



PRINCE WILLIAM COUNTY

Prince William County, Virginia Public Works – Landfill Analysis

June 11, 2020



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TRANSMITTAL LETTER

June 11, 2020

The Board Audit Committee of
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Pursuant to the internal audit plan for calendar year ending (“CY”) 2019 for Prince William County, Virginia (“County” / “PWC”), approved by the Board of County Supervisors (“BOCS”), we hereby present the Public Works - Landfill Analysis. The purpose of this engagement was to perform an analysis of the current fee structure, as compared to the landfill’s operational factors. We will be presenting this report to the Board Audit Committee of Prince William County at the next scheduled meeting on July 21, 2020.

Our report is organized into the following sections:

Executive Summary	This provides a high-level overview and summary of the results noted in this analysis.
Background	This provides an overview of the County’s landfill operations, financial performance, initiatives, as well as other relevant background information.
Objectives and Approach	The objectives of this analysis are expanded upon in this section, as well as the various phases of our approach.
Comparative Analysis	This provides a comparative analysis between PWC’s landfill and other relevant local jurisdiction’s landfill operations in the area (contingent on available information and information provided by other jurisdictions).
Financial Condition Analysis	This provides an analysis of revenue, expenses, and budget items over the past five (5) fiscal years related to PWC’s landfill to identify trends and considerations. This section also includes Solid Waste Division’s (“Division”) financial forecasts.
Considerations	This section gives a description of the considerations noted during this analysis.

We would like to thank the staff and all those involved in assisting our firm with this analysis.

Respectfully Submitted,

RSM US LLP

Internal Auditors



EXECUTIVE SUMMARY

Prince William County – Public Works – Landfill Overview

<p>FY2019 Operations</p> <p> ~444,000 Tons of Refuse</p> <p> ~1,637 Tons of Recyclables</p> <p> ~585,000 Citizen Trips to Facilities</p> <p> 17 Private Residential Haulers</p>	<p>Landfill Mission </p> <p>To make a meaningful contribution to improve the quality of life for our residents, and to protect and preserve our natural environment.</p> <p>Organization</p> <p>Centralized function within Public Works. Acting Director of Public Works – Tom Smith</p> <p>Landfill Users</p> <p>Only residents and businesses in PWC, the towns of Dumfries, Occoquan, Haymarket and Quantico may use the County Landfill and Balls Ford Road Compost Facility.</p>	<p>Current Initiatives</p> <p>Operational</p> <ul style="list-style-type: none"> Gas produced by the landfill provides electricity for ~5,000 homes, heats facilities, and provides fuel for the animal shelter incinerator Water resource conservation Utilize used tires for cost savings <p>Facilities</p> <ul style="list-style-type: none"> Compost facility improvements Relocated/improved mulch pad facility Construction and monitoring for disturbed wetlands <p>Programs</p> <ul style="list-style-type: none"> Recycling programs for a wide variety of materials Education programs Mulch and compost donations to non-profit organizations 	<p>Financial</p> <ul style="list-style-type: none"> Utilizes an Enterprise Fund Average annual change in net positions of \$2M (FY2015 to FY2019) A portion of revenue is transferred to General Fund annually <p></p> <p>FTEs Provide:</p> <ul style="list-style-type: none"> Engineering Equipment Operation Maintenance Scale Operators Administration <p></p>
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Considerations - Highlights

Consideration: Future Landfill Operations 

Description: Since the implementation of the Solid Waste User Fees (SWUF) in 1999, the Solid Waste operation has successfully operated as an enterprise fund covering expenses with revenue generated from fees. Anticipated revenues from the SWUFs are reviewed and approved annually as part of the County's budget process. The SWUFs have not been adjusted since they were established although analysis of the SWUF fees by the Solid Waste Division in recent years has resulted in recommended future fee increases. The PWC single-family annual waste (in tons) was estimated at 1.3 tons in 1997, which is still utilized as a primary factor for the SWUFs today. Budgetary considerations will need to be contemplated in the near future based on the Solid Waste Division's long-term operational needs, which include the support for future landfill initiatives. This should include collaboration between the Solid Waste Division, Finance, Office of Management & Budget, and the BOCS to determine the significance and appropriateness of SWUF adjustments to meet the landfill's long-term needs.

<p>Top Revenues:</p> <ol style="list-style-type: none"> Landfill Disposal Service Fees Commercial Refuse Disposal Fees 	<p>Top Expenditures:</p> <ol style="list-style-type: none"> Contractors Personnel Services Materials/Supplies <p><i>*Figures not audited</i></p>
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Comparative Analysis - Highlights

PWC's user fees are well below the average; all jurisdictions besides PWC, who charge an annual fee, provide curbside pick-up.

At least five (5) of the six (6) comparable jurisdictions have increased their fees over the past 10 years. Three (3) of the six (6) jurisdictions have raised their fees in the last 5 years.

Most of the comparable jurisdictions have a hybrid fee structure, which includes both curbside fees and tipping fees.



OBJECTIVES AND APPROACH

Objectives

The primary objective of this internal audit was to perform an analysis of the current fee structure, strategic outlook, and vendor management as compared to the landfill's operational factors. We performed additional procedures on-site as deemed necessary to appropriately assess the operations and control environment.

The scope of this internal audit encompassed all solid waste user fees collected (and other revenue deemed relevant) from July 1, 2018 through June 30, 2019.

Approach

Our approach consisted of the following phases:

Understanding, Assessment, and Analysis of the Function

We conducted interviews with the appropriate representatives from the Public Works Department, Solid Waste Division to discuss the scope and objectives of the project, obtain preliminary data, and establish working arrangements. We obtained and reviewed 1) copies of financial information; 2) applicable Code of Virginia and County policies related to this internal audit and 3) other documents deemed necessary; and performed walkthroughs of the process(es) and key controls to gain an understanding of the function and assess the design of the process/key controls.

In addition, we assessed the current fee structure of the County landfill, including comparative analysis of with other similar jurisdictions and published benchmarks, where applicable. Procedures included, but were not be limited to the following, where applicable:

- Obtained an understanding of the County's Solid Waste Management processes related to fee calculation, administration, and collection;
- Assessed the mission of the Solid Waste Division, including revenue generation and alternative waste conversion initiatives;
- Performed an analysis of Solid Waste Management's anticipated revenue/projections;
- Performed sample-based testing on fees collected during FY2019 to validate the accuracy of fees collected and the related controls;
- Performed comparisons of the County's current landfill (Solid Waste Management) fee structure with other similar jurisdictions and published benchmarks;
- Assessed the process to document the inspection and permitting process for private haulers;
- Assessed adequacy of records and documentation to establish an audit trail and that policies and procedures are appropriately followed; and,
- Provided recommendations for process improvements.

Reporting

At the conclusion of this analysis, we summarized the results into this report. We conducted an exit meeting with the appropriate Management.



BACKGROUND

Overview

The County’s website states, “The Department of Public Works is responsible for the effective and efficient management of the trash and recycled materials generated in our community.” Each member of the staff “works diligently to:

- Reduce the amount of waste for our landfill;
- Safely handle and dispose of hazardous materials;
- Operate a safe and environmentally friendly landfill; and
- Find economical and practical ways to manage trash.”

The mission is to “make a meaningful contribution to improve the quality of life for our residents, and to protect and preserve our natural environment.” Additionally, the adopted fiscal year (“FY”) 2020 Budget for the Solid Waste Division states the division will “Provide solid waste management services to all citizens, institutions, and businesses. Facilities and programs promote waste reduction and recycling, and efficiently receive and process all acceptable household and non-residential waste generated within the geographical boundaries, including the towns of Dumfries, Haymarket, Occoquan, and Quantico. Processing of the waste will meet or exceed all applicable federal, state, and local regulations.”

Only residents and businesses in the County, the towns of Dumfries, Occoquan, Haymarket and Quantico may use the County landfill and Balls Ford Road Compost Facility (“BFR”).

The County relies solely on private haulers to collect solid waste. County residents and businesses, and in some cases Homeowner Associations, contract directly with private haulers for collection service. All refuse haulers operating in the County must go through an inspection process and be permitted by the Department of Public Works. As of December 2019, there were 17 private haulers permitted to operate in the County:

American Disposal	Georgetown Paper Stock of Rockville, Inc.	Shifflett Waste Services LLC.
AAA Recycling and Trash Removal Services	Industrial Disposal Service	Trash Away Inc.
Bates Trucking	KMG Hauling	Waste Management of Virginia - Fredericksburg
Cardinal Disposal	Patriot Disposal Inc.	Waste Management of Virginia – Northern Virginia
Charlie & Son Trash Service	PWW Construction dba Handyman Dump	Webb Brothers Trash and Recycling Removal
Daniel H. Barrett Trucking Company	Republic Services	

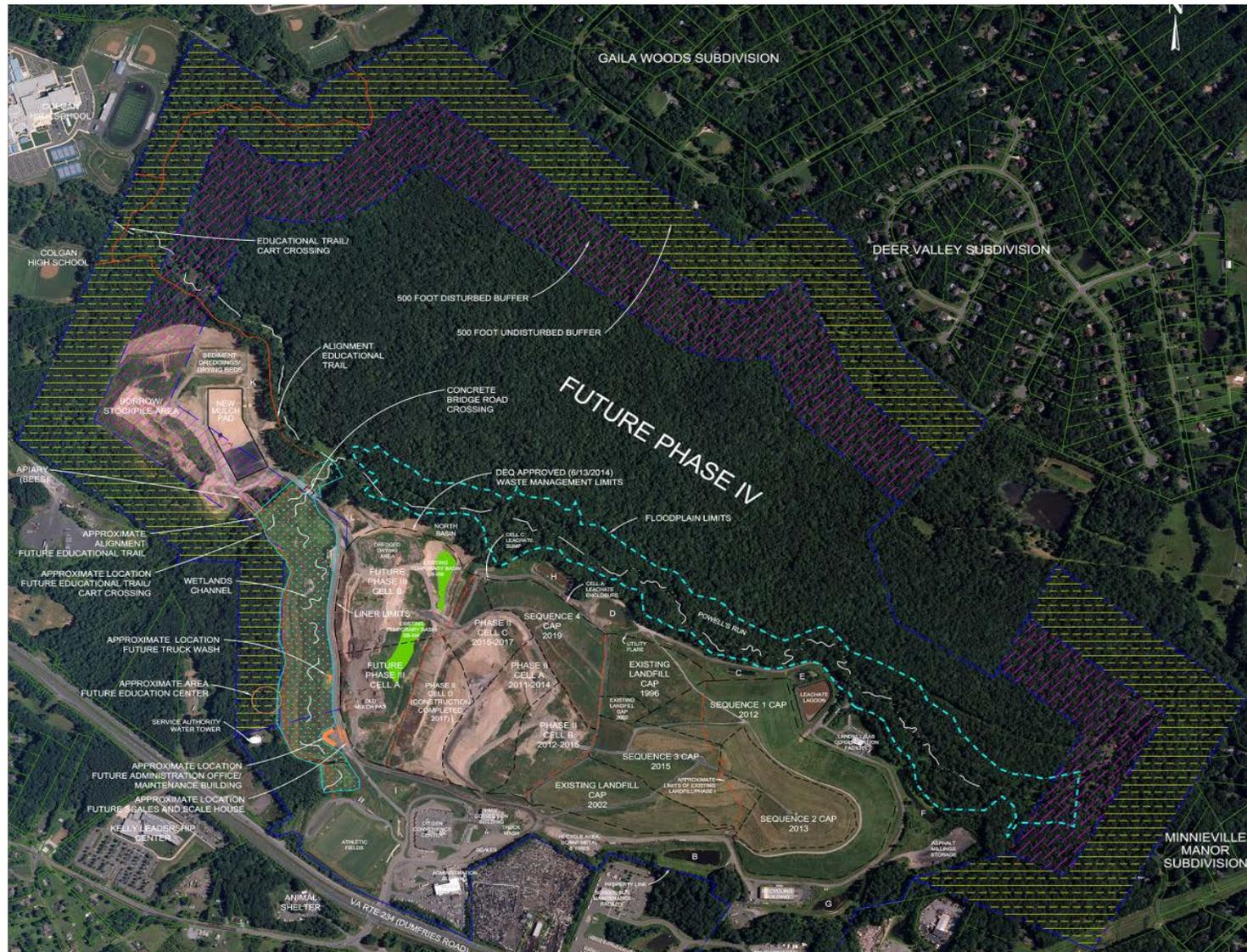
There is no charge for the County residents to drop off trash, recyclables or yard waste. Town residents from Dumfries, Occoquan, Haymarket and Quantico pay \$5 per visit for up to 200 pounds of refuse. Proof of residency, such as the Residential User Decal, personal property tax receipt, real estate tax receipt or valid driver’s license is required.



BACKGROUND – CONTINUED

Operations

Below is a map depicting an overview of the landfill's current and future operations:

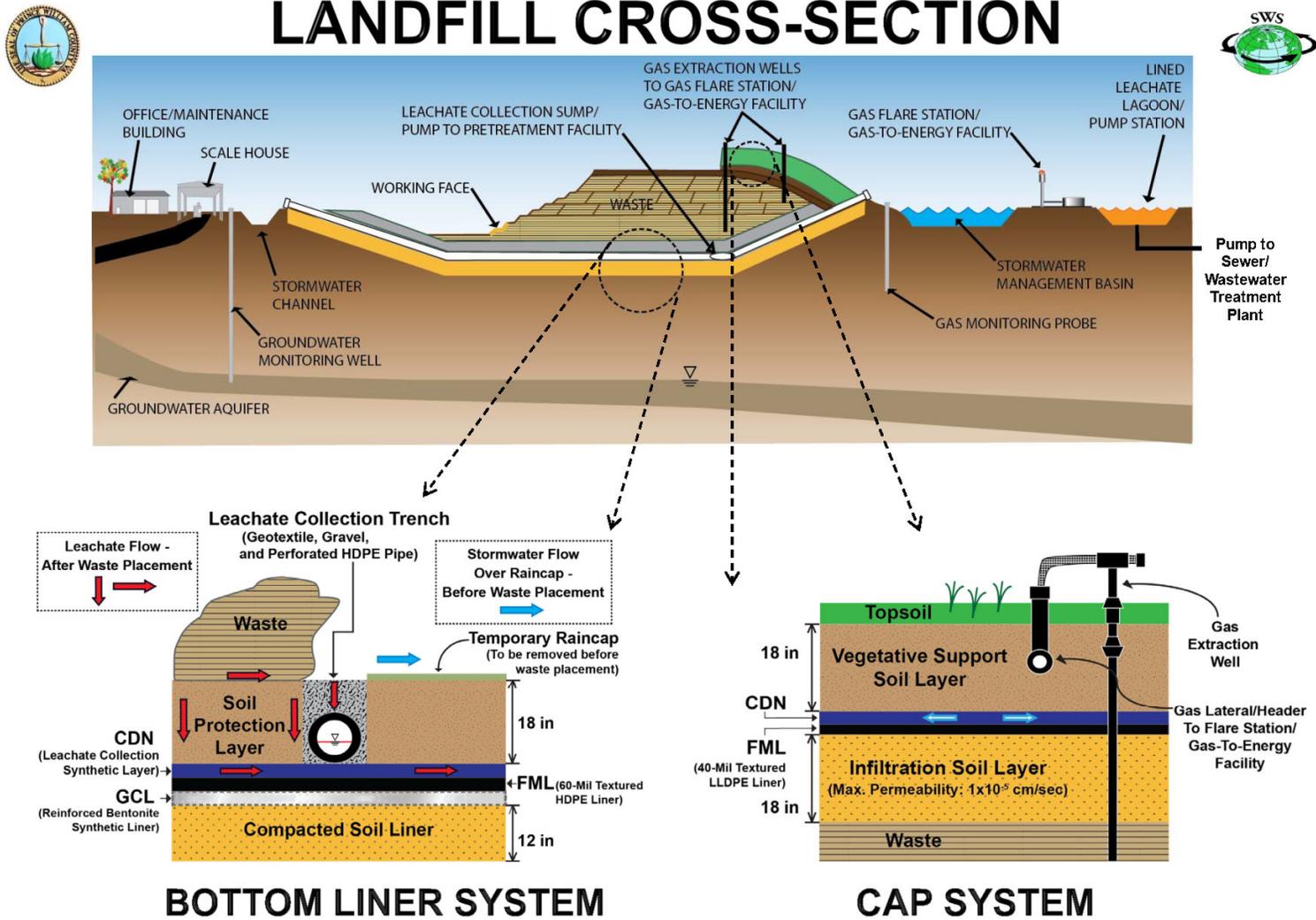




BACKGROUND – CONTINUED

Operations – continued

Below is a graphic depiction of the various components of the landfill's physical operations:



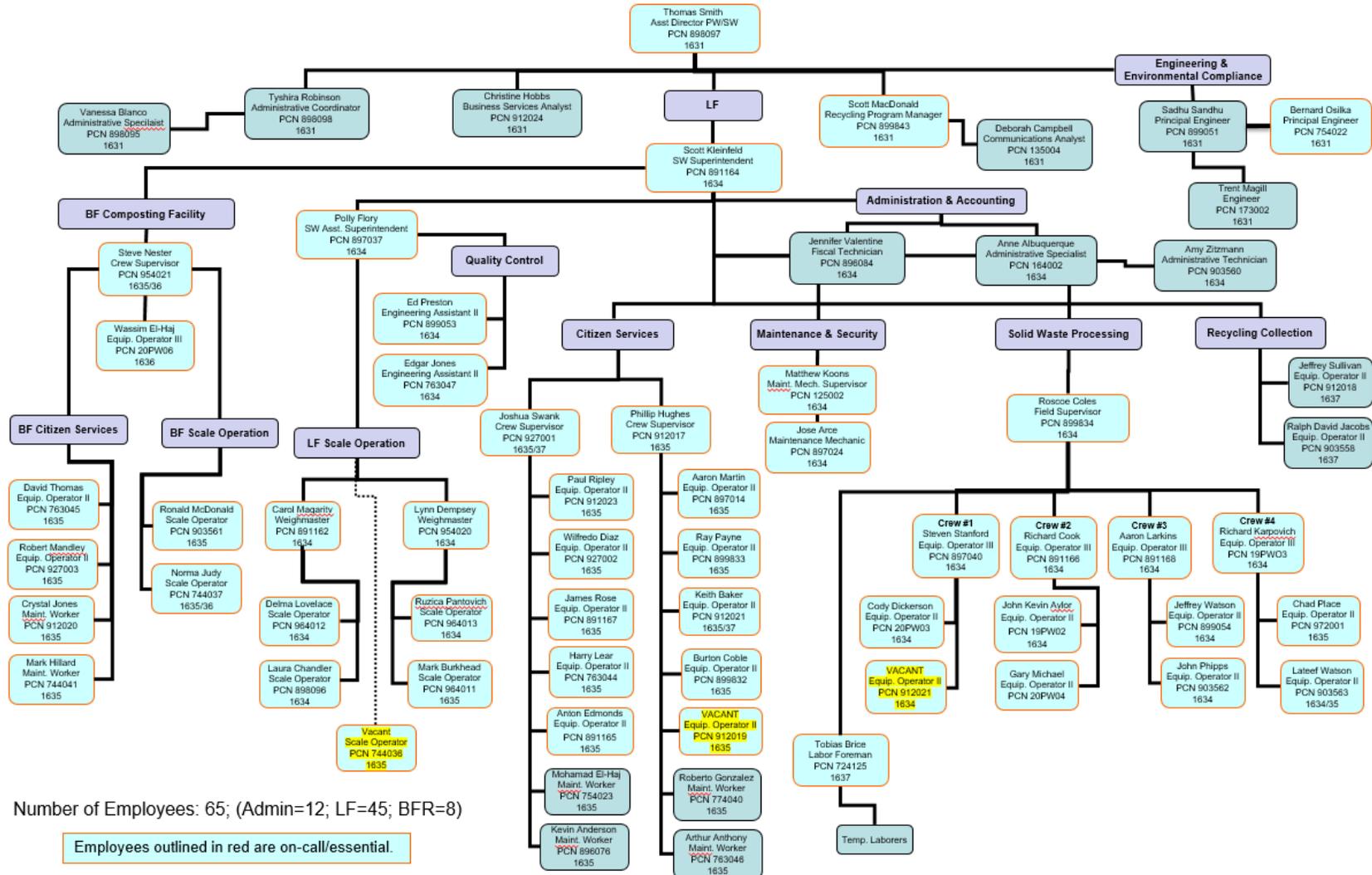


BACKGROUND – CONTINUED

Organizational Chart – As of February 2020

Landfill ("LF")
Balls Ford Compost Facility ("BFR")

Prince William County, VA Solid Waste Organizational Chart



Number of Employees: 65; (Admin=12; LF=45; BFR=8)

Employees outlined in red are on-call/essential.



BACKGROUND – CONTINUED

Financial Overview

The County's landfill operates using an Enterprise Fund. Therefore, the activity operates similar to a private sector business by measuring net income, financial position, and changes in financial position. The revenues generated by the landfill's services are utilized to fund the related expenses.

Based on the County's adopted FY2020 Budget document and FY2019 Comprehensive Annual Financial Report:

- The Solid Waste Division generated \$21.37 million and \$18.27 million in revenues and operating expenditures, respectively, during FY2019.
- ~65 full-time employees were budgeted for FY2020.
- The Solid Waste Division published the following performance measures:

Key Measures	FY2016 Actuals	FY2017 Actuals	FY2018 Actuals	FY2019 Actuals	FY2020 Adopted
Refuse recycled	34%	37%	35%	35%	32%
Tons of refuse processed	435,623	447,563	444,654	392,630	450,000

Program Activities & Workload Measures (Dollar amounts expressed in thousands)	FY2016 Actuals	FY2017 Actuals	FY2018 Actuals	FY2019 Actuals	FY2020 Adopted
Solid Waste Management & Administration	\$ 3,016	\$ 4,041	\$ 2,879	\$ 2,992	\$ 5,116
Non-residential accounts processed	\$ 4,153	\$ 4,249	\$ 4,356	\$ 4,576	\$ 4,400
Appeals completed within 30 days	100%	100%	>99%	>99%	–
Yard Waste Composting	\$ 2,590	\$ 2,025	\$ 2,437	\$ 2,931	\$ 3,634
Tons of County yard waste diverted from waste stream	28,132	21,747	24,688	26,053	\$ 26,000
Solid Waste Facilities Operation	\$ 10,305	9,585	\$ 9,341	\$ 19,854	\$ 9,183
Refuse trucks inspected	4,199	3,986	3,958	\$ 5,448	\$ 4,000
Pounds of Household Hazardous Waste and eWaste collected	1.5M	1.5M	1.3M	1.3M	1.3M
Citizens trips to Solid Waste facilities	532,526	584,044	585,903	609,720	600,000
Recyclable Materials Collected, Processed & Marketed	\$ 668	\$ 724	\$ 740	\$ 622	\$ 1,140
Tons of recyclables processed and marketed	9,741	6,902	1,637	1,747	1,500
Revenue generated from sale of recyclables	\$ 413,977	\$ 497,932	\$ 628,591	\$ 651,778	\$ 700,000
Landfill Closure	\$ –	\$ –	\$ –	\$ –	\$ 2,086



BACKGROUND – CONTINUED

Solid Waste Fee Structure

Fixed user fees are assessed annually and collected from each residential and non-residential property in the County. Currently, no tipping or gate fees (typically based on weight) are collected when citizens utilize the landfill. County-Wide Solid Waste User Fees went into effect on January 1, 1999:

User Fee Type	Annual User Fee
Single Family Homes	\$70.00 per year
Townhouses	\$63.00 per year
Multi-Family Units	\$47.00 per year
Mobile Homes	\$56.00 per year
Businesses and Non-Residential	\$70.00 per single family equivalent per year based upon actual or estimated annual disposal tons generated
Other	\$5 per 200 pounds, for Dumfries, Occoquan, Haymarket, and Quantico residents.

The residential rates are fixed, and do not increase on an annual basis. Business and non-residential fees are calculated by property type, and can be adjusted based on factors that include updates to the land and appeals by the property owner. As described in the chart above, business and non-residential fees are calculated in terms of their “single family equivalent” (SFE) which has a fee set at \$70 per SFE. Therefore, each of these entities are translated into the number of single families they are equal to in terms of refuse produced.

Flow of Information

On an annual basis, the Solid Waste Division receives a property report from the Finance Department, which is generated from the real estate assessment database. The Division’s Management and Fiscal Analyst uses the report, along with the previous year’s billing file to make updates and additions to the current year billing file. If new buildings have been constructed over the year, or if there are updates made to an existing building (i.e., renovations that may affect square footage or type of property, vacant lot becoming occupied, destruction of a property, etc.) a rate will be calculated and added to the billing file. Once updated, the billing file is uploaded to a database housed by the Department of Information Technology (“DoIT”) that holds historical data related to Solid Waste User Fees.

Three times during the year, the Finance Department provides a new report that shows all property updates during the year. The Solid Waste Division utilizes this report to make updates to their billing file. A fee calculation is made for properties that have been updated or added, for the purpose of producing a pro-rated bill for Solid Waste User Fees.

Business and Non-residential Appeal Process

If the owner of a business or non-residential property disagrees with the calculated fee assessed by the Solid Waste Division, they have the ability to submit an appeal form to the County. There are two reasons an appeal can be made: 1) the owner does not agree with the calculation of waste generated, or 2) the property is a vacant land that is not in use. Additionally, along with the appeal, the property owner must submit the previous 90 days collection of waste, or receipt of tonnage. Once an appeal is received by the County, the Management and Fiscal Analyst will use the past 90 days collection of waste to calculate the amount of tonnage per year the property generates. Once the usage is calculated, it is compared to the original calculation. This information is used to determine if the appeal is approved or not. If approved, the billing file is updated to reflect that an appeal had been filed, and the updated fee amount.



BACKGROUND – CONTINUED

Strategic Plan

The Solid Waste Division created a long-term Solid Waste Management Plan (“the Plan”) in 2004, which was reviewed in 2010 and 2015 by County staff (*reference Appendix A for a summary of the 2015 review*). The Solid Waste Management Plan provided a 20-year comprehensive approach of the management of non-hazardous solid waste within the County. The Plan was developed by County staff in consultation with the Solid Waste Citizen’s Advisory and the Landfill Citizen Oversight Committees. The Solid Waste Management Plan includes the following goals:

- Goal 1 - Continue to provide a cost-effective and environmentally protective sanitary landfill within the County for the disposal of non-recycled municipal solid waste (MSW) and to extend the life of the landfill for as long as possible.
- Goal 2 - Ensure that efficient MSW collection services are available for County residents at a reasonable cost.
- Goal 3 - Continue the implementation of a Countywide recycling plan, including yard waste composting that will meet or exceed the recycling rate mandated by the Virginia DEQ.
- Goal 4 - Continue and expand solid waste source reduction and reuse programs.
- Goal 5 - Work with private contractors to provide cost-effective recycling and disposal options for construction and demolition debris (CDD) businesses engaged in construction activities within the County.
- Goal 6 - Continue to provide adequate collection and disposal services for special wastes generated within the County.
- Goal 7 - Provide adequate funding for implementing County solid waste management programs.
- Goal 8 - Continue cooperation with adjacent jurisdictions to implement beneficial solid waste management programs on a regional basis.

Note: this is a summary of the details of the strategic plan.

Current Initiatives

The Solid Waste Division strives to maintain a landfill operation that is proactive to identify new technologies, programs, and opportunities to enhance the landfill and the community as a whole. Currently, the following initiatives are being executed:

- Operational:
 - Landfill gas utilized for electricity production and fuel generation. Generates enough electricity to meet the needs of ~5,000 homes. Gas is also used to heat PWC Fleet Maintenance bay, PWC School bus garage, and provides a fuel source for the PWC Animal Shelter incinerator.
 - Water resource conservation. Use of water from storm water retention ponds to reduce fugitive particulate matter release (blowing dust). Average monthly water consumption reduced to nearly half since program started in summer 2018; nearly 100,000 gallons less each month.
 - Tires are re-purposed as an alternative daily cover. Resulting in significant cost savings.
- Facilities:
 - Relocated/improved mulch pad facility.
 - Compost Facility improvements (BFR) includes a new anaerobic digester system along with increased capacity and efficiency.
 - Construction and monitoring of wetlands (5 acres) to replace disturbed wetlands.
- Programs:
 - Household Hazardous Waste and Electronics Recycling Program.
 - Donation Place, which promotes reuse and lessen the material being landfilled.
 - Citizen’s Convenience Center (trash and recycling).
 - Battery and Oil, Antifreeze recycling program.
 - Glass Recycling, which provides special purple bins for glass container (bottles, jugs and jars).
 - Flag Retirement Bins, which is a partnership with local Boy Scout districts.



BACKGROUND – CONTINUED

Current Initiatives – continued

- Saturday Park-Outs (trash and recycling drop-off), two sites.
- Recycling Drop-Off Trailers at 18 locations throughout the County.
- Landfill Tours, which occur September through June each year, with attendance from a variety of groups from schools, scouts, community organizations, international groups, professional groups and colleges.
- Compost Bin Sales, which promote backyard composting.
- Mulch/compost donations to various non-profit organizations.
- Buzz and Flutter Pollinator Meadow created from grant funding and community partner's expertise and volunteer assistance.

According to the Solid Waste Division, "The improvements currently underway at the Balls Ford Road Compost facility will increase the capacity for organics processing. This will allow additional County-generated organic material (leaves, grass and food waste) to be source separated and collected. Based upon the most recent County waste audit, approximately 30% of the waste entering the landfill is organic material. If this material is diverted to composting, the County's recycling rate could increase by 25%, and landfill life could be extended 10-15 years."

Planned Initiatives

The Solid Waste Division is constantly generating projections related to the landfill's capacity and related operations. These planning steps enable the division to identify needs and opportunities to improve. The following initiatives either are planned to begin in future years or are pending:

- Operational:
 - Design/construction of Phase III, Cell A scheduled in 2020.
 - Future capping of closed landfill areas.
 - Future permitting for Phase IV (*Under consideration not approved*).
 - Purchase of two parcels of land to complete Phase IV of the landfill.
- Facilities:
 - Eco Park Project (*Under consideration not approved*).
 - Establish non-profit organization (501c) (*Under consideration*).
 - Planning/Design of Education Center (Planning definite, design and construction under consideration).
 - Negotiations/Contract for Waste Conversion Facility (*Under consideration*).
 - Study of Future Solar/Wind Renewable Energy Project (*Under consideration*).
 - Convert Landfill Gas to pipeline quality CNG (*Under consideration*).
 - BioCNG fueling station (*Under consideration*).
- Programs:
 - Solid Waste Management Plan (planned update).
 - Mandatory Yard Waste Collection, which is the next step once BFR has the capacity to process County yard waste. (*Under consideration not approved*).
 - Recycling Building which is seeking new partners and beneficial use of space (*Under consideration not approved*).
 - Mark storm drains to be more conspicuous and raise awareness that water and other material drains right into the Potomac/Chesapeake watershed. This is a countywide initiative.



COMPARATIVE ANALYSIS

Comparable Entities and Landfill

Organizations of all types and sizes recognize the value of comparing themselves to other like organizations. This process of benchmarking yields valuable information to leaders and decision makers. Identifying comparable peer groups can be extremely challenging, as no two jurisdictions are exactly alike. There are, however, risks inherent in the benchmarking process. Organizations could account for data differently; thus, there are limitations to the comparisons to Prince William County and the efforts of the Solid Waste Division.

Six jurisdictions located in the Virginia/Metro DC area, including those recommended by the Prince William County Solid Waste Division were selected for comparisons.

- Arlington County
- Fairfax County
- Henrico County
- Loudoun County
- Stafford County
- City of Virginia Beach

While varying in population, these seven jurisdictions each experience a similar economic environment due to their geography and strategic alignment due to their proximity to D.C. We completed a comparative analysis between Prince William County and six (6) other jurisdictions utilizing readily available, as well as requested, landfill or waste facility information. The six (6) jurisdictions used in this analysis all utilize some form of a landfill or solid waste disposal facility agreement. Below is a table that details each jurisdiction, along with fee structures, pricing, revenue¹, expenditures¹, and population²:

¹Based on published jurisdiction FY21 budget documentation

²Based on each County's website/ most recent cited source.

Jurisdiction	Population	Revenues	Expenses	Owned by Jurisdiction?	2019 Annual Fee	Hauling Included in Annual Fee?	2019 Tipping Fee Structure	Rates Changed Over Last 5 years?
Prince William County	463,867	\$21.4M	\$18.3M	Yes	Single Family Home: \$70 Town Home: \$63 Mobile Home: \$56 Condo / Apartment: \$47 Non-residential: Amount based on calculation of usage and square footage	No – Private haulers utilized	Residential and Non-residential: N/A – No Tipping Fee for County residents and businesses. Cities and Towns: \$5 for Dumfries, Occoquan, Haymarket, and Quantico residents. \$45 per ton for city and town trash, construction waste, and refuse because of an exchange with Fairfax County.	No



COMPARATIVE ANALYSIS – CONTINUED

Comparable Entities and Landfill – continued

Jurisdiction	Population	Revenues	Expenses	Owned by Jurisdiction?	2019 Annual Fee	Hauling Included in Annual Fee?	2019 Tipping Fee Structure	Rates Changed Over Last 5 years?
Arlington County	226,400	\$11.3M	\$13M	No - Landfill is located in Alexandria and used by Arlington County.	\$306. Additional fees related to curbside pickup for electronics and appliances.	Yes	Covanta Waste-to-Energy Facility: Free for residents, \$75 a ton for non-residents.	Yes
City of Virginia Beach	457,832	\$38.2M	\$35.7M	No - City of Virginia Beach is part of the Southeastern Public Service Authority of Virginia with 7 other jurisdictions. There are regional landfills used by member jurisdictions.	\$300 (\$25 monthly).	Yes	<p>Waste Disposal - Transfer Stations: Municipal Solid Waste: \$57 per ton. Contract Non-Municipal Customers: \$51 per ton. Non-Contract Non-Municipal Customers: \$76 per ton. Residential Solid Waste: \$57 per ton.</p> <p>Waste Disposal – Regional Landfill Only: Municipal Solid Waste: \$57 per ton. Industrial Process Waste: \$76 per ton. Dead Animals: \$20 each. Water Treatment Sludge: \$50 per ton. Construction and Demolition Waste: \$51 per ton. Campers/Trailers: \$204 per ton. Boats: \$84 per ton.</p> <p>Tires: Automobile/Light Truck: \$82 per ton. Truck and Light Industrial: \$150 per ton. Heavy Equipment and Off-Road: \$160 each. Tires with rims: Additional \$3 per tire.</p> <p>Household Hazardous Waste: Rate Per Resident Visit: \$36 per visit. Batteries: \$60 per ton. Alkaline Batteries: \$0.75 per pound.</p>	Data not available - Fees rose from \$10/month in 2012 to \$25/month in 2019.



COMPARATIVE ANALYSIS – CONTINUED

Comparable Entities and Landfill – continued

Jurisdiction	Population	Revenues	Expenses	Owned by Jurisdiction?	2019 Annual Fee	Hauling Included in Annual Fee?	2019 Tipping Fee Structure	Rates Changed Over Last 5 years?
Fairfax County	1,167,000	\$82M	\$76.4M	Yes	\$350 for customers.	Yes	<p>Residential and Non-residential: Solid Waste (Trash): \$68 per ton* Senior Residents (60 years or above) 1-2 Bags: \$7 Brush: \$45 per ton* Yard Waste: \$62 per ton* Brick, Concrete, Dirt, Rocks: \$72 per ton White Goods (Appliance or propane tanks): \$9 per item Tires (Residential): 1-10 tires - \$7 each (additional fees for bulk loads) Tires (Non-residential): \$130 for passenger (additional fees for larger tires)</p> <p>*For residential users, minimum fees required depending on amount of bags used. Non-residential users have separate minimum fees based on load size</p>	Yes
Henrico County	325,642	\$14M	\$14M	No - Landfill closed in 2015. Two public areas are used for residential disposal of household trash and recycling. Non-residential waste is not allowed at these public areas. Henrico County is part of the Central Virginia Waste Management Authority with 12 other jurisdictions. There are regional landfills used by all member jurisdictions.	\$180 (\$15 monthly) for residents who elect to receive collection services.	Yes	<p>Residential: \$3 per trip, including up to four tires. \$1 per tire after the first four. 10-Trip Ticket Book: \$27. 15-Trip Ticket Book: \$40.</p>	No



COMPARATIVE ANALYSIS – CONTINUED

Comparable Entities and Landfill – continued

Jurisdiction	Population	Revenues	Expenses	Owned by Jurisdiction?	2019 Annual Fee	Hauling Included in Annual Fee?	2019 Tipping Fee Structure	Rates Changed Over Last 5 years?
Loudoun County	412,864	\$8.9M	\$10.2M	Yes	No Annual Fee. Private haulers utilized.	N/A.	Residential and Non-residential: Solid waste: \$62/Ton with a minimum of \$6 vehicle load. Refrigerant-containing appliances: \$25 per item. Tires on rims: \$26 per item. Car tire w/o rim: \$2.50. Truck tire w/o rim: \$4. Small tractor tire w/o rim: \$25. Large tractor tire (w/o rim): \$35.	No.
Stafford County	149,110	N/A - No revenue reported for FY2019	N/A - No expenses reported for FY2019	Yes – Stafford County is part of the Rappahannock Regional Solid Waste Management Board with the City of Fredericksburg. The landfill is located in Stafford County.	No Annual Fee. Private haulers utilized.	N/A.	Residential: \$5 Fee Per Visit. 10-Trip Coupon Book: \$40. Annual Pass: \$120. Residential Oversize Load: \$20. Compost Per Cubic Yard: \$15. Tires: Free for first 8 tires in a year (\$160 per ton, with minimum charge of \$20 for additional tires). Non-residential: Material Solid Waste (MSW): \$40 per ton. \$38 tipping fee for MSW if ≥ 1,000 lbs. but < 1,500. \$32 tipping fee for MSW if ≥ 1,500 lbs. Appliances: \$15. Dirt: \$26 per ton. Construction/Demolition Waste: \$41 per ton. Recycling: \$50 per ton. Yard Waste: \$41 per ton. Mulch: \$25 per ton. Passenger/Lt. Tire: \$160 per ton. Oversize Tire: \$270 per ton.	Yes



COMPARATIVE ANALYSIS – CONTINUED

Comparable Entities and Landfill – continued

Summary

Through our analysis we identified multiple fee structures utilized among the jurisdictions compared. Most of the jurisdictions have a hybrid fee structure, which includes both curbside fees and tipping fees. Additionally, three (3) of the jurisdictions are involved in coalitions with other neighboring jurisdictions and share regional landfills or a solid waste disposal facility.

When comparing PWC to these other jurisdictions' fee structures, it was noted only one other county, Arlington County, does not charge tipping fees for usage. Additionally, it was noted that of the five (5) jurisdictions who charge an annual fee (including PWC), PWC's user fees are well below the rates of the other jurisdictions. All of the jurisdictions that charge an annual fee, provide curbside pick-up, with the exception of PWC. In other words, residents in these other jurisdictions do not have to contract with a private hauler.

PWC has not increased their fees since the fee was introduced in 1999, whereas at least five (5) of the six (6) comparable jurisdictions have increased their fees over the past 10 years. Three (3) of the six (6) jurisdictions have raised their fees in the last five (5) years.



FINANCIAL CONDITION ANALYSIS

Five-Year Analysis of Solid Waste Revenues and Expenses

We analyzed PWC’s Solid Waste Division financials from FY2015 to FY2019, including identifying trends within specific accounts. Below is a summary of our analysis.

Between FY2015 and FY2019 the landfill was profitable anywhere between \$2M to \$6M. Based on our analysis, revenues were relatively stable, with minimal overall fluctuations, while expenses vary each year. The fluctuations in expenses are caused in large, by annual calculations for expenses related to landfill closure (refer to the overview of landfill closure expense below for more details around this expense account). Additionally, if there are capital projects planned for specific years, this can increase expenses. However, these projects are planned and included in the adopted budget. Lastly, another volatile expense account is depreciation, which can vary from year to year based on the liner usage. There are no materially volatile revenue accounts, as most revenue is derived from Solid Waste User Fees that are fixed per user. During FY2015, significant debt service was paid down by the Solid Waste Division, which supported positive cash flows over the following years.

Over the five-year period, the Solid Waste Division collected a total of \$102.9M in revenue and \$83.27M in expenses, for a total net change in net position of \$19.63M, or \$3.93M per year. Since Solid Waste utilizes an Enterprise Fund, positive changes in net positions are invested back into the Division. This allows for the investment in capital projects and other initiatives that further support and progress the landfill. Additionally, each year the County determines the cost of other departments supporting the Landfill and transfer that amount to the County’s General Fund. A total of \$9.68M has been transferred from the Enterprise Fund to the General Fund over the past five fiscal years, with an average of \$1.94M being transferred each year. FY2019 was the lowest amount transferred at \$1.17M and FY2016 had the highest transfer amount of \$2.88M.

Revenue (in thousands)

Revenue Type	Fiscal Year				
	FY2015	FY2016	FY2017	FY2018	FY2019
Charges for Services	\$18,805	\$19,660	\$19,568	\$19,879	\$20,381
Miscellaneous	\$930	\$795	\$828	\$1,064	\$989
Total Operating Revenue	\$19,735	\$20,455	\$20,396	\$20,943	\$21,370

Overview of major revenue sources:

- Solid Waste User Fees – This is the primary revenue source that includes all residential and non-residential fees. The fee structure for solid waste user fees have not increased since 1999, so the year-over-year increase is strictly due to increased refuse usage. The fee structure for business and non-residential fees is based on a calculation for each type of property, which includes a generated rate based on property type, as well as square footage and prior year usage.
- Commercial Refuse Disposal Fees – This is the second largest revenue source, which includes all city and town trash, construction waste, and revenue from an exchange agreement with Fairfax County. The tipping fee is currently \$45 per ton.
- Sale of Recyclables and Composting Tipping Fees – These are the third and fourth largest revenue sources, and vary year-over-year based on usage. The fee structure for these revenues have fluctuated over the years based on market value (i.e. scrap metal and compost).

When analyzing Solid Waste revenue over the last five (5) years, the conclusion can be drawn that revenue from Solid Waste remained relatively stagnant year-over-year, with a slight, but steady increase. This is due to the small increase in revenue from solid waste user fees, along with the other three major revenue sources fluctuating year-over-year.



FINANCIAL CONDITION ANALYSIS – CONTINUED

Five-Year Analysis of Solid Waste Revenues and Expenses – continued

Operating Expenses (In thousands)

Operating Expense Type	Fiscal Year				
	FY2015	FY2016	FY2017	FY2018	FY2019
Personnel Services	\$4,306	\$4,800	\$4,870	\$4,641	\$4,708
Depreciation	\$4,198	\$3,957	\$3,492	\$3,037	\$2,030
Contractual Services	\$3,374	\$3,538	\$3,307	\$3,476	\$4,977
Materials/Supplies	\$3,037	\$2,822	\$2,570	\$2,904	\$3,772
Landfill Closure Expense	\$2,386	\$1,484	\$1,951	\$657	\$2,612
Other	\$42	\$40	\$54	\$49	\$175
Total Operating Expenses	\$17,343	\$16,641	\$16,244	\$14,764	\$18,274

Overview of major operating expenses:

- Personnel Services – There are 65 full-time employees in the Solid Waste Division.
- Contractual Services – This expense represents the amount of money used on contractors and vendors.
- Depreciation Expense– The majority of this expense relates to landfill liner depreciation. Liner is material made from clay and plastic that is used to line each section of the landfill where refuse is disposed of. Each year an analysis of the amount of liner used, as well as the remaining capacity of the lined section, is calculated to determine the depreciation expense. This causes year-over-year fluctuations in the amount of depreciation expense.
- Landfill Closure Expense – When a section of the landfill reaches its capacity, a cap must be placed on it and monitored for at least 30 years, as required by law. This expense is related to the cost of the closure, as well as an estimated set-aside each year for anticipated costs related to maintenance over the 30 year period. An analysis is performed each year to determine the amount of the closure expense.
- Transfer to General Fund (not captured in operating expenses above) – Each year, there are two transfers from Solid Waste’s Enterprise Fund to the County’s General Fund. These two transfers are for indirect costs that are calculated based on the amount of support the Enterprise Funds receives from the rest of the County (i.e., support from Procurement Services, Human Resources, etc.), and an amount transferred to fund the Litter Crew. The Litter Crew is a function created by the Board of Directors that is responsible for litter cleanup and is embedded in Public Works’ Neighborhood Services Division.



FINANCIAL CONDITION ANALYSIS – CONTINUED

Forecast – Solid Waste Enterprise Fund – Created and Maintained by Solid Waste Division

	Fiscal Year															
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
OPERATING REVENUES:																
Charges for services	2,165	2,500	2,566	2,627	2,689	2,051	2,094	2,113	2,772	2,839	2,908	2,978	3,050	3,124	3,200	3,278
County-wide disposal fees	16,003	16,668	16,918	17,172	17,429	17,691	17,956	18,226	18,499	18,776	19,058	19,344	19,634	19,929	20,228	20,531
Miscellaneous	1,207	958	1,008	1,010	1,011	1,013	1,015	1,016	906	906	907	907	908	908	909	909
TOTAL OPERATING REVENUES	19,375	20,125	20,493	20,808	21,130	20,754	21,065	21,355	22,177	22,522	22,872	23,229	23,592	23,961	24,336	24,718
OPERATING EXPENSES:																
Personal services	5,357	5,958	6,152	6,349	6,556	6,773	7,001	7,241	7,493	7,758	8,037	8,332	8,642	8,969	9,314	9,679
Contractual services	4,500	4,265	4,302	4,339	4,377	4,423	4,462	4,621	4,531	4,571	4,611	4,652	4,693	4,734	4,776	4,818
Other services	2,656	2,687	3,288	3,290	3,291	3,292	3,293	3,295	3,296	3,297	3,299	3,300	3,302	3,303	3,305	3,307
Internal services	1,016	1,571	1,656	1,745	1,840	1,941	2,047	2,160	2,279	2,405	2,539	2,680	2,830	2,989	3,157	3,335
Closure expenses	1,934	2,055	2,182	2,317	2,458	2,608	2,765	2,931	3,106	3,290	3,484	3,612	2,950	3,088	3,230	2,919
Capital outlay	950	1,555	1,550	1,415	1,040	1,490	1,450	515	1,235	1,235	1,235	1,235	1,235	1,235	1,235	1,235
Contra - Capital outlay	(950)	(1,555)	(1,550)	(1,415)	(1,040)	(1,490)	(1,450)	(515)	(1,235)	(1,235)	(1,235)	(1,235)	(1,235)	(1,235)	(1,235)	(1,235)
Depreciation expense	2,159	2,159	2,202	2,246	2,291	2,337	2,383	2,431	2,480	2,529	2,580	2,631	2,684	2,738	2,793	2,848
Leases and rentals	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
TOTAL OPERATING EXPENSES	17,687	18,760	19,847	20,351	20,878	21,439	22,017	22,744	23,250	23,917	24,616	25,273	25,166	25,886	26,641	26,971
OPERATING INCOME/(LOSS)	1,689	1,365	645	458	251	(685)	(953)	(1,389)	(1,074)	(1,395)	(1,744)	(2,044)	(1,574)	(1,925)	(2,304)	(2,254)
NON-OPERATING REVENUES/(EXPENSES):																
Interest income	580	580	580	580	580	580	580	580	550	550	550	550	550	550	550	550
NON-OPERATING REVENUES/(EXPENSE)	580	550														
INCOME/(LOSS) BEFORE TRANSFERS	2,269	1,945	1,225	1,038	831	(105)	(373)	(809)	(524)	(845)	(1,194)	(1,494)	(1,024)	(1,375)	(1,754)	(1,704)
Transfer to General Fund (Litter Crew)	(778)	(801)	(825)	(850)	(875)	(902)	(929)	(956)	(985)	(1,015)	(1,045)	(1,076)	(1,109)	(1,142)	(1,176)	(1,212)
Transfer to General Fund (Indirect costs)	(1,371)	(1,413)	(1,455)	(1,499)	(1,544)	(1,590)	(1,638)	(1,687)	(1,737)	(1,789)	(1,843)	(1,898)	(1,955)	(2,014)	(2,074)	(2,137)
TRANSFERS IN/(OUT)	(2,149)	(2,214)	(2,280)	(2,348)	(2,419)	(2,491)	(2,566)	(2,643)	(2,722)	(2,804)	(2,888)	(2,975)	(3,064)	(3,156)	(3,251)	(3,348)
TOTAL TRANSFERS TO OTHER FUNDS	(4,149)	(9,214)	(2,280)	(4,948)	(7,039)	(2,491)	(2,566)	(6,833)	(10,952)	(2,804)	(10,978)	(2,975)	(3,064)	(3,306)	(3,251)	(3,348)
NET INCOME/(LOSS) - CHANGE IN NET	120	(268)	(1,055)	(1,311)	(1,587)	(2,596)	(2,939)	(3,452)	(3,246)	(3,649)	(4,082)	(4,469)	(4,088)	(4,531)	(5,005)	(5,052)
CASH BEGINNING BALANCE FUND	14,536	13,864	7,200	6,797	3,717	(1,239)	(2,989)	(4,994)	(10,720)	(20,952)	(23,307)	(34,134)	(37,206)	(39,845)	(43,024)	(46,471)
*ENDING CASH FLOW BALANCE	13,864	7,200	6,797	3,717	(1,239)	(2,989)	(4,994)	(10,720)	(20,952)	(23,307)	(34,134)	(37,206)	(39,845)	(43,024)	(46,471)	(49,910)

Note: 2020 figures are budgeted, 2021 figures are proposed, and all other years are forecasted.

*Ending cash balance is based on assumption that all revenues have been received and all expenses have been paid.

**The accounts shown in this table are the total amounts of multiple sub-accounts (i.e. the account "Personal Services" includes a variety of employee benefit, salary, and overtime accounts).

The chart above is a financial forecast, developed by the Solid Waste Division, of the Landfill Enterprise Fund operations over the next 15 years. The forecasts were calculated using prior year-over-year trends for each revenue and expense account. Since this is a Solid Waste forecast based on assumptions and prior year results, there are various events and considerations that will most likely have an impact on the actual financial outcomes. The Solid Waste Division's analysis shows that by 2024 the Landfill Enterprise Fund has a projected negative cash balance which will continue to grow each year thereafter. The reason for the cash deficit is due to an increase in expenses, with minor revenue growth. Projected increases to expenses mainly include employee salaries due to the class and compensation phase I rollout, employee health benefits, vehicle and equipment maintenance, and the planned purchases of parcels of land (est. \$2M in FY2020 and \$3M in FY2021). This analysis is maintained for long-term planning purposes and is a good tool to indicate when collaborative planning activities should begin related to anticipated revenues and expenditures.



CONSIDERATIONS

Consideration #1 - Future Landfill Operation Implications

A. The PWC single-family annual waste (in tons) was estimated at 1.3 tons in 1997, which is still utilized as a primary factor for the basis of the Solid Waste User Fee today. Although it is strictly a long-term planning tool, the Solid Waste Division's 15-year financial forecast projects Solid Waste's cash flow balance will become negative starting in 2024 and the deficit will continue to grow each year after. Solid Waste User Fees have not been adjusted since being implemented on January 1, 1999. Recent years' budget documents, related to Solid Waste Division's "Future Outlook", have included anticipated and actual increases in expenditures for a myriad of reasons.

Consideration: The Solid Waste Division, Finance Department, Office of Management & Budget ("OMB"), and the BOCS should continue collaboration in determining the appropriateness of SWUF adjustments to meet the landfill's long-term operational needs and to support future landfill initiatives. If revenue is not sufficient in coming years, the Solid Waste Division may not be able to execute on their strategic plan, complete current initiatives, and support future planned initiatives.

B. Annually, real estate property changes are received and manually incorporated into Solid Waste's revenue projection model to estimate revenue. Anticipated revenue is compared to anticipated expenses to validate that expenses will be covered. Solid Waste revenue models for 2019 included ~143K lines of residential property information and ~5.6K lines of non-residential property information.

Consideration: The Solid Waste Division, in conjunction with the Finance Department and OMB, should consider solutions to automate or streamline the transfer of real estate/assessment information for Solid Waste's annual review.

Supplemental Information:

PWC Ordinance No. 98-80, dated September 1, 1998, established a countywide sanitary district for solid waste services and the related Solid Waste User Fee. The fees went into effect January 1, 1999.

Sec. 22-184(a) of the ordinance states, "The Fee will be set by the Board of County Supervisors annually."

Sec. 22-187 of the ordinance states, "Each year the Fee shall be determined based on the actual or estimated tons of solid waste generated by each developed property in the District. This information shall be used to calculate the number of Single Family Equivalents (SFE) for each property within the District.

- (a) Residential Fees shall be determined by refuse collection data and the type of dwelling unit on the property.
- (b) Business and non-residential Fees shall be based on actual or estimated tons generated by each property based upon actual data obtained from business property owners or their representatives, or estimates based upon the estimated generation rate of the business' use code and square feet of building area. Based upon the actual or estimated amount of refuse generated, the number of SFE's will be calculated for each business and non-residential property located in the sanitary district."

Within recent years' budget documents, an increase in the Solid Waste User Fees has been suggested due to anticipated increases in expenditures. Referenced excerpts from these budget documents are summarized below:

- According to the FY2019 budget document, "Future Outlook" (page 119), "Increases in the amount of refuse generated and disposed in the County has accelerated the development of the Phase II and Phase III liner systems. The increase is more than the annual increase in fee revenue. The bid costs for construction have also increased by approximately 20% from previous years. This has increased the costs and timing of liner and capping projects, and accelerated the need to develop the Phase IV landfill area that is closer to residential homes. **To avoid a large increase when future Phase IV costs are necessary, a phased increase in the Solid Waste Fee should be considered in the near future, possibly as early as FY20. Debt financing for future Phase IV infrastructure should also be considered and analyzed.**"



CONSIDERATIONS – CONTINUED

Consideration #1 - Future Landfill Operation Implications – continued

- The opening of a new advanced compost system is scheduled to occur in fall 2019. Changes in Chapter 22 of the Prince William County Code, to include new requirements for mandatory separation of yard waste, will be proposed in early FY19 to be implemented in FY19. If adopted, this will increase costs refuse haulers charge residential customers. Development and implementation of new alternative waste conversion technologies continues to be an opportunity to reduce waste disposed at the landfill. The long-term cost/benefit of these alternatives needs to be analyzed and discussed in the future. The impacts of these proposed changes will be considered through development of various scenarios of the Solid Waste 15-year forecast projections...”
- According to the FY2020 budget document, “Future Outlook” (page 118), “The development of the Phase II and Phase III liner systems has been accelerated, and construction costs are rising. Therefore, the Phase IV landfill area needs to happen sooner than originally anticipated. In addition, recycling markets have greatly decreased, which increases the cost to process recyclable materials. The value decline in recycling materials makes it difficult for haulers to find markets for collections. ***This market trend will increase the cost to recycle and will result in the reduction of the overall recycling rates in the County. As a result of the above considerations, a Solid Waste Fee increase will be needed in the near future.***”
- According to the proposed FY2021 budget document, “Future Outlook” (page 105), “The development of the Phase II and Phase III liner systems has been accelerated, and construction costs are rising. Therefore, the Phase IV landfill area needs to occur sooner than originally anticipated, with the purchase of land the next step in the process. However, before this can happen, the heavy equipment repair shop must be relocated. In addition, recycling markets have greatly decreased, which increases the cost to process recyclable materials. The value decline in recycling materials makes it difficult for haulers to find markets for collections. This market trend will increase the cost to recycle and will result in the reduction of overall recycling rates in the County.”

It is important to note that current and planned Solid Waste initiatives, as described on page 10, are projected to have an impact on Solid Waste Division forecasts. According to the Solid Waste Division, “The improvements currently underway at the Balls Ford Road Compost facility will increase the capacity for organics processing. This will allow additional County-generated organic material (leaves, grass and food waste) to be source separated and collected. Based upon the most recent County waste audit, approximately 30% of the waste entering the landfill is organic material. If this material is diverted to composting, the County’s recycling rate could increase by 25%, and landfill life could be extended 10-15 years.”

According to the Solid Waste Division,

1. They “have issued a task order to a consulting engineer to update the County’s Solid Waste Management Plan. As part of this work, the consultant will review the fee structure and estimating procedures for determining the amount of solid waste generated from each property based upon a review of best practices. The Solid Waste Division has engaged and will get input and assistance from OMB and the Finance Department, to modernize and update the 15-year forecast. The Division will evaluate and determine what expenses should include an inflation factor for forecasting purposes. Furthermore, the Division will collaborate with the Real Estate Assessments Office to use its projections for future development to accurately estimate the amount of waste generated.
2. For the past three years, Solid Waste staff, in coordination with DoIT and the Real Estate Assessments Office, have been working on an automated internet database system for the solid waste fee. The system will be on-line and updated on a continuous as needed basis and include a historical record of the solid waste fee for each property. The system is approximately 90% complete but needs additional testing and integration with real estate database (MVP) and tax database (RevOne). The work was put on hold due to change in staff and other priorities in DoIT. The Solid Waste Division needs the assistance from DoIT to assist the Division in completing the work on this database, in conjunction with the Finance Department.
3. In coordination DoIT, OMB and the Finance Department, Solid Waste staff will develop a detailed Standard Operating Procedure, including a flow chart for the annual process to review and calculate the solid waste fee. The process will include the items mentioned and specific timelines for completing the tasks in conjunction with the timelines for budget preparation provided by OMB and the Director of Public Works Office. The procedure will also include the Board approval process, and steps for public outreach to explain any adjustments in the fees and fee structure.”



CONSIDERATIONS – CONTINUED

Consideration #2 - Permitted Hauler Monitoring – System Integration / Automation

The County relies solely on private hauling companies to collect solid waste from residents and businesses. County residents and businesses, and in some cases Homeowner Associations, contract directly with private haulers for collection services. Specific County Code of Ordinances set requirements for refuse haulers to follow and the County's Department of Public Works is responsible for permitting and subsequent monitoring of private haulers.

Pursuant to Chapter 22, Article III, Section 22-38 of County Code, all refuse haulers operating in the County must obtain a permit from the Department of Public Works and have all refuse trucks inspected annually. The annual due date is based on when the hauler permit was obtained previously. For example, if a new hauler obtained a permit and completed truck inspections in February, it would be due by the end of February the following year. If a truck does not pass inspection, the Weighmaster scale system utilized at the entrance of the landfill is updated to prevent the truck from being allowed to enter.

As of December 2019, there were 17 haulers permitted. The annual permitting and inspection process, as well as the monitoring and tracking of the process, is facilitated utilizing spreadsheets submitted by each hauler, which includes respective trucks for inspection. Spreadsheets are provided to haulers with embedded forms to complete and return back to the County, the spreadsheets are then updated by the County as inspections are completed (result and time of inspection). To gain an understanding of the process, we selected five (5) of seventeen (17) haulers to review vehicle inspection documentation which included one-hundred-and-eight (108) refuse and recycling trucks in total.

The utilization of spreadsheets to facilitate the inspection and permitting process is manual and not integrated with the scale software, which results in inherent limitations for monitoring and risk of errors in data. Without an appropriate system in place, the County is reliant on editable spreadsheets stored in folders on County servers, which enables a variety of operational risks and inefficiencies.

Consideration: The Solid Waste Division should consider utilizing a system to track all private hauling vehicles capturing hauler general information, noting inspection due dates, distributing notifications/alerts, recording time of inspection and inspection result (pass / fail), and, if possible, integrating with the Weighmaster scale system. A system, as described, should reduce the number of manual steps in the process and provide a searchable database.

According to the Solid Waste Division, they are in the early stage of procuring new software to operate the truck scales. The Division will explore, with the selected vendor, the possibility of integrating the permitting and inspection process into this software. Implementation of the new system is expected by June 2021.



APPENDIX A – SOLID WASTE MANAGEMENT PLAN – 2015 PLAN UPDATE SUMMARY



Thomas Bruun
Director

COUNTY OF PRINCE WILLIAM

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DEPARTMENT OF
PUBLIC WORKS

Solid Waste
Division

April 22, 2015

Steve Coe, Program Coordinator
Recycling & Waste Tire Management
Virginia Department of Environmental Quality
629 E. Main Street
Richmond, Virginia 23219

Dear Mr. Coe:

The purpose of this letter is to certify that the key elements of the (SWPU)'s Solid Waste Management Plan (SWMP) are current in accordance with the Virginia Solid Waste Planning and Recycling Regulations, Amendment 2.

Under Guidance 04 2009, DEQ has outlined the information to be provided in the certification letter. Listed below are the items that must be addressed for the update as outline in the regulations and in the guidance document:

1. ***Waste Generation Estimates:*** The waste generation estimate must be current, both in quantities generated and composition.
2. ***Planning Milestones:*** The scheduled 20-year planning milestones and increments must be discussed and indication provided on how the goals have been met or will be met in the future.
3. ***Capacity:*** The projected 20-year waste management capacity verified indicating that the required capacity remains available or that the projects designed to meet the required capacity are on schedule.

Per the guidance document, other items from § 9 VAC 20-130-120.C that should be taken into consideration in determining the status of the above items are:

- Population information and projections for 20 years.
- Estimates of solid waste generation from residential, commercial, institutional, industrial, construction, demolition, debris and other types of sources, including the amount reused, recycled, recovered as a resource, incinerated, and landfilled.



APPENDIX A – SOLID WASTE MANAGEMENT PLAN – 2015 PLAN UPDATE SUMMARY – CONTINUED

Mr. Steve Coe
Prince William County SWPU 5-Year Update Review Checklist
April 22, 2015

- Existing and planned solid waste collection, storage, treatment, transportation, disposal and other management facilities, their projected capacities, expected life and systems for their use.
- Milestones in the implementation of the SWMP over the 20-year projection and the parties responsible for each milestone.
- The assessment of current and predicted needs for solid waste management for a period of 20 years and a description of the action(s) to be taken to meet those needs.

This letter addresses the information as requested.

Attached for your information is a copy of Prince William County Solid Waste Planning Unit's 5-Year Update Review Checklist for the 2004 Solid Waste Management Plan. Below is a summary of the most significant revisions and updates to the plan, including the sections to reflect needed updates to the information in the SWMP (identified by page numbers being updated and the new information for that section).

- ❖ Population and waste generation estimates for next 20 years:
 - *Table 2-12 (Waste Stream Composition) on Page 2-10 of the 2004 plan has been updated and revised.*
 - *Table 2-14 (MSW Generation) table on Page 2-13 has been updated and revised.*
- ❖ Waste tonnage and methods of disposal for the next 20 years:
 - *Table 2-16 (Solid Waste Generation Projection) table on Page 2-18 has been updated and revised*
 - *Figure 2-3 (Waste Disposal Projections) has been updated and revised.*
- ❖ Planning milestones
 - *Please refer to Prince William County Solid Waste Planning Unit 2004 Solid Waste Management Plan 5-Year Update Review Checklist for 2015 (attached)*
- ❖ Disposal capacity available and needed for the next 20 years
 - *The estimated disposal capacity shown on Page 6-1 has been revised and updated. Based upon the most recent solid waste permit, and projected capacity for future unpermitted areas owned by the County, approximately 34.2 million cubic yards of total disposal capacity remains at the County Landfill.*
- ❖ Amendments to the SWMP
 - *The Prince William County SWMPU is not proposing any specific plan amendments at this time. The County anticipates that before 2017, the County will amend its currently Solid Waste Management Plan prior to the expansion of organics processing capacity at the Balls Ford Road Composting Facility.*
- ❖ Public participation strategies
 - *The Prince William County SWMPU is not proposing any specific amendments at this time.*



APPENDIX A – SOLID WASTE MANAGEMENT PLAN – 2015 PLAN UPDATE SUMMARY – CONTINUED

Mr. Steve Coe
Prince William County SWPU 5-Year Update Review Checklist
April 22, 2015

As indicated in the above discussion, the (SWPU)'s solid waste management plan continues to meet the requirements of the regulations, and accurately describes the population, waste generation, disposal capacity, and implementation schedule as described in the SWMP for the next 20 years.

Should you have any questions regarding the 5-Year Review and Checklist, please contact Scott MacDonald at (703) 792-6804 or smaedonald@pwgov.org.

Sincerely,

A handwritten signature in black ink that reads "Thomas J. Smith".

Thomas J. Smith, P.E.
Solid Waste Division Chief

C: Town of Dumfries
Town of Haymarket
Town of Occoquan
Town of Quantico



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