



**Committee:** T&E  
**Committee Review:** Completed  
**Staff:** Keith Levchenko, Senior Legislative Analyst  
**Purpose:** To make preliminary decisions – straw vote expected  
**Keywords:** #MaterialsRecoveryFacility, DEP, Recycling and Resource Management

AGENDA ITEM #14  
 May 12, 2021  
**Worksession**

**SUBJECT**

Amendment to the FY21-26 Capital Improvements Program: Recycling and Resource Management: Full Upgrade of Existing Recycling Center Complex

**EXPECTED ATTENDEES**

None

**FISCAL SUMMARY**

**Full Upgrade of Existing Recycling Center Complex**

Project	Six-Year						
	Total (000s)	FY21	FY22	FY23	FY24	FY25	FY26
<b>Expenditures</b>	<b>20,350</b>	-	11,900	8,450			
<b>Funding</b>							
Current Revenue: SWDF	<b>810</b>		810				
Revenue Bonds	<b>19,540</b>		11,090	8,450			

**COMMITTEE RECOMMENDATION**

- The T&E Committee recommends approval of this CIP amendment and submitted by the County Executive.

**This report contains:**

T&E Committee April 23, 2021 Staff Report

Pages 1-©4

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**Worksession**

**MEMORANDUM**

April 20, 2021

TO: Transportation & Environment Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **FY21-26 Capital Improvements Program – Recycling and Resource Management: Full Upgrade of Existing Recycling Center Complex<sup>1</sup>**

**Summary**

- New \$20.35 million project to upgrade and increase the capacity of the Materials Recovery Facility (MRF). Project would involve upgrading the equipment and storage space at the facility.
- MRF began operations in 1991.
  - Equipment is outdated and beyond its useful life and is expensive and difficult to maintain and repair.
  - Facility is inadequately sized for the volume of commingled materials coming to the facility. Substantial bypass is required (sending material to a MRF in York, PA)
- Cost Savings/Revenue Generation
  - The project will eliminate need to bypass material (\$1.2 million annual savings)
  - More revenue will be generated by processing additional material (\$600,000) and generating a higher quality product.
  - Fewer staff will be needed to work in the upgraded facility (\$850,000 to \$1.0 million in annual savings)
  - Substantially reduced maintenance/repair costs expected.
  - Potential to accept materials from other jurisdictions (resulting in more revenue).

**Council Staff recommends approval of this new project as recommended by the County Executive**

**Meeting Participants**

- Adam Ortiz, Director, Department of Environmental Protection (DEP)
- Patty Bubar, Deputy Director, DEP
- Willie Wainer, Chief, Division of Resource and Recovery Management (RRM), DEP
- Rich Harris, Fiscal and Policy Analyst, Office of Management and Budget

**Attachments to this Memorandum**

- Excerpt from the County Executive's March 15 transmittal of FY21-26 CIP Amendments (©1-4)

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<sup>1</sup> Key words: #MaterialsRecoveryFacility, DEP, Recycling and Resource Management

## Full Upgrade of Existing Recycling Center Complex

Project	Six-Year						
	Total (000s)	FY21	FY22	FY23	FY24	FY25	FY26
<b>Expenditures</b>	<b>20,350</b>	-	11,900	8,450			
<b>Funding</b>							
Current Revenue: SWDF	<b>810</b>		810				
Revenue Bonds	<b>19,540</b>		11,090	8,450			

This project will update the Materials Recovery Facility (MRF) with new equipment that will substantially increase the processing capacity of the facility. Minor modifications to the existing building are also included to increase storage capacity for both incoming and baled material. The project would be completed during FY23. The source of funds for the recommended project are Solid Waste Disposal Fund<sup>2</sup> current revenue for the planning, design, and supervision and Revenue Bonds for the construction/equipment costs.

The need for a new or upgraded facility was presented by DEP to the T&E Committee at a Solid Waste Update meeting on December 7, 2020 and again on March 22, 2021 as part of the Committee’s discussion of the Ten Year Solid Waste Management Plan.

### Background

The MRF began operation in 1991. The facility was designed to process 80 tons per day (TPD) or 10 tons per hour (TPH) of commingled materials (including aluminum foil products, cans, glass bottles and jars, plastic bottles, containers, tubs, and lids). There are 52 contract workers at the MRF each day, typically working one shift per day, five days a week.

A Paper Processing Facility (PPF) was later added to the site, beginning operations in May 2017. The PPF is designed to process up to 25 tons of mixed paper and cardboard (OCC) per hour. The PPF is operated by Maryland Environmental Service (MES) staff and contract workers for a total of nine employees. The PPF operations include separating and baling mixed paper and OCC to sell to commodity brokers for processing or ultimate distribution into the market. The mixed paper and OCC are baled and sent to paper mills, both domestically and internationally. This amendment does not assume any changes to the PPF.

### Discussion

The original current commingled materials facility is both aging and undersized and its upgrade was noted as a “critical priority” by the [Aiming For Zero Waste Task Force](#). The MRF has been in operation for 30 years and system components have operated beyond their useful life, causing (as the project description form notes), “frequent downtime and high repair and maintenance costs. Replacement parts are increasingly difficult to source for some equipment.”

As noted earlier, the facility capacity is approximately 80 TBD. However, the facility currently receives 130-150 TPD (or 16- 19 TPH) of commingled recyclables, resulting in the need to bypass a large percentage of incoming material to a single-stream MRF in York County, PA.

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<sup>2</sup> The Solid Waste Disposal Fund is a self-supporting enterprise fund. Therefore, the costs associated with this project (both in Disposal Fund Current Revenue and debt service from the issuance of revenue bonds) do not affect the County’s Spending Affordability Guidelines for General Obligation Bonds or General Current Revenue.

DEP initially worked with the Department of General Services (DGS) to identify potential County sites for a new MRF. However, a DGS solicitation for an in-county site did not yield any viable properties. Even if such a parcel could be located, the costs would be high (including acquisition of property, road improvements, permitting, design and construction, etc.). Also, the schedule for opening a new facility would be 3 to 5 years at best. Meanwhile, the current lack of processing capacity would mean the County would be paying \$1.2 million per year (or more) in bypass costs.

Given these issues, the County hired a consultant to review options for upgrading the facility on-site. The consultant's final report included a preliminary design that would increase the processing capacity to 200 – 240 TPD; using improved screens and optical and robotic sorters, eliminating all the commingled bypass (savings of \$1.2 million per year). The equipment is expected to maintain its efficiency for 7 to 10 years and the facility will be designed to allow for easy repair and replacement in the future. Overall, DEP expects this project to allow the MRF to meet the County's recycling needs for the next 15 years.

The MRF is expected to continue regular operations in FY22 during the planning, design, and equipment purchase phase of this project. During the construction phase in FY23, for approximately 5 months, the majority of the commingled materials will need to be sent offsite for processing. There is not expected to be any impact on the adjacent Transfer Station's operations.

#### Project Payback

In addition to the elimination of bypass (savings of \$1.2 million per year), the higher throughput will result in additional recycling revenue of approximately \$600,000 per year. The new equipment will also produce a higher quality product that is expected to increase annual revenue further.

Staffing needs will also be substantially reduced. The consultant's report projects a reduction of 15 to 20 manual sorting staff after the upgrade with savings of \$850,000 to \$1 million per year.

The upgraded equipment is also expected to substantially reduce repair and maintenance costs (partly since glass would be removed at the beginning of the process).

Finally, the additional capacity will allow the County to consider accepting recyclable materials from other jurisdictions, which could result in additional revenue generation. Although not included in the project at this time, the County may consider adding a front-end mixed paper and cardboard separator and conveyor to the system in the future which would allow for single stream materials from other jurisdictions.

Based on the assumptions above, overall savings/additional revenue generation would be \$2.65 million per year or more (or about a 7-year payback or better).

#### **Council Staff Recommendation**

Given this project is urgently needed for the County to meet its current and future recycling program needs and will result in a quick payback, **Council Staff recommends approval of the amendment as recommended by the County Executive.**

#### Attachments

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OFFICE OF THE COUNTY EXECUTIVE  
ROCKVILLE, MARYLAND 20850

Marc Elrich  
*County Executive*

MEMORANDUM

March 15, 2021

TO: Tom Hucker, President, County Council

FROM: Marc Elrich, County Executive 

SUBJECT: Amendments to the Recommended FY22 Capital Budget and FY21-26 Capital Improvements Program (CIP)

In January 2021, I submitted my recommended Amended FY21-26 Capital Improvements Program (CIP). Since that time, I have had an opportunity to consider additional community needs in light of updated capital and operating budget revenues. The most important factor impacting my recommended March amendments is the further reduction of recordation tax revenues (-\$31.7 million) compared to my January recommended CIP.

Today, I am recommending the attached CIP amendments.

**New Projects**

I am recommending two new projects to improve the County's ability to meet public safety needs and to process recycled materials. These projects are:

- **Heart Monitor/Defibrillator Replacement.** Using short-term financing, Montgomery County Fire and Rescue Services will purchase 27 Stryker LifePak15 heart monitor/defibrillators for advanced life support (ALS) transport units, paramedic chase cars, and engines. These monitor/defibrillators have a useful life of five to eight years and must be replaced to ensure the operability of critical life-saving equipment. Debt service costs will be funded in the operating budget.
- **Full Upgrade of Existing Recycling Center Complex.** The current Recycling Center is significantly undersized, and equipment is well beyond its useful life. As a result, the Center currently has unacceptable downtime and must export 40 – 45 percent of the co-mingled recycled material at an annual cost of approximately \$1.2 million. The planned upgrade will provide enough capacity to process 200 – 240 tons of material a day, to eliminate exporting recycled material, and to produce a higher quality product that can receive a higher price on the market. The new improvements will provide game changing capabilities at the Center – vastly improving efficiency, environmental, and cost outcomes.

**FY 21-26 Biennial Recommended CIP  
March Budget Amendments Summary (\$000s)**

Project #	Project Name	Explanation of Adjustment	FY21-26 Change (\$000s)	Funding Sources
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**New Projects**

P452201	Heart Monitor/Defibrillator Replacement	Funds replacement of 27 heart monitor/defibrillators assigned to Montgomery County Fire and Rescue advanced life support (ALS) transport units, paramedic chase cars, and engines.	710	Short-Term Financing
P802201	Full Upgrade of Existing Recycling Center Complex	This project will update the existing Material Recycling Center (MRF) with state of the art equipment to increase commingled processing capacity or recycled materials to 200 - 240 tons per day.	20,350	Current Revenue: Solid Waste Disposal, Revenue Bonds

**FY21 Supplementals**

P501801	Intelligent Transit System	Reflects prior FY21 supplemental request with additional state aid.	472	State Aid
P502110	Master Leases: Transit Radio System Replacement	Reflects prior FY21 supplemental request to expedite appropriation and secure cost savings.	(733)	Short-Term Lease Financing
P602103	Emergency Homeless Shelter	Reflects updated cost estimates and inclusion of CDBG COVID related funding.	13,647	Community Development Block Grant, G.O. Bonds
P846540	Relocatable Classrooms	FY21 supplemental for \$5.0 million in Current Revenue: General already transmitted to Council will accelerate FY22 appropriation to ensure relocatable classrooms will be in place by the start of the 2021-2022 school year.	0	

**Scope Change**

P341700	ultraMontgomery	Project scope reflects expanded efforts to achieve digital equity.	2,599	Current Revenue: Cable TV
P500821	Ride On Bus Fleet	Phase out purchase of hybrids and include 10 electric buses per year in FY22-24 to facilitate electrification of the fleet.	(571)	Current Revenue: Mass Transit
P721903	KID Museum	Capital funding for this project is being replaced with operating budget support for a new, leased facility. Recordation tax premium funds have been left in the project to facilitate FY23 operating budget funding.	0	G.O. Bonds, Intergovernmental, Recordation Tax Premium (MCG)
P056516	MCPFS Affordability Reconciliation	Eliminated FY21 GO Bond affordability reduction reflected in January CIP recommendations.	1,260	G.O. Bonds

**Cost Change**

P722001	Shared Agency Booking System Replacement	Costs have been reduced based on updated contractual costs.	285	Current Revenue: CUPF, Intergovernmental
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**Schedule Adjustments**

P361107	Americans with Disabilities Act (ADA): Compliance	Funding shift for fiscal capacity.	0	G.O. Bonds
P508527	Resurfacing: Primary/Arterial	Schedule acceleration to FY22 from FY24 due to affordability.	0	G.O. Bonds
P500511	Resurfacing: Residential/Rural Roads	Schedule acceleration to FY22 from FY24 due to affordability.	0	G.O. Bonds
P508182	Sidewalk and Curb Replacement	Acceleration of \$500K from FY23 to FY22.	0	G.O. Bonds



# Full Upgrade of Existing Recycling Center Complex (P802201)

<b>Category</b>	Recycling and Resource Management	<b>Date Last Modified</b>	03/11/21
<b>SubCategory</b>	Recycling and Resource Management	<b>Administering Agency</b>	Environmental Protection
<b>Planning Area</b>	Rockville	<b>Status</b>	Final Design Stage

	Total	Thru FY20	Rem FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
<b>EXPENDITURE SCHEDULE (\$000s)</b>											
Planning, Design and Supervision	810	-	-	810	-	810	-	-	-	-	-
Construction	19,540	-	-	19,540	-	11,090	8,450	-	-	-	-
<b>TOTAL EXPENDITURES</b>	<b>20,350</b>	-	-	<b>20,350</b>	-	<b>11,900</b>	<b>8,450</b>	-	-	-	-

	Total	Thru FY20	Rem FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
<b>FUNDING SCHEDULE (\$000s)</b>											
Current Revenue: Solid Waste Disposal	810	-	-	810	-	810	-	-	-	-	-
Revenue Bonds	19,540	-	-	19,540	-	11,090	8,450	-	-	-	-
<b>TOTAL FUNDING SOURCES</b>	<b>20,350</b>	-	-	<b>20,350</b>	-	<b>11,900</b>	<b>8,450</b>	-	-	-	-

<b>APPROPRIATION AND EXPENDITURE DATA (\$000s)</b>			
Appropriation FY 22 Request		11,900	Year First Appropriation
Cumulative Appropriation		-	Last FY's Cost Estimate
Expenditure / Encumbrances		-	
Unencumbered Balance		-	

## PROJECT DESCRIPTION

This project will update the existing Material Recycling Center (MRF) with state of the art equipment to increase commingled processing capacity to 200 - 240 tons per day (TPD). This includes a minor modification of the existing MRF building to increase storage capacity for both incoming and baled material. Equipment will be substantially replaced because the existing equipment is incompatible with modern recycling processing technology. An updated facility will have higher operation uptime (90% rather than the current 83%) and produce higher quality product that can receive a higher prices in the market.

Features of the renovated facility include removing glass at the beginning of sorting to reduce wear and tear on equipment, improved sorting screens, optical sorting, high efficiency electric motors, and reduced reliance on labor for sorting. An upgrade to the facility's electrical capacity may be added if it is determined that the current facility cannot handle the load needed after the renovation. This design will allow for the future addition of single stream processing equipment within the existing facility to receive and process recyclables from other jurisdictions, if expansion to a regional concept is supported in an effort to improve the recycling program's cost-benefit ratio.

## LOCATION

16103 Frederick Road, Derwood, MD

## ESTIMATED SCHEDULE

The project will begin in FY22 and is scheduled for completion in FY23.

## PROJECT JUSTIFICATION

The current commingled processing system at the Recycling Center (MRF) was installed in 1991 and upgraded in 2002 to process 10 tons per hour (TPH) or 80 tons per day (TPD). Due to increased population, expanded material mix, and increased resident participation, the MRF currently receives 130 - 150 TPD of commingled material, almost double the current capacity. To keep up with the incoming volume, the MRF must export 40 - 45% of the commingled material received at an annual cost of approximately \$1.2 million.

After almost 30 years of operation, the majority of the current system components have operated beyond their useful life, causing frequent downtime and high repair and maintenance costs. Replacement parts are increasingly difficult to source for some equipment. This project's improvements will reduce operating costs, increase revenue from the sale of recyclables, increase processing efficiency, and continue to provide high quality recycling services to the County.

## FISCAL NOTE

The Solid Waste Enterprise Fund is self-supporting through user fees. If the decision is made to finance this project via issuing debt, the County will issue Solid Waste Revenue Bonds, in which case revenue from the Solid Waste Enterprise Fund will be the source of repayment.

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**COORDINATION**

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Maryland Environmental Service, Department of Permitting Services.