


ANNE ARUNDEL COUNTY
Annapolis, Maryland
Auditor's Office

INTER-OFFICE CORRESPONDENCE

To: Members of the County Council
County Executive John Leopold
Ronald Bowen, Director of Public Works
Richard Drain, County Controller

From: Teresa Sutherland, County Auditor 

Date: November 16, 2012

Subject: Executive Summary: Performance audit of the Department of Public Works program for the disposal and treatment of waste from septic tanks and holding tanks

We conducted an audit of the Department of Public Works (DPW) program for the disposal and treatment of waste from septic tanks and holding tanks. In accordance with Section 311 of the County Charter, I am calling to your attention and taking exception to the improper procedures and irregularities noted in the attached report.

We conducted our audit in accordance with generally accepted government auditing standards prescribed by the Comptroller General of the United States. The objectives of our audit were to determine whether management has adequate internal controls to ensure that:

- haulers who dispose of septic tank sludge obtain discharge permits, comply with the permit conditions and DPW's manifest policies, and pay the fees set forth in the County Code; and
- DPW collects 7.8¢/gallon for every gallon discharged at the County's facilities and properly records the related revenue in the County's general ledger.

We found that management does not have adequate internal controls to meet these objectives. DPW has implemented a number of alternative programs that are not authorized or permitted under the provisions of the County Code, and DPW improperly permits those who participate in these programs to pay less than the fee of 7.8¢/gallon of waste discharged that is set forth in the County Code. Consequently, DPW has created inequities among customers and failed to collect approximately \$606,000 of revenue in the Utility Operating Fund in fiscal year 2011.

Our findings and recommendations, along with management's response, are detailed in the attached report. Please call if you have any questions.



**ANNE ARUNDEL COUNTY
OFFICE OF THE COUNTY AUDITOR**

November 16, 2012

The Honorable Members of the County Council
The Honorable County Executive John R. Leopold
Mr. Ronald Bowen, Director of Public Works
Mr. Richard Drain, Controller
Anne Arundel County
44 Calvert Street
Annapolis, Maryland 21401

Dear Members, Mr. Leopold, Mr. Bowen, and Mr. Drain:

In accordance with Section 311 of the County Charter, I am calling to your attention and taking exception to the improper procedures and irregularities noted in this report.

We conducted a performance audit of the Department of Public Works (DPW) program for the disposal and treatment of waste from septic tanks and holding tanks. We conducted our audit in accordance with generally accepted government auditing standards prescribed by the Comptroller General of the United States. Those standards require us to plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The objectives of our audit were to determine whether management has adequate internal controls to ensure that:

- haulers who dispose of septic tank sludge obtain discharge permits, comply with the permit conditions and DPW's manifest policies, and pay the fees set forth in the County Code; and
- DPW collects 7.8¢/gallon for every gallon discharged at the County's facilities and properly records the related revenue in the County's general ledger.

To accomplish our objectives, we:

- met with staff in DPW, the Health Department, the Office of Central Services (Central Services), and the Office of Finance (Finance) to document the procedures and internal controls over hauled waste;
- tested compliance with the County Code and established procedures; and
- reviewed available accounting records and documentation.

Our findings and recommendations address controls in place and transactions that occurred during fiscal year 2011. Management's response is included on pages 7-8.

This report is intended solely for the use of the County Council and the management of Anne Arundel County. However, this report is a public document that may be obtained from the Office of the County Auditor.

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BACKGROUND

The County accepts hauled waste at the Cox Creek, Annapolis, and Broadwater water reclamation facilities (WRFs). The waste is generated by residential and commercial customers who have septic tanks or holding tanks. DPW records show the total waste discharged in fiscal year 2011 was approximately 9,050,000 gallons, and Office of Finance records show the related revenue was approximately \$100,000.

CRITERIA

Article 13, Title 5 of the County Code sets forth the fees to be paid by those discharging hauled waste at County facilities, and it establishes the requirements with which the haulers must comply. The Code sections and DPW policies relevant to our audit are:

- § 13-5-510 provides that a hauler must obtain a hauled waste discharge permit, comply with the conditions of the permit, and pay certain fees. Before a hauler can discharge the hauled waste at a County facility, the hauler must submit a manifest to the facility operator that contains the name and scavenger license number of the hauler, the capacity of the vehicle, the name and address of the waste generator, and a description of the origin of the waste. Additionally, DPW's policies require the hauler to disclose the volume of waste being discharged, and the WRF Plant Operator must visually inspect and verify the volume of waste discharged and sign the manifest.
- § 13-5-901 provides that the hauler shall pay 7.8¢/gallon of discharged septic tank sludge, except for waste collected in the Mayo Water Reclamation Subdistrict.
- §§ 13-5-805 and 13-5-806 provide that properties in the Mayo Water Reclamation Subdistrict pay metered wastewater charges if they have metered water, or unmetered wastewater charges if they have unmetered well water.

FINDINGS

Objective #1: Determine whether management has adequate internal controls to ensure that the haulers obtain discharge permits, comply with the permit conditions and DPW's policies, and pay the fees set forth in the County Code for waste discharge.

We determined that management has adequate internal controls to ensure the haulers obtain discharge permits and comply with the permit conditions. However, management does not have adequate internal controls to ensure the haulers comply with DPW's policies prior to discharging the waste or that haulers pay 7.8¢/gallon for waste from properties outside of the Mayo subdistrict.

We found that DPW has established a number of alternative programs for some property owners with holding tanks. These alternative programs are not authorized or permitted under the provisions of the County Code, and DPW improperly permits those who participate to pay less than 7.8¢/gallon discharged. We also determined that DPW has not implemented adequate internal controls to ensure haulers discharging waste collected from septic tanks pay the 7.8¢/gallon discharged.

Holding Tank Program

One of the alternative programs established by DPW is the "holding tank program." Under the Private Sewage Disposal and Well Code, a property owner may install a holding tank if public sewer is not available and on-site septic repair is not suitable. The Health Department has approved holding tanks for 144 properties.

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DPW has established a holding tank program that allows property owners to purchase manifests from DPW for \$5 each to discharge up to 1,200 gallons. DPW does not advertise that this alternative program is available to property owners with holding tanks, so only 34 of the 144 property owners with holding tanks currently participate in the program. Consequently, DPW has created a significant disparity between customers in the program who pay \$5 to discharge 1,200 gallons, and those not in the program who would pay \$93.60 to discharge 1,200 gallons at 7.8¢/gallon.

Property owners in the program provide manifests to private haulers who collect and discharge their waste. Each manifest allows the hauler to discharge up to 1,200 gallons at no charge.

To determine whether DPW's procedures were adequate to ensure the hauler does not discharge more than 1,200 gallons per manifest, we reviewed 45 manifests. Our work identified that the plant operator did not verify the volume of waste on 21 of the 45 manifests. Therefore, DPW's procedures are not adequate to ensure the hauler does not discharge more than 1,200 gallons per manifest.

We also determined that DPW has not implemented adequate internal controls to ensure it collects \$5 for each manifest sold. Each manifest is prenumbered in sequential order, and DPW maintains a database with the sequential numbers of the manifests sold, the customer, the date sold, and the amount collected. However, DPW does not sell the manifests sequentially, and they do not reconcile the database records and related revenue to the County's general ledger.

In our review we found a multitude of errors in the database records. Some sold manifests were not recorded in the database, some were recorded twice, some were entered incorrectly, and there were numerous gaps in the sequential numbering. We found we could not rely on the database as an accurate record of manifests sold. Consequently, we could not determine whether the revenue recorded from manifests sold was accurate and complete.

We also noted that DPW does not routinely reconcile the database to the general ledger revenue. When we reconciled these records for fiscal year 2011, we found a number of errors. No revenue was recorded in the general ledger for 40 manifests sold per the database, and \$200 of revenue was recorded in the general ledger for manifests that were not recorded in the database. We also noted 70 manifests sold that were recorded in neither the database nor the general ledger. Clearly management has not implemented internal controls adequate to ensure it accounts for all manifests and the related revenue.

BOE Lake Shore Complex

DPW has also established an alternative program with an alternative fee structure for waste collected by the Board of Education at their Lake Shore Complex (Chesapeake High School, Chesapeake Bay Middle School, and Bodkin Elementary School). These schools have public water, but their sewage is collected in holding tanks. The tanks are emptied by a DPW employee in a County truck and transported to the Cox Creek facility for treatment.

The County truck has a float device on it to indicate the volume of waste collected (e.g., 1/4 full, 1/2 full, etc.). The DPW driver records the number of trips he makes and the volume of waste collected. DPW then bills Anne Arundel County Public Schools (AACPS) for the volume of waste discharged. DPW's records show they collected 4,098,000 gallons in fiscal year 2011.

Rather than charge AACPS a fee of 7.8¢/gallon as mandated in the County Code, DPW charged AACPS .00514¢/gallon (4.28¢ plus a 20% environmental protection fee for every 1,000 gallons) of waste discharged in July - December 2010 and .00539¢/gallon (\$4.49 plus a 20 % environmental protection fee for every 1,000 gallons) of waste discharged in January - June 2011. These fees are based on the amounts paid by those with metered

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wastewater.

There is no authority in the County Code to charge an amount other than 7.8¢/gallon of waste discharged. Had DPW properly charged AACPS 7.8¢/gallon of waste as required in the County Code, AACPS would have paid \$298,000 more than the \$21,608 AACPS paid for waste discharged from the Lake Shore Complex in fiscal year 2011.

We also noted that DPW does not verify the amount of waste collected from the Lake Shore Complex or the amounts discharged at the County's facility. Consequently, the hauler could collect waste from other customers and discharge it as waste from the Lake Shore complex. Finally, we noted that AACPS is not reimbursing the County for the cost or use of the truck and driver, which was approximately \$64,000 in fiscal year 2011.

Pasadena Elementary School

DPW has also established an alternative program with an alternative fee structure for waste collected by the Board of Education at Pasadena Elementary School. The County is constructing a sewage pumping station to service the new Pasadena Elementary School. However, the school was completed before the pumping station, so AACPS has been using a holding tank for the last three years.

DPW provides a hauler with septic manifests pre-stamped "Pasadena Elementary School." The hauler collects the waste and discharges it at the Cox Creek WRF for free. The County then bills AACPS based on metered wastewater charges plus the 20% environmental protection fee, as it does for the alternative program established for the Lake Shore Complex.

Again, there is no authority in the County Code to charge AACPS a fee other than the 7.8¢/gallon mandated in the County Code. Had the County properly charged AACPS 7.8¢/gallon of waste as required in the County Code, AACPS would have paid \$29,735 more than the \$1,465 AACPS paid the County for waste discharged from Pasadena Elementary School in fiscal year 2011.

We also noted a significant discrepancy between the volume of waste collected by the hauler per AACPS invoices and the volume of waste discharged by the hauler as recorded on the Pasadena Elementary School manifests. AACPS records show they paid the hauler to collect 360,000 gallons of waste, but the used manifests show the hauler discharged 400,000 gallons of waste. DPW was unable to explain why the volume discharged was more than the volume collected, and the plant operator does not verify the volume of waste the hauler records on the manifests prior to discharge. Without internal controls to ensure the hauler is discharging only waste collected from Pasadena Elementary School, the hauler could collect additional waste from properties other than Pasadena Elementary School and discharge it for free using a "Pasadena Elementary School" manifest.

Jessup Fire Station

DPW has also established an alternative program for waste collected from the Jessup Fire Station. The Jessup Fire Station uses a holding tank because public sewer is not available and a septic system is not feasible. The Office of Central Services has contracted with a hauler to empty the tanks and discharge the waste at the Cox Creek WRF.

DPW provided Central Services with 358 holding tank manifests in FY2011, and Central Services provided the manifests to a hauler. The hauler completes a manifest and notes the gallons of waste collected, which is verified by a County employee at the fire station. The hauler discharges the waste, and the WRF plant operator visually inspects and verifies the volume prior to discharge.

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The used manifests in DPW's possession show the hauler discharged 287,000 gallons of waste from Jessup Fire Station in fiscal year 2011. We selected 25 used manifests and noted the hauler disclosed the volume of waste discharged, and the plant operator signed the manifest indicating the operator verified the volume.

When Central Services notifies the Office of Finance that it has provided manifests to the hauler, Finance transfers funds from the General Fund to the Utility Fund to pay \$5 for each manifest provided. Again, there is no authority in the County Code for this alternative fee structure. The Utility Fund is a self-supporting Enterprise Fund, and DPW should charge all customers, including the County's General Fund, 7.8¢/gallon for waste discharged. Had DPW charged the County's General Fund 7.8¢/gallon instead of \$5/manifest, the County Utility Fund would have collected approximately \$21,000 of additional revenue.

Septic Waste Discharge - Properties other than Mayo Water Reclamation Subdistrict

DPW accepts waste collected by private haulers from properties with septic tanks. Before discharging the waste at a County facility, the hauler completes a septic manifest with the information required by the County Code. Additionally, DPW's policies require the hauler to disclose on the manifest the volume of waste they are discharging.

The plant operator is supposed to visually inspect and verify the volume of waste discharged and sign the manifest. The plant operator forwards one copy of the manifest to the Office of Finance to bill the hauler for the waste based on 7.8¢/gallon.

To determine whether revenue from septic discharge was complete and accurate, we performed tests to determine whether:

- management had procedures in place to ensure the Office of Finance billed haulers for all used manifests; and
- the plant operators visually inspected and verified the amount of waste recorded on the manifests.

We found that management does not have effective procedures in place to ensure either.

We selected 45 used manifests and attempted to trace the manifests to customer billings. The Cox Creek plant received 95% of the septic waste discharged in the County in fiscal year 2011, so we selected 33 manifests from Cox Creek, and we were able to trace all to customer billings.

Only 1% of the septic waste discharge at the County was discharged at the Broadwater plant, comprising three manifests for fiscal year 2011. We selected all three manifests for testing, and we were unable to trace one to a customer billing. The manifest we could not trace to a billing showed 1,500 gallons of waste discharged, which would result in \$117 of revenue. Neither DPW nor the Office of Finance could explain why the hauler had not been billed.

The Annapolis plant received 4% of the septic waste discharged in the County, comprising 18 manifests in fiscal year 2011. We chose nine manifests, and we were unable to trace four to customer billings. Consequently, we expanded our test work to include all 18 manifests from fiscal year 2011, and we were unable to trace five of the additional nine manifests. The nine manifests for which the haulers were not billed show 17,400 gallons of waste discharged, which would result in \$1,357 of revenue. Neither DPW nor the Office of Finance could explain why haulers had not been billed for the nine manifests.

Because we identified a large percentage of manifests from the Annapolis plant for which haulers had not been billed, we expanded our test work to include all septic manifests from the Annapolis plant for July 2011 - April

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2012. In that test work, we were able to trace all the manifests submitted at the Annapolis plant to customer billings.

We also reviewed the 54 manifests we selected from FY11 to determine whether the plant operator visually inspected and verified the volume of waste recorded. We found that the plant operator did not visually inspect and verify the volume of waste on 41 of the 54 manifests, including all 33 from the Cox Creek plant. The DPW staff told us they use an "honor system," trusting the hauler to disclose accurately the volume discharged.

DPW's reliance on an honor system provides no effective control to ensure haulers disclose and are charged for the correct volume of waste discharged. Further, DPW has no effective procedures in place to ensure that the Office of Finance receives all used manifests and bills customers accordingly.

Septic Waste - Mayo Water Reclamation Subdistrict

The septic waste discharge program also includes approximately 3,300 properties in the Mayo Water Reclamation Subdistrict. Properties in the Mayo subdistrict do not pay 7.8¢/gallon of septic waste discharged. Rather, under §§ 13-5-805 and 13-5-806 of the County Code, properties in the Mayo subdistrict pay metered or unmetered wastewater charges, depending on whether they have public water.

The County pays a hauler to collect the septic waste from the Mayo properties and discharge it at a County facility. DPW provides the hauler with a list of properties to service each month along with corresponding, prenumbered manifests stamped "Mayo Only." The hauler submits a monthly invoice to the County with the used manifests attached, and the County pays the hauler based on the capacity of the septic tanks for the properties to be serviced that month, not based on the actual volume of waste discharged.

In our testwork, we found that DPW's procedures are inadequate to ensure the completeness and accuracy of revenue from properties in the Mayo subdistrict. We reviewed 45 manifests and 29 of the manifests show the plant operator did not conduct a visual inspection to verify the volume of waste discharged. Further, no one in DPW compares the volume of waste discharged per the manifests submitted to the WRF plant operator to the capacity of the tanks from which the waste was collected. Consequently, the hauler could collect additional waste from properties that are not in the Mayo subdistrict, discharge it at a County facility using a "Mayo Only" manifest, and avoid paying the 7.8¢/gallon fee mandated in the County Code for properties not in the Mayo subdistrict.

RECOMMENDATIONS

Alternative Programs

We recommend that DPW cease the alternative programs it has implemented for holding tank customers, including the Board of Education programs and the Jessup Fire Station program. The County Code does not permit those with holding tanks to pay \$5/manifest for 1,200 gallons, it does not permit Anne Arundel County Public Schools to pay charges equivalent to metered wastewater charges to discharge holding tank waste, and it does not permit the County's General Fund to pay the Utility Fund \$5/manifest for waste collected from the Jessup Fire Station.

Management should bill the haulers 7.8¢/gallon as mandated in the County Code, and all property owners, including the County's Office of Central Services, should contract privately with haulers to collect and discharge their waste. Based on DPW's records showing 9,050,000 of gallons discharged in fiscal year 2011 (which may be understated given the use of an honor system and DPW's failure to visually inspect and confirm the volume discharged), these alternative programs resulted in a loss of revenue of approximately \$606,000.

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Completeness of Revenue

DPW cannot ensure the County charges customers for all waste discharged unless it accounts for the completeness of the population of manifests. To ensure the completeness of the population of manifests, DPW should continue to use prenumbered manifests at each plant. The manifests should be used sequentially, and DPW should account for the complete population using the sequential numbering, including the unused manifests in DPW's possession, manifests that have been used, and manifests that are void. If any are void, DPW should retain all copies of the voided manifest.

We recommend that DPW use the sequential numbering of the used manifests to ensure the Office of Finance bills customers for waste discharged. DPW should reconcile their records of used manifests to Office of Finance billings and the revenue recorded in the general ledger at least monthly. Further, to ensure customers are billed for the waste they discharge, plant operators should visually inspect and verify the volume of waste discharged on each manifest.

Finally, if management changes its procedures, they should continue to ensure duties are segregated to mitigate the possibility that one person could both perpetrate and conceal an error or irregularity. DPW should not sell manifests or collect receipts under any circumstances. All billing and receipt collection should be handled by the Office of Finance who should bill the haulers based on the manifests submitted to the plant operators.

MANAGEMENT'S RESPONSE

The Auditor's recent performance audit of the Department of Public Works program for the disposal and treatment of waste from septic tanks and holding tanks identified three areas of findings and recommendations.

1. The Five Dollar Ticket Program
2. Reconciliation of Manifests and Revenue
3. Procedures for the Acceptance of Septage at Wastewater Treatment Plants

The Department of Public Works (DPW) agrees with the findings and recommendations noted by the Auditor and will take action to mitigate the issues noted as detailed below.

Prior to specifically addressing these three areas, it should also be noted that:

- The five dollar ticket program has been in place more than 15 years.
- The estimated lost revenue of \$606,000 identified by the County Auditor is largely attributable to Board of Education and Volunteer Fire Station participation in this program. Approximately \$349,000, or 58%, of this "lost" revenue ultimately benefits the Board of Education (\$328,000) and the Jessup Volunteer Fire Department (\$21,000).
- After a recent change of leadership at the Bureau of Utilities, DPW is evaluating all past practices and identifying areas that need to be addressed.
- DPW is analyzing whether the current statutory charge of 7.8 cents per gallon (unchanged since 1989) for depositing septage at a County owned water reclamation facility is adequate to cover all associated costs.
- Pasadena Elementary School was recently connected to County sewer services and is no longer a participant in the program.

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1. Five Dollar Ticket Program

DPW will cease this program. Once the program ends, all locations cited by the report, including Board of Education facilities, will be charged the standard rate of 7.8 cents per gallon if the waste from these facilities is taken to a County facility. If the Board of Education and Volunteer Fire Stations are to be subsidized for the cost associated with their holding tanks, such a subsidy should be funded by the General Fund not the Utility Fund.

2. Reconciliation of Manifests and Revenue

DPW will continue to use pre-numbered manifests and ensure the manifests are used sequentially. Beginning after the term of this audit, DPW began reconciling all manifests and revenue recorded in the general ledger on a monthly basis. DPW will continue this practice. The Office of Finance has agreed to coordinate with DPW to resolve any reconciling issues.

3. Procedures for the Acceptance of Septage at Wastewater Treatment Plants

DPW will implement changes to its policies and procedures to better manage the process for receiving septage and to ensure that revenue due to the County is collected and accounted for as appropriate. The Office of Finance has agreed to assist with this effort to assure that internal controls over the revenue process are maintained and duties are adequately segregated.

Finally, DPW is researching more cost effective ways in which to manage the process for haulers to deposit septage at County facilities through improved technology and additional staff resources to control the manifests and to verify the volume of flow disposed of at the reclamation facility.

Please call if you have any questions regarding our findings or recommendations. We thank the Department of Public Works, the Office of Central Services, the Health Department, and the Office of Finance for their courteous cooperation.

Sincerely,



Teresa Sutherland, CPA
County Auditor