - | 342 | 387 | 929,751 | 83 | 388,787 |
| NEA Debt Serve. | - | - | - | 952,703 | - | 29,787,849 |
| Net Operating* | 5,148,201 | 158,014 | 554,796 | 2,415,257 | 8,640,415 | 10,830,158 |

FY02

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,003,243) | - | - |
| Recycling Revenue | (89,341) | - | (28,918) | - | (1,150,273) | - |
| Allocated Admin. | 51,032 | 337,711 | 484,803 | 52,533 | 156,097 | - |
| Chargebacks | 174,196 | 116,317 | 19,275 | 115,096 | 6,206 | 794,103 |
| Interest & Dep'n. | 1,618,079 | 6,560 | 8,326 | 937,882 | 1,066,020 | - |
| NEA Debt Serve. | 1,050,605 | - | - | 8,485 | - | - |
| Net Operating* | 1,293,735 | 2,094,647 | 9,906,952 | 1,094,164 | 3,821,237 | - |

FY03

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (15,704,497) |
| Recycling Revenue | - | - | - | (129,219) | - | - |
| Allocated Admin. | 229,568 | 82,627 | 15,023 | 185,285 | - | 100,154 |
| Chargebacks | 30,536 | 334,967 | 811 | 10,004 | - | 54,502 |
| Interest & Dep'n. | 3,963 | 138 | 639 | 888,193 | 33 | 393,073 |
| NEA Debt Serve. | - | - | - | 892,523 | - | 27,906,206 |
| Net Operating* | 5,245,739 | 173,179 | 463,200 | 2,607,360 | 8,765,849 | 11,848,735 |

FY03

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,272,245) | - | - |
| Recycling Revenue | (50,834) | - | (41,470) | (1,725) | (1,061,489) | - |
| Allocated Admin. | 72,612 | 320,492 | 430,662 | 45,069 | 130,200 | - |
| Chargebacks | 171,159 | 113,151 | 23,252 | 127,329 | 7,030 | 835,080 |
| Interest & Dep'n. | 1,586,593 | 535 | 11,522 | 642,100 | 1,414,028 | - |
| NEA Debt Serve. | 984,240 | - | - | 7,949 | - | - |
| Net Operating* | 705,703 | 2,108,103 | 10,628,425 | 1,258,774 | 4,229,785 | - |

Appendix B – Allocated Costs: Activities

FY04

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (18,087,604) |
| Recycling Revenue | - | - | - | (216,693) | - | - |
| Allocated Admin. | 275,878 | 101,829 | 18,514 | 234,516 | 24,686 | 123,429 |
| Chargebacks | 27,815 | 430,940 | 555 | 7,026 | 740 | 42,054 |
| Interest & Dep'n. | 5,272 | 143 | 662 | 1,114,686 | 35 | 407,268 |
| NEA Debt Serve. | - | - | - | 888,750 | - | 27,788,240 |
| Net Operating* | 5,190,204 | 208,056 | 545,095 | 3,496,750 | 11,994,861 | 12,864,248 |

FY04

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (944,061) | - | - |
| Recycling Revenue | 5,000 | - | (76,566) | - | (2,281,016) | - |
| Allocated Admin. | 64,800 | 394,974 | 580,118 | 55,543 | 160,458 | - |
| Chargebacks | 203,658 | 88,138 | 17,381 | 132,340 | 4,808 | 892,737 |
| Interest & Dep'n. | 973,381 | 554 | 11,938 | 803,610 | 1,327,454 | - |
| NEA Debt Serve. | 980,079 | - | - | 7,915 | - | - |
| Net Operating* | 659,222 | 1,874,172 | 13,300,721 | 2,267,680 | 4,138,235 | - |

FY05

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (15,693,238) |
| Recycling Revenue | - | - | - | (287,021) | - | - |
| Allocated Admin. | 273,460 | 106,840 | 20,033 | 247,068 | 20,033 | 136,889 |
| Chargebacks | 38,960 | 365,721 | 872 | 21,209 | 872 | 40,946 |
| Interest & Dep'n. | 5,272 | 96 | 643 | 692,081 | 18 | 401,873 |
| NEA Debt Serve. | - | - | - | 889,571 | - | 27,813,922 |
| Net Operating* | 5,142,897 | 220,019 | 844,082 | 3,381,329 | 13,839,485 | 10,926,915 |

FY05

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,143,239) | - | - |
| Recycling Revenue | - | - | (103,898) | - | (3,146,213) | - |
| Allocated Admin. | 73,453 | 500,814 | 694,461 | 60,098 | 170,277 | - |
| Chargebacks | 172,482 | 96,341 | 30,218 | 159,962 | 7,409 | 886,249 |
| Interest & Dep'n. | 935,842 | 4,420 | 7,692 | 672,744 | 1,117,692 | - |
| NEA Debt Serve. | 980,985 | - | - | 7,922 | - | - |
| Net Operating* | 1,130,589 | 1,796,349 | 18,639,532 | 2,215,000 | 4,269,382 | - |

Appendix B – Allocated Costs: Activities

FY06

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (18,296,223) |
| Recycling Revenue | - | - | - | (670,018) | - | - |
| Allocated Admin. | 334,194 | 95,859 | 19,172 | 268,406 | - | 137,399 |
| Chargebacks | 25,895 | 475,648 | 762 | 10,669 | - | 37,199 |
| Interest & Dep'n. | 4,617 | 266 | 684 | 645,308 | - | 425,917 |
| NEA Debt Serve. | - | - | - | 889,542 | - | 27,813,008 |
| Net Operating* | 5,140,186 | 198,181 | 899,789 | 3,311,792 | 11,297,432 | 10,992,790 |

FY06

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,155,970) | - | - |
| Recycling Revenue | (13,995) | - | (246,494) | - | (2,823,911) | - |
| Allocated Admin. | 92,664 | 504,860 | 594,328 | 73,492 | 150,180 | - |
| Chargebacks | 186,718 | 77,077 | 23,624 | 155,570 | 5,969 | 808,931 |
| Interest & Dep'n. | 951,125 | 15,849 | 19,565 | 651,283 | 1,113,994 | - |
| NEA Debt Serve. | 980,953 | - | - | 7,922 | - | - |
| Net Operating* | 1,561,727 | 1,954,766 | 15,424,267 | 2,410,709 | 4,659,859 | - |

FY07

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (20,224,264) |
| Recycling Revenue | - | - | - | (926,442) | - | - |
| Allocated Admin. | 316,818 | 109,920 | 21,275 | 471,592 | 21,275 | 118,784 |
| Chargebacks | 22,440 | 467,483 | 417 | 174,590 | 417 | 9,565 |
| Interest & Dep'n. | 1,988 | 536 | 736 | 620,426 | 104 | 60,711 |
| NEA Debt Serve. | - | - | - | 889,500 | - | 27,811,697 |
| Net Operating* | 5,333,815 | 125,877 | 882,101 | 3,289,133 | 11,673,223 | 8,686,087 |

FY07

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,051,636) | - | - |
| Recycling Revenue | - | - | (340,356) | - | (3,382,419) | - |
| Allocated Admin. | 70,916 | 602,786 | 716,252 | 72,689 | 148,924 | - |
| Chargebacks | 123,516 | 16,659 | 14,026 | 132,686 | 2,916 | 843,999 |
| Interest & Dep'n. | 882,867 | 12,939 | 16,013 | 484,810 | 1,091,590 | - |
| NEA Debt Serve. | 980,907 | - | - | 7,922 | - | - |
| Net Operating* | 4,670,416 | 3,792,207 | 16,064,519 | 2,423,456 | 4,888,230 | - |

Appendix B – Allocated Costs: Activities

FY08

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (31,471,394) |
| Recycling Revenue | - | - | - | (956,515) | - | - |
| Allocated Admin. | 418,657 | 139,394 | 26,979 | 598,045 | 26,979 | 150,635 |
| Chargebacks | 72,949 | 303,934 | 4,115 | 91,222 | 4,115 | 54,424 |
| Interest & Dep'n. | 1,988 | 474 | 4,933 | 999,838 | 667 | 61,568 |
| NEA Debt Serve. | - | - | - | 989,625 | - | 30,942,266 |
| Net Operating* | 5,974,928 | 110,797 | 1,012,024 | 4,349,359 | 11,174,096 | (759,049) |
| | 6,468,522 | 554,599 | 1,048,051 | 6,071,575 | 11,205,858 | 30,449,844 |

FY08

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,164,954) | - | - |
| Recycling Revenue | - | - | (347,246) | - | (3,833,226) | - |
| Allocated Admin. | 89,932 | 764,419 | 908,310 | 92,180 | 188,856 | - |
| Chargebacks | 339,673 | 116,600 | 287,691 | 14,061 | 28,807 | 1,044,701 |
| Interest & Dep'n. | 771,264 | 12,400 | 7,915 | 441,041 | 839,252 | - |
| NEA Debt Serve. | 1,091,320 | - | - | 8,813 | - | - |
| Net Operating* | 1,065,662 | 3,340,617 | 17,439,691 | 2,836,078 | 5,215,495 | - |

FY09

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (23,922,229) |
| Recycling Revenue | - | - | - | (825,775) | - | - |
| Allocated Admin. | 374,769 | 144,177 | 27,905 | 655,773 | 27,905 | 134,875 |
| Chargebacks | 71,304 | 261,283 | 4,264 | 100,194 | 4,264 | 31,357 |
| Interest & Dep'n. | 1,988 | 301 | 6,595 | 864,875 | 58 | 55,526 |
| NEA Debt Serve. | - | - | - | 733,323 | - | 22,928,560 |
| Net Operating* | 6,016,250 | 37,121 | 765,270 | 4,237,674 | 9,252,205 | 6,708,462 |

FY09

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,134,836) | - | - |
| Recycling Revenue | - | - | (299,688) | - | (2,621,491) | - |
| Allocated Admin. | 97,668 | 827,855 | 976,682 | 88,367 | 195,336 | - |
| Chargebacks | 213,209 | 126,486 | 149,225 | 103,576 | 29,845 | 1,058,422 |
| Interest & Dep'n. | 696,557 | 11,261 | 34,908 | 375,792 | 1,094,129 | - |
| NEA Debt Serve. | 808,680 | - | - | 6,531 | - | - |
| Net Operating* | 2,640,444 | 3,845,316 | 18,083,830 | 2,803,953 | 5,191,420 | - |

Appendix B: Allocated Costs: Activities

FY10

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (22,223,067) |
| Recycling Revenue | - | - | - | (811,393) | - | - |
| Allocated Admin. | 324,829 | 85,707 | 4,285 | 647,089 | 25,712 | 74,994 |
| Chargebacks | 71,055 | 160,623 | 753 | 113,764 | 4,520 | 148,274 |
| Interest & Dep'n. | 1,988 | 198 | 640 | 1,106,405 | 3,282 | 55,418 |
| NEA Debt Serve. | - | - | - | 821,600 | - | 25,688,697 |
| Net Operating* | 6,094,225 | 34,303 | 744,976 | 4,876,597 | 9,272,185 | 8,950,993 |

FY10

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,768,669) | - | - |
| Recycling Revenue | - | - | (292,024) | - | (2,771,320) | - |
| Allocated Admin. | 124,275 | 767,079 | 891,354 | 62,138 | 192,841 | - |
| Chargebacks | 67,408 | 134,859 | 156,708 | 78,152 | 33,903 | 1,086,538 |
| Interest & Dep'n. | 575,633 | 11,302 | 8,752 | 331,203 | 857,731 | - |
| NEA Debt Serve. | 906,029 | - | - | 7,317 | - | - |
| Net Operating* | 1,308,296 | 3,413,297 | 18,048,324 | 2,823,701 | 5,339,582 | - |

FY11

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (21,734,541) |
| Recycling Revenue | - | - | - | (818,995) | - | - |
| Allocated Admin. | 86,006 | 71,165 | 41,862 | 665,606 | 37,676 | 66,979 |
| Chargebacks | 76,213 | 128,373 | 7,657 | 121,747 | 6,891 | 24,299 |
| Interest & Dep'n. | 1,518 | 199 | 6,650 | 1,296,640 | 106 | 56,155 |
| NEA Debt Serve. | - | - | - | 821,654 | - | 25,690,395 |
| Net Operating* | 6,027,859 | 44,353 | 655,794 | 4,735,845 | 8,975,235 | 10,572,815 |

FY11

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,768,669) | - | - |
| Recycling Revenue | (68,902) | - | (296,165) | - | (3,608,886) | - |
| Allocated Admin. | 87,910 | 703,281 | 837,240 | 62,793 | 125,586 | - |
| Chargebacks | 180,748 | 283,879 | 153,140 | 81,241 | 22,971 | 1,067,894 |
| Interest & Dep'n. | 482,125 | 1,969 | 9,036 | 369,276 | 699,778 | - |
| NEA Debt Serve. | 906,089 | - | - | 7,318 | - | - |
| Net Operating* | 1,327,900 | 2,579,064 | 18,505,493 | 2,637,427 | 5,355,798 | - |

Appendix B: Allocated Costs: Activities

FY12

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,813,963) | - | - |
| Recycling Revenue | - | - | (444,094) | - | (3,917,394) | - |
| Allocated Admin. | 78,136 | 577,524 | 686,235 | 47,561 | 108,710 | - |
| Chargebacks | 216,481 | 97,029 | 115,294 | 38,097 | 18,264 | 1,162,761 |
| Interest & Dep'n. | 277,172 | 785 | 7,746 | 266,022 | 536,938 | - |
| NEA Debt Serve. | 906,014 | - | - | - | - | - |
| Net Operating* | 790,147 | 2,544,612 | 18,920,114 | 3,369,995 | 5,511,371 | - |

FY13

| Cost Break-outs | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|--------------------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Credits or Offsets | - | - | - | - | - | (16,204,190) |
| Recycling Revenue | - | - | - | (947,066) | - | - |
| Allocated Admin. | 376,931 | 59,453 | - | 598,028 | 34,972 | 53,683 |
| Chargebacks | 101,826 | 106,296 | - | 101,344 | 5,927 | 16,872 |
| Interest & Dep'n. | 12,096 | 159 | 6,914 | 1,022,714 | 93 | 36,890 |
| NEA Debt Serve. | - | - | - | 755,357 | - | 23,617,502 |
| Net Operating* | 5,462,576 | 30,149 | 743,852 | 4,727,395 | 8,411,040 | 16,075,413 |

FY13

| Cost Break-outs | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--------------------|---|---|---|--|------------------|-------------------------|
| Credits or Offsets | - | - | - | (1,830,410) | - | - |
| Recycling Revenue | (26,702) | - | (312,779) | - | (3,067,189) | - |
| Allocated Admin. | 77,988 | 594,531 | 683,711 | 50,185 | 104,917 | - |
| Chargebacks | 294,023 | 100,751 | 115,863 | 47,496 | 17,780 | 1,121,524 |
| Interest & Dep'n. | 133,829 | 1,609 | 9,723 | 285,468 | 354,228 | - |
| NEA Debt Serve. | 832,979 | - | - | 6,727 | - | - |
| Net Operating* | 2,318,749 | 3,328,930 | 19,246,040 | 3,414,175 | 5,879,768 | - |

Appendix C – Cost Per Ton: Activities

FY02

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,388,012 | \$ 759,915 | \$ 577,032 | \$ 4,438,326 | \$ 8,665,468 | \$ 41,166,709 |
| Tons | 74,044 | 9,594 | 289 | 653,277 | 227,330 | 575,312 |
| Cost /Ton | \$ 72.77 | \$ 79.21 | \$ 1,996.65 | \$ 6.79 | \$ 38.12 | \$ 71.56 |

FY02

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 4,098,305 | \$ 2,555,235 | \$ 10,390,438 | \$ 2,208,158 | \$ 3,899,289 | \$ 794,103 |
| Tons | N.A. | 246,652 | 105,699 | 75,778 | 80,715 | N.A. |
| Cost /Ton | N.A. | \$ 10.36 | \$ 98.30 | \$ 29.14 | \$ 48.31 | N.A. |

FY03

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,509,807 | \$ 590,911 | \$ 479,673 | \$ 4,454,145 | \$ 8,786,995 | \$ 40,302,670 |
| Tons | 79,031 | 8,705 | 181 | 683,964 | 238,350 | 618,829 |
| Cost /Ton | \$ 69.72 | \$ 67.88 | \$ 2,650.13 | \$ 6.51 | \$ 36.87 | \$ 65.13 |

FY03

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 3,448,360 | \$ 2,542,281 | \$ 11,052,390 | \$ 2,079,497 | \$ 4,719,554 | \$ 835,080 |
| Tons | N.A. | 251,782 | 118,094 | 95,741 | 81,364 | N.A. |
| Cost /Ton | N.A. | \$ 10.10 | \$ 93.59 | \$ 21.72 | \$ 58.01 | N.A. |

FY04

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,499,169 | \$ 740,968 | \$ 564,826 | \$ 5,525,036 | \$ 12,020,321 | \$ 41,225,240 |
| Tons | 83,152 | 9,913 | 136 | 794,613 | 306,546 | 639,764 |
| Cost /Ton | \$ 66.13 | \$ 74.74 | \$ 4,153.13 | \$ 6.95 | \$ 39.21 | \$ 64.44 |

FY04

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 2,886,140 | \$ 2,357,838 | \$ 13,833,593 | \$ 3,267,088 | \$ 3,349,940 | \$ 892,737 |
| Tons | N.A. | 258,906 | 121,243 | 109,413 | 90,563 | N.A. |
| Cost /Ton | N.A. | \$ 9.11 | \$ 114.10 | \$ 29.86 | \$ 36.99 | N.A. |

Appendix C – Cost Per Ton: Activities

FY05

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,460,589 | \$ 692,676 | \$ 865,629 | \$ 4,944,237 | \$ 13,860,407 | \$ 39,320,545 |
| Tons | 80,730 | 8,048 | 371 | 726,676 | 126,112 | 572,441 |
| Cost /Ton | \$ 67.64 | \$ 86.06 | \$ 2,333.23 | \$ 6.80 | \$ 109.91 | \$ 68.69 |

FY05

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 3,293,351 | \$ 2,397,924 | \$ 19,268,005 | \$ 3,115,726 | \$ 2,418,546 | \$ 886,249 |
| Tons | N.A. | 314,576 | 123,599 | 92,420 | 96,534 | N.A. |
| Cost /Ton | N.A. | \$ 7.62 | \$ 155.89 | \$ 33.71 | \$ 25.05 | N.A. |

FY06

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,504,892 | \$ 769,955 | \$ 920,407 | \$ 4,455,699 | \$ 11,297,432 | \$ 39,406,312 |
| Tons | 76,378 | 6,594 | 163 | 743,224 | 291,273 | 625,782 |
| Cost /Ton | \$ 72.07 | \$ 116.77 | \$ 5,640.79 | \$ 6.00 | \$ 38.79 | \$ 62.97 |

FY06

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 3,759,193 | \$ 2,552,552 | \$ 15,815,290 | \$ 3,298,977 | \$ 3,106,091 | \$ 808,931 |
| Tons | N.A. | 302,465 | 127,701 | 102,628 | 101,466 | N.A. |
| Cost /Ton | N.A. | \$ 8.44 | \$ 123.85 | \$ 32.14 | \$ 30.61 | N.A. |

FY07

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,675,061 | \$ 703,816 | \$ 904,529 | \$ 4,518,798 | \$ 11,695,019 | \$ 36,686,843 |
| Tons | 74,213 | 3,229 | 174 | 720,607 | 271,593 | 593,185 |
| Cost /Ton | \$ 76.47 | \$ 217.96 | \$ 5,193.37 | \$ 6.27 | \$ 43.06 | \$ 61.85 |

FY07

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 6,728,621 | \$ 4,424,592 | \$ 16,470,455 | \$ 3,121,563 | \$ 2,749,241 | \$ 843,999 |
| Tons | N.A. | 314,514 | 109,024 | 98,938 | 101,381 | N.A. |
| Cost /Ton | N.A. | \$ 14.07 | \$ 151.07 | \$ 31.55 | \$ 27.12 | N.A. |

Appendix C – Cost Per Ton: Activities

FY08

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 6,468,522 | \$ 554,599 | \$ 1,048,051 | \$ 6,071,575 | \$ 11,205,858 | \$ 30,449,844 |
| Tons | 74,608 | 3,489 | 147 | 683,777 | 258,865 | 579,660 |
| Cost /Ton | \$ 86.70 | \$ 158.96 | \$ 7,125.24 | \$ 8.88 | \$ 43.29 | \$ 52.53 |

FY08

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 3,357,850 | \$ 4,234,036 | \$ 18,296,360 | \$ 3,392,173 | \$ 2,439,184 | \$ 1,044,701 |
| Tons | N.A. | 345,424 | 99,959 | 110,494 | 94,179 | N.A. |
| Cost /Ton | N.A. | \$ 12.26 | \$ 183.04 | \$ 30.70 | \$ 25.90 | N.A. |

FY09

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 6,464,311 | \$ 442,882 | \$ 804,033 | \$ 5,766,063 | \$ 9,284,433 | \$ 29,858,780 |
| Tons | 72,066 | 3,665 | 137 | 608,168 | 193,288 | 540,407 |
| Cost /Ton | \$ 89.70 | \$ 120.86 | \$ 5,885.61 | \$ 9.48 | \$ 48.03 | \$ 55.25 |

FY09

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 4,456,560 | \$ 4,810,918 | \$ 18,944,958 | \$ 3,378,218 | \$ 3,889,239 | \$ 1,058,422 |
| Tons | N.A. | 300,596 | 113,483 | 107,682 | 86,141 | N.A. |
| Cost /Ton | N.A. | \$ 16.00 | \$ 166.94 | \$ 31.37 | \$ 45.15 | N.A. |

FY10

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 6,492,097 | \$ 280,831 | \$ 750,655 | \$ 6,754,062 | \$ 9,305,699 | \$ 34,918,375 |
| Tons | 72,418 | 2,637 | 115 | 600,140 | 175,030 | 535,980 |
| Cost /Ton | \$ 89.65 | \$ 106.50 | \$ 6,538.24 | \$ 11.25 | \$ 53.17 | \$ 65.15 |

FY10

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 2,981,641 | \$ 4,326,536 | \$ 18,813,114 | \$ 3,302,511 | \$ 3,652,737 | \$ 1,086,538 |
| Tons | N.A. | 254,573 | 111,417 | 133,487 | 83,027 | N.A. |
| Cost /Ton | N.A. | \$ 17.00 | \$ 168.85 | \$ 24.74 | \$ 43.99 | N.A. |

Appendix C – Cost Per Ton: Activities

FY11

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 6,191,596 | \$ 244,091 | \$ 711,963 | \$ 6,822,498 | \$ 9,019,907 | \$ 36,410,644 |
| Tons | 67,905 | 2,424 | 144 | 617,821 | 171,021 | 565,439 |
| Cost /Ton | \$ 91.18 | \$ 100.69 | \$ 4,957.96 | \$ 11.04 | \$ 52.74 | \$ 64.39 |

FY11

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 2,915,871 | \$ 3,568,194 | \$ 19,208,744 | \$ 3,158,054 | \$ 2,595,247 | \$ 1,067,894 |
| Tons | N.A. | 280,529 | 116,364 | 132,220 | 84,646 | N.A. |
| Cost /Ton | N.A. | \$ 12.72 | \$ 165.07 | \$ 23.88 | \$ 30.66 | N.A. |

FY12

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 6,136,322 | \$ 198,871 | \$ 672,705 | \$ 6,903,976 | \$ 8,410,995 | \$ 35,239,865 |
| Tons | 73,614 | 1,848 | 163 | 589,234 | 166,615 | 540,644 |
| Cost /Ton | \$ 83.36 | \$ 107.61 | \$ 4,133.62 | \$ 11.72 | \$ 50.48 | \$ 65.18 |

FY12

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 2,267,950 | \$ 3,219,949 | \$ 19,285,294 | \$ 3,721,675 | \$ 2,257,890 | \$ 1,162,761 |
| Tons | N.A. | 266,281 | 105,097 | 107,389 | 82,671 | N.A. |
| Cost /Ton | N.A. | \$ 12.09 | \$ 183.50 | \$ 34.66 | \$ 27.31 | N.A. |

FY13

| Cost/Ton | County Refuse Collection | Satellite Sites | Hazardous Waste Disposal (Resid'l & Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer |
|-----------|--------------------------|-----------------|--|------------------|-------------------------------|---|
| Costs | \$ 5,953,428 | \$ 196,057 | \$ 750,766 | \$ 6,257,772 | \$ 8,452,032 | \$ 39,800,359 |
| Tons | 69,568 | 1,217 | 189 | 598,573 | 156,029 | 546,664 |
| Cost /Ton | \$ 85.58 | \$ 161.12 | \$ 3,974.41 | \$ 10.45 | \$ 54.17 | \$ 72.81 |

FY13

| Cost/Ton | Post -Closure Care of Oaks and Gude Landfills, and Site 2 Maintenance | Recycling Outreach, Education, Enforcement, and Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|-----------|---|---|---|--|------------------|-------------------------|
| Costs | \$ 3,630,866 | \$ 4,025,821 | \$ 19,742,558 | \$ 3,804,051 | \$ 3,289,504 | \$ 1,121,524 |
| Tons | N.A. | 276,326 | 95,532 | 97,785 | 81,123 | N.A. |
| Cost /Ton | N.A. | \$ 14.57 | \$ 206.66 | \$ 38.90 | \$ 40.55 | N.A. |

Appendix D – Crosswalk: Disposal Fund Programs to Activities

Disposal Fund Cost Center Allocation

| Disposal Fund Programs | Satellite Sites | Hazardous Waste Disposal (Resid'l) (& Com. Detox.) | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Facility & Related Waste Transfer | Post-Closure Care of Oaks & Gude Landfills and Site 2 Maintenance | Recycling Outreach, Education, Enforcement and Waste Reduction | Curbside Collection of Recycle Materials | Dickerson Compost Facility & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|---|-----------------|--|------------------|-------------------------------|---|---|--|--|--|------------------|-------------------------|
| Solid Waste Administration | X | X | X | X | X | X | X | X | X | X | |
| Revenue Analysis and System Evaluation | X | X | X | X | X | X | X | X | X | X | |
| Waste System Program Development | X | X | X | X | X | X | X | X | X | X | |
| Automation | X | X | X | X | X | X | X | X | X | X | |
| Debt Service- Interest Expense (Revenue Bonds) | | | | | | X | | | X | X | |
| Multi - Family Recycling | | | | | | | X | | | | |
| Commerical Recycling | | | | | | | X | | | | |
| Reduction of Yard trim Materials | | | | | | | X | | | | |
| Recycling Outreach and Education | | | | | | | X | | | | |
| Support For Recycling Volunteers | | | | | | | X | | | | |
| Waste Reduction | | | | | | | X | | | | |
| Residential Household Hazardous Waste | | X | | | | | | | | | |
| Waste Detoxification - Commerical | | X | | | | | | | | | |
| Resource Recovery Facility | | | | | X | | | | | | |
| Transfer Station Handling Non-Processible Materials | | | X | | | | | | | | |
| Transfer Station Handling of By-Pass Tons | | | X | | | | | | | | |
| Maintenance Yard Waste Containers | | | | | | | | X | | | |
| Transfer Station: PUF | | | X | | | | | | | | |
| Transfer Station: Maintenance | | | X | | | | | | | | |
| Transfer Station: Expansion | | | X | | | | | | | | |
| Transfer Station: Miscellaneous | | | X | | | | | | | | |
| NEA Net Debt Service: WTE at Dickerson | | | | | X | | | | | | |
| NEA Net Debt Service: Transportation Compnent | | | | | X | | | | | | |
| NEA Net Debt Service: TS Improvements | | | X | | | | | | | | |
| NEA Net Debt Service: Oaks Landfill | | | | | | X | | | | | |
| NEA Net Debt Service: Yardwaste | | | | | | | | X | | | |
| Dickerson Compost Facility | | | | | | | | | X | | |
| Dickerson Master Plan | | | | | X | X | | | X | | |
| Satellite Drop Off Sites | X | | | | | | | | | | |
| Site 2 Landfill | | | | | | X | | | | | |
| Oaks Landfill | | | | | | X | | | | | |
| Gude Landfill | | | | | | X | | | | | |
| Solid Waste Transfer Station | | | X | | | | | | | | |
| MRF Operations | | | | | | | | | | X | |
| Paper Recycling Operations | | | | | | | | | | X | |
| Out of County Haul | | | | X | | | | | | | |
| SWD - Residential Recycling Collections | | | | | | | | X | | | |
| Regulation of Refuse & Recycling Collect. | | | | | | | X | X | | | |
| Charges from County Attorney - Disposal | X | X | X | X | X | X | X | X | X | X | |
| Charges from Finance: Property Tax Billing | X | X | X | X | X | X | X | X | X | X | |
| Charges from Finance: Financial Statement Prep | X | X | X | X | X | X | X | X | X | X | |
| Charges from DEP - Oaks | | | | | | X | | | | | |
| Charges from DEP - Gude | | | | | | X | | | | | |
| Charges from DFS - Site 2 | | | | | | X | | | | | |
| Charges from DEP - Site 2 | | | | | | X | | | | | |
| Charges from DPWT - Satellite Sites | X | | | | | | | | | | |
| Charges from DHCA Enforcement | | | | | | | | | | | X |
| Charges from DEP - Enforcement | | | | | | | | | | | X |
| Charges from DEP - Waste Reduction | | | | | | | X | | | | |
| Charges from DFS - Compost Facility | | | | | | | | | X | | |
| Charges from DEP - RRF | | | | | X | | | | | | |
| Charges from DEP - Dickerson Master Plan | | | | | X | X | | | X | | |

Appendix E – Crosswalk: Tonnage to Activities

| Stream Name | County Refuse Collection | Satellite Sites | HHW Comm. & Resid'l | Transfer Station | Out-Of-County Refuse Disposal | Resource Recovery Fac. & Related Waste Transfer | Post Closure Care of Oaks and Gude Landfills and Site 2 Maintenance | Recycling Outreach, Enforcement Education & Waste Reduction | Curbside Collection of Recyclable Materials | Dickerson Compost Fac. & Related Yard Waste Grinding | Recycling Center | Enforcement Chargebacks |
|--|--------------------------|-----------------|---------------------|------------------|-------------------------------|---|---|---|---|--|------------------|-------------------------|
| Satellite Sites | | X | | | | | | | | | | |
| County Refuse Collection (Area) A | X | | | | | | | | | | | |
| Loaded on Rail to RRF | | | | X | | X | | | | | X | |
| By Pass Tons | | | | X | | | | | | | | |
| Ash Landfilled & Recycled | | | | | X | | | | | | | |
| HHW (resid'l & Comm.) | | | X | | | | | | | | | |
| Non-Processibles (not MSW) to Local Users | | | | X | | | | | | | | |
| Non-Processibles (not MSW) to Out-of-County Landfill | | | | X | X | | | | | | | |
| MFR Commingles | | | | X | | | | X | X | | X | |
| MRF Mixed Paper | | | | X | | | | X | X | | X | |
| Other Recycling at Transfer Station: Oil, Bat, ATF,CB,Tires,DDD,MAT,WG,TX | | | | X | | | | | X | | | |
| Yard Trim Delivered to Transfer Station | | | | | | | | | | | | |
| County Contract Hauler Collected | | | | | | | | | X | | | |
| Dropped -Off at PUF "Car Ramp" | | | | | | | | | | X | | |
| Other YardTrim to Compost Facility | | | | | | | | | | X | | |
| Residue from Compost Facility (included in tons to RRF) | | | | | | | | | | X | | |
| Brush: Ground at Transfer Station & Distributed as Mulch | | | | | | | | | | X | | |
| MSW Tonnages Not Through County Facilities | | | | | | | | | | | | |
| Yard Waste Source Reduction | | | | | | | | X | | | | |
| Recycled Via Non-County Facilities | | | | | | | | X | | | | |