DEPARTMENT OF ENVIRONMENTAL PROTECTION

Marc Elrich
County Executive

Jon Monger
Director

December 20, 2024

Amy Maron, Chair
Susan Eisendrath, Co-Chair
Zero Waste Montgomery County

Re: MSW Management Systems Analysis and County Operations
DEP Aiming for Zero Waste Initiatives

Dear Amy Maron and Susan Eisendrath:

I have appreciated the opportunity to hear from your organization regarding the future direction of the County's materials management policies. The Montgomery County (County) Department of Environmental Protection (DEP) is in receipt of your May 28, 2024, letter, which was submitted on behalf of Zero Waste Montgomery County (ZWMC). The letter presents your existing concerns and questions regarding: 1) the Municipal Solid Waste (MSW) Management Systems Analysis being conducted by Arcadis, and 2) the County's operations for the Resource Recovery Facility (RRF) and Ash Hauling contracts as well as 3) the ongoing Aiming for Zero Waste (AZW) initiative.

I also wanted to extend a thank you for your organization's patience and subsequent discussions while DEP's technical consultant progressed project-related activities for the MSW Management Systems Analysis, which has allowed the County to more fully respond herein to your concerns and questions. Provided below, DEP has developed initial responses to each of your referenced concerns and questions. The County's efforts to evaluate alternative MSW processing technologies are designed to help ensure the continuity of operations while further expanding waste diversion opportunities, modernizing the existing MSW system, and enabling closure of the RRF.

MSW Management Systems Analysis

- Evaluation Model and Cost-Benefit Analysis – The MSW Management System Analysis project being performed by Arcadis was initiated in the 4th Quarter of 2023 and is approaching a preliminary draft stage. This Analysis includes both an Evaluation Model with specific criteria and a Cost-Benefit Analysis as integral components to the project. A brief overview of the Arcadis approach to each of these items is provided below:

- *Evaluation Model (baseline criteria)* – The Evaluation Model will be used to compare alternative MSW management systems with respect to their waste diversion potential, cost of service, carbon footprint, and potential host community condition using a range of environmental justice parameters. The model will allow weighting factors to be applied to various evaluation criteria pursuant to County policy and objectives. A brief description of the various evaluation criteria is included below:

    - *Waste Diversion* – The annual quantity of waste materials diverted from disposal will be calculated in terms of total tonnage and percent of the total waste stream.

    - *Cost of Service* – Cost components fall into two general categories of capital and operating expenses (CAPEX and OPEX). The analysis of OPEX will include evaluation of offsetting revenues associated with the production and sale of recovered energy and/or recyclable materials. Financial outputs will include the estimated Net Present Value (NPV) Cost/Ton of waste processed over a 30- year planning horizon.

    - *Carbon Footprint* – Net equivalent production of carbon dioxide per ton of waste processed expressed as Equivalent (MTCO2e per ton) will be calculated using the EPA WARM Model.

    - *Environmental Justice Screening* – Utilization of the USEPA Environmental Justice screening tool will enable the County to assess the extent to which a host community is already disadvantaged with regard to thirteen (13) indicator parameters deemed most relevant to potential addition of waste management activities within their geographic proximity. These include particulate matter PM2.5, ozone, diesel particulate matter, air toxics cancer risk, air toxics respiratory health, toxic releases to air, proximity to existing facilities which use certain prescribed hazardous substances; health disparities (cancer, asthma, life expectancy); as well as socioeconomic considerations (people of color, low income, limited English-speaking households). Consideration will be given to the extent to which siting additional waste management processing facilities or disposing of MSW at facilities within their community may exacerbate existing conditions.

Other qualitative considerations will also be included in the evaluation of alternative MSW management systems such as the ability to maintain continuity of operations while managing on-going waste generation during the transition and start-up phases; impact of revenue loss associated with sale of electricity following closure and decommissioning of the existing RRF; potential quality of life impacts on County residents immediately surrounding the Derwood and Dickerson facilities (these typically include nuisance impacts such as odor, vector, aesthetics and traffic); effects on MSW collection and processing operations, regulatory and/or technical constraints/limitations, as well as the sequence, schedule and ease of implementation.

In addition, consideration will be given to the projected cost of alternate means of short-term interim waste transport (i.e. long-haul) and disposal during the transition period from the existing solid waste management system to the potentially new processing facilities and modernized solid waste management system.

- *Evaluation Model (additional criteria)* – The model also incorporates additional health and environmental impact evaluation criteria. This includes an analysis of the monetized cost of potential health and environmental impacts associated with air emissions and/or waste deposition resulting from operation of alternative MSW systems based on either continued operation of the County's RRF following any necessary retrofit, Long-Haul to an Out-of-County Landfill, or development of a new Material Recovery and Biological Treatment (MRBT) facility at the existing Derwood Transfer Station. The monetized cost of potential impacts will be added to the other previously described CAPEX and OPEX costs. The approach is anticipated to include the following steps:

  - Perform additional technical research to confirm a valid methodology and approach to estimating monetized cost of potential risk of health and environmental impacts.

  - For each of the proposed primary technologies (RRF, Long-Haul to Out-of-County Landfill, or MRBT), use existing data to estimate the quantity of specific air emissions constituents created by the various waste processing technology components. Sources of data may vary for each of the primary technologies.

  - Based upon best available control technologies for the various MSW processing technology alternatives, provide estimates of approximate emission factors and resulting quantity and/or concentration of air emission constituents that may potentially be dispersed to the surrounding ambient air.

  - Perform additional research into comparative dispersion of potential air emission constituents based on various stack heights (low to high elevation) that would be representative of the source location of emissions for MRBT and RRF facilities.

  - Utilize the USEPA TRACI model to estimate resulting comparative toxicity of dispersed air emission constituents. Note that USEPA TRACI model relies upon USEtox, a scientific, but 'generic' fate transport and exposure model which quantifies potential risk and impacts to chemical exposure.

  - Monetize the resulting calculated TRACI model outputs using estimated unit values of impact per quantity of released air emission constituents, and then back-calculate those values to unit cost of $/ton of processed MSW.

- *Cost-Benefit Analysis* – The relative 'cost-effectiveness' of alternative MSW processing technologies and/or systems will be evaluated by comparing their respective cost-of-service required to achieve increased waste diversion. We anticipate this will be expressed in terms of cost-benefit ratio, return on investment (ROI), and (to the extent there is a positive ROI), a buy-back period. The anticipated impact of reduced waste tonnage via Save-As-You-Throw (also referred to as Pay-As-You-Throw) or other planned waste diversion initiatives on the economics of long-term RRF operations will also be calculated.

Request for Expressions of Interest and Request for Proposal

- Request for Expressions of Interest (REOI) – The County issued an REOI in the 1st Quarter of 2024, as the first solicitation of a two-step procurement process for alternative MSW processing systems. The intent of the REOI was to identify interested parties that have the capability to design, build, and/or operate alternative MSW processing systems that are proven, comparably scaled, commercially operating, and that can be retrofitted and/or adapted at existing County facilities to modernize the existing solid waste management system.

  Based on the REOI responses, Material Recovery and Biological Treatment (MRBT) was identified as potential new MSW processing technology for future consideration and evaluation. Seven (7) potential System Developers were pre-qualified for further consideration and receipt of a subsequent Request for Proposal (RFP).

- Request for Proposal (RFP) – The second solicitation of the two-step procurement process for the primary processing technology component of a preferred MSW management system includes issuance of an RFP to support the Design, Build and Operation (DBO) of an MRBT Facility. This phase of the procurement process is anticipated to identify a preferred offeror (e.g., system developer) and provide the estimated capital and operational expenditures, as well as updated estimates of potential air emissions based upon data developed during collaborative design with the system developer.

  The updated estimate of air emissions will be used to further refine the monetized cost of potential impact to public health and the environment in the surrounding community, which will be added to the capital and operational expenditure cost components of the Evaluation Model and the Cost-Benefit Analysis as part of the MSW Management Systems Analysis. These results will be used by the County to inform decisions regarding the selection of a new primary processing technology component (such as an a MRBT Facility) and the resulting award of a DBO contract to the preferred system developer. This decision point would also potentially trigger subsequent modifications to the existing solid waste management system as well as amendment of the Solid Waste Management Plan in the future.

County Solid Waste Management System Operations

- Short-Term Extension Contract for RRF – The County Executive issued a letter on May 31, 2024, to the Northeast Maryland Waste Disposal Authority (the Authority) to initiate contract negotiations for a short-term extension for RRF operations (including the Transfer Station) with Reworld Montgomery, Inc. (Reworld) for up to a five (5) year period to 2031. From June 2024 – November 2024, contract negotiations proceeded between the Authority, DEP, and Reworld. On November 25, 2024, the Authority issued a Notice-of-Intent Letter to formally notify the County of its intention to undertake an extension of the Service Agreement with Reworld through April 1, 2031.

  - A primary reason for this proposed extension is to allow time for procurement, planning, design, permitting, and construction activities to be completed for the various AZW initiatives that would allow for the anticipated closure of the RRF.
  - The Authority and County will maintain an early termination for convenience clause during the short-term extension period.

- Short-Term Extension Contract for Ash Hauling to Landfill – As the RRF operations contract with Reworld is extended, there will need to be a corresponding extension with Republic Services for the Ash Hauling contract, which is under the contractual responsibility of the County.

County Aiming for Zero Waste Initiative

- Food Scraps and Save-As-You-Throw – It is anticipated that the residential food scraps recycling program will be further integrated beyond the current pilot program status into the Save-As-You-Throw program. Under Save-As-You-Throw, food scraps are expected to be co-collected with yard trim. The proposed extension of the RRF does not directly delay the implementation of an expanded food scraps recycling program. However, the current limitations on the use and material type acceptance at the existing Yard Trim Composting Facility both have a significant impact on the County's ability to scale up the food scraps recycling program.

- Organics Management Facility Development – DEP is currently evaluating potential sites to construct a new composting facility that can accept and process food scraps with yard trim material through covered aerated static pile (CASP) systems. As you are aware, the County currently owns and contracts the operation of the existing Yard Trim Composting Facility, which can accept Type 1 feedstocks such as organic plant waste derived from gardening, landscaping, and tree trimming. A County-owned Organics Management Facility that can accept Type 1 feedstocks and Type 2 feedstocks such as food scraps and non-recyclable/compostable paper would support residential food scraps recycling, the SAYT Program, and reduce the amount of waste requiring disposal.

- Enhanced Recycling and Reuse Programs – We appreciate your acknowledgment of the County's new mattress, textile, and durable medical equipment recycling programs and the expanded electronics recycling program. The County also established a recycling program for film plastics as well as enhanced reuse drop-off areas for books, bicycles, and used building materials. The County will continue to expand recycling and waste diversion programs.

- Construction and Demolition Debris – The County continues to evaluate waste diversion and recycling opportunities associated with construction and demolition debris materials.

- The County continues the hiring process for new zero waste positions.

DEP will schedule meetings with the Solid Waste Advisory Committee (SWAC) and other interested parties such as ZWMC to review the methodology and approach to the Evaluation Model and Cost-Benefit Analysis in early 2025.

The Draft MSW Management Systems Analysis Report is anticipated for completion in Spring 2025 which includes the Evaluation Model and Cost-Benefit Analysis. DEP will schedule meetings with SWAC and

other interested parties such as ZWMC in Spring 2025 to present the Draft Report, review next steps, and respond to additional questions.

Your participation is integral to the success of this endeavor. We greatly appreciate ZWMC's ongoing support of the County's AZW initiatives and your continued interest in ongoing DEP programs and projects related to MSW system changes, waste diversion, organics, recycling, and sustainable solid waste management practices.

Sincerely,

Jon Monger

Jon Monger
Director, DEP

cc. Jeffrey Seltzer, P.E., Deputy Director, DEP
Willie Wainer, Chief, RRMD
Debbie Spielberg, Special Assistant to the County Executive