

**HB 2322: Plan to Transition Septic Pump-Out Oversight and
Enforcement in Rural Coastal Virginia**

August, 2021

**Virginia Department of Health
Office of Environmental Health Services**

I. Executive Summary

During the 2019 Session, the General Assembly approved Chapter 429 of the Acts of the Assembly (HB 2322), directing the Virginia Department of Health (VDH) to develop a plan to take over the oversight and enforcement of septic tank pump-outs required pursuant to the Chesapeake Bay Preservation Act (CBPA)¹. HB 2322 limited the scope of the plan to the Eastern Shore, Middle Peninsula, and Northern Neck regions of the Commonwealth. VDH worked with stakeholders from local health departments (LHD), local government, and the Department of Environmental Quality (DEQ), as well as surveying service providers and wastewater disposal facilities, to develop options for the transition of oversight and enforcement of the pump-out program.

There are many options available to transition locally operated septic pump-out programs, either to shifting oversight to VDH or developing new methods of local implementation. This includes voucher programs, enforcement through civil penalties by VDH, and targeted enforcement options. The cost of implementation ranges from zero dollars for the Commonwealth to \$6.3 million. The variations in cost depends upon who will bear the financial cost of the program; at zero dollars all costs would be paid for by Onsite Sewage System (OSS) owners. Depending upon the option selected, there may be an additional cost associated with the development of necessary data sets and data collection tools, and cost incurred by other state offices.

Two critical aspects to any transition plan that is selected are ensuring that VDH or localities are provided sufficient resources to create a complete inventory of OSS and that VDH

¹ See § 62.1-44.15:67 et. seq. of the Code of Virginia.

or localities have sufficient staffing resources to conduct oversight of the estimated 104,399 systems in the Eastern Shore, Middle Peninsula, and Northern Neck regions of Virginia.

It is clear that many OSS in these three regions are either not being pumped out every five years, or the pump-outs are not being reported. The three regions combined are currently only achieving about 25% of the anticipated septic tank pump-out goals in the Watershed Implementation Plan (WIP) III.

Information from sewage haulers and wastewater disposal facilities indicate there is adequate sewage hauling and disposal capacity for all three regions. However, the majority of disposal facilities are located outside of the three regions, and sometimes outside of the Commonwealth. This lack of disposal capacity within the three regions could increase the cost of pump-outs, which may serve as a deterrent to septic tank pump-outs.

Stakeholders were unanimous in recommending that any transition of oversight to VDH be completed through revisions to the Code of Virginia if the General Assembly chooses to make such as transition. This was recommended to draw a clear distinction as to the entity responsible for oversight. VDH recommends the Phased and Targeted option for transitioning oversight from local governments to VDH. This approach will require legislative action and provides the greatest flexibility for implementation at a reasonable cost to the Commonwealth.

II. Introduction

During the 2019 Session, the General Assembly approved Chapter 429 of the Acts of the Assembly (HB 2322), directing the Virginia Department of Health (VDH) to develop a plan for the oversight and enforcement by VDH of requirements to pump-out OSS pursuant to the CBPA². The plan is limited to counties eligible for participation in the Rural Coastal Virginia

² See reference in footnote 1.

Community Enhancement Authority (RCVCEA) pursuant to Chapter 76 (§ 15.2-7600 et seq.) of Title 15.2 of the Code of Virginia (the Code). The RCVCEA covers the 12 counties within the Eastern Shore, Middle Peninsula, and Northern Neck regions of Virginia: Accomack, Essex, Gloucester, King and Queen, King William, Lancaster, Mathews, Middlesex, Northampton, Northumberland, Richmond, and Westmoreland. Participation by localities in the RCVCEA is voluntary. For the purpose of this report, VDH was requested to evaluate all localities that are eligible for participation in the RCVCEA, whether or not they are actually participating, members.

Pursuant to HB 2322, VDH is required to present the plan to the Chairpersons of the House Committee on Health, Welfare and Institutions and the Senate Committee on Education and Health prior to implementing the plan. On December 20, 2019, VDH provided an interim progress report to develop the plan. VDH has worked with stakeholders from LHD, local government, and DEQ, as well as surveying services providers and wastewater disposal facilities, to develop the following options for the transition of oversight and enforcement of the pump-out program as required in HB 2322.

III. Background

The Office of Environmental Health Services (OEHS) is the agency lead on developing the plan pursuant to HB 2322. OEHS is tasked with developing and revising agency regulations and policy on a wide range of programs, including the onsite sewage program. VDH's 35 Health Districts implement those regulations and policies at a local level, with offices in every locality of the Commonwealth.

In 1988, the General Assembly enacted the CBPA³, followed in 1989 by the Chesapeake Bay Preservation Area Designation and Management Regulations (CBPADM Regulations). The CBPADM Regulations require the 84 local governments defined as “Tidewater Virginia” to amend existing ordinances, regulations, and enforcement mechanisms to meet certain performance criteria for the protection of water quality, including a requirement that OSS located within locally designated Chesapeake Bay Preservation Areas be either pumped out or inspected at least once every five years. The specific requirements for each locality are established and enforced through local government ordinances.

Due to the diversity of Tidewater localities, the ability of local governments to implement and enforce the OSS pump-out or inspection requirements varies greatly. In addition, some local governments have designated jurisdiction-wide Chesapeake Bay Preservation Areas, whereas others have designated areas that are more limited. VDH does not have authority to require reporting of pump-outs, except in cases where the local health department (LHD) has agreed to implement the local Bay Act pump-out program as part of their Local Government Agreement (LGA).

Under the Chesapeake Bay Total Maximum Daily Load, OSS pump-outs are one of three septic Best Management Practices (BMP) used to attain required nitrogen reductions. Phase I of the WIP states conventional OSS are assumed to load 8.92 pounds of nitrogen per person per year at the edge of the drainfield.⁴ Each pump-out provides a credit of 5% reduction of nitrogen for 5 years. A successful pump-out program will reduce nitrogen inputs from OSS and help Virginia meet its total maximum daily load (TMDL) goals.

³ See reference in footnote 1.

⁴ A “conventional onsite sewage system” is a treatment works consisting of one or more septic tanks with gravity, pumped, or siphoned conveyance to a gravity distributed subsurface drainfield (12VAC5-613-10).

Section H.2.2.1.3 of Appendix H: Tracking Best Management Practice Nutrient Reductions in the Chesapeake Bay Program provides the justification for this BMP. (Palace et. al. 1998) This section estimates that pump-outs reduce nitrogen loads by five percent. In 2014, the On-site Wastewater Treatment Systems Nitrogen Reduction Technology Expert Review Panel conducted a verification analysis of the BMP. They found the BMP to be justified for 5 percent reduction (or 1.1 lbs.) based on: i) average occupancy of 2.5 person/household for the year that the pump-out occurs, and ii) a pump-out frequency of once every five years.

In addition to providing environmental benefits of nitrogen reduction, septic tank pump-outs also provide public health benefits by reducing OSS failures. If septic tanks are not regularly pumped, solids and fats, oils, and greases (FOG) will accumulate reducing the detention time of waste in the tank leading to suspended solids and FOG reaching the absorption area. These suspended solids and FOG can cause the absorption area to fail. Some stakeholders noted that given both the public health and environmental benefits of septic tank pump-outs, it may be more appropriate for the pump-out requirements to apply statewide.

IV. Findings and Recommendations

A. Overview of Current Programs

The CBPADM Regulations require each of the local governments in the Eastern Shore, Middle Peninsula, and Northern Neck Regions to amend existing ordinances, regulations, and enforcement mechanisms to include a requirement that OSS located within locally designated Chesapeake Bay Preservation Areas be either pumped out or inspected at least once every five years. While each locality in these three regions has taken steps to establish necessary requirements⁵, program implementation varies.

⁵ See Appendix A for a list of references to applicable codes and ordinances for each locality.

Three localities – King and Queen County, Mathews County, and Middlesex County - do not require pump-outs locality-wide. In the Eastern Shore region, there is also the unique aspect that all properties are not located within the Chesapeake Bay watershed. Both Accomack and Northampton Counties have established pump-out requirements for both the bayside and seaside of the county. There are also variations in how the counties conduct enforcement of pump-outs within the various towns. Northampton County reported that mailings had been conducted in Capeville and Eastville and that mailings for other properties in towns would be done after county properties were completed. Accomack County reported having established a memorandum of understanding with the towns on the bayside of the county.

These variations in the scope of pump-out programs within each locality point to the potential benefits of transitioning the programs over to a single entity. However, they also raise a number of unique issues that would need to be addressed, such as: whether VDH needs a mechanism to maintain the ability to enforce pump-out requirements outside of the Chesapeake Bay Watershed on the Eastern Shore; whether VDH will need agreements with both counties and towns; and whether a program under VDH would apply countywide in all localities.

In addition to variations in the scope of local programs, there are significant variations in the methods for notification to owners. Most localities reported conducting notifications by sending individual letters to property owners. However, King and Queen County and King William County reported sending notice via tax bills with a generic statement to all property owners. The Northern Neck Planning District Commissioner (NNPDC) also reported posting notices in local newspapers and using grant funding for public service announcements on local radio stations.

Localities were unanimous in reporting that no formal enforcement actions were being taken against any property owners. All localities reported that their only means for enforcement was filing a criminal summons for non-compliance. Local governments reported the task of sending notifications, responding to phone calls, and tracking pump-outs was typically added to the workload of existing full-time staff with other job responsibilities outside of pump-outs being their primary role. Several local stakeholders commented on the high volume of phone calls and the effort required to respond to those calls when notifications are sent out to property owners regarding the five-year pump-out requirement.

B. Number of Systems

An important aspect of assessing the potential transition of oversight of local pump-out programs is understanding the total number of systems in those localities. VDH reviewed information from agency databases, information from DEQ, and the United States Census (U.S. Census) data to determine the estimated number of total systems within each locality. VDH then used the most conservative of the three data points to develop the estimated total number of systems. Stakeholders agreed the estimated total number of systems was conservative, but also agreed the estimate was reasonable.

OSS permits through the Virginia Environmental Information Systems (VENIS). In 2019, VDH transitioned to the Environmental Health Database (EHD), a cloud-based system for tracking OSS permits, among other agency programs. Permitting data from VENIS is being transitioned to EHD. The datasets available in EHD provide a great picture of the total number of systems; however, there are numerous OSS that were permitted and installed prior to 2003 making the dataset incomplete. Records for those systems are typically only housed in hard copy format at LHDs. The Three Rivers Health District (TRHD) partnered with NNPDC prior to the

implementation of VENIS to create an Access database that was populated with information from all of the hard copy permits on file for each of the localities in the Northern Neck. This dataset combined with EHD data provides a nearly complete view of onsite systems installed in Northern Neck localities.

DEQ provided useful information from their 2019 annual report for septic system pump-outs. This included information provided by localities on the estimated total number of systems requiring a pump out. The estimates for Accomack County and King and Queen County were listed as unknown.

Lastly, VDH used U.S. Census data on the total number of households in each locality and the percentage of homes reported to be served by public sewers to establish a third and final estimate. VDH used 85% of the total number of households for this estimation given the rural nature of the regions and the heavy reliance on OSS with one exception. Gloucester County officials reported roughly one-third of the county is served by public sewer; therefore, 66% of U.S. Census households were used for the Gloucester estimate. The breakdown of these three data sets and the estimated totals are shown in Table 1 below.

Table 1
Estimated Number of Onsite Sewage Systems

Locality	VDH Data	As Reported by Localities to DEQ	85% of U.S. Census Household	Estimated Total
Accomack	7,106	n/a	18,097	18,097
Essex	2,117	3,600	4,989	4,989
Gloucester	5,082	16,000	11,058 ²	16,000
King and Queen	1,620	n/a	2,985	2,985
King William	2,422	6,625	6,082	6,625
Lancaster	7,178 ¹	225	6,506	7,178
Mathews	3,015	3,700	4,893	4,893
Middlesex	2,456	14,182	6,257	14,182
Northampton	2,164	5,650	6,312	6,312
Northumberland	9,610 ¹	7,040	7,943	9,610
Richmond	1,916 ¹	4,180	3,370	4,180
Westmoreland	5,815 ¹	4,500	9,348	9,348
Total	50,501	65,702	87,840	104,399

¹Includes data from both EHD and pre-VENIS Access database. ²Used 66% of U.S. Census reported households.

VDH estimates a total of 104,399 across all 12 applicable localities. Using this estimate, to reach 100% of all homes receiving a five-year pump-out would require 20,880 pump-outs combined across all 12 counties each year. The table below compares this estimate against the number of pump-outs reported to DEQ from 2016 through 2019 and against the target goals in the Chesapeake Bay Phase III WIP (WIP III) within the three regions.

Table 2
Comparison of Average Annual Reported Pumps Outs
Annual WIP III Goals and Total Systems Estimate

Region	Average Annual Reported Pump Outs	WIP III Goals	Total System Estimate
Eastern Shore	616	1,713	4,881
Middle Peninsula	987	5,108	9,935
Northern Neck	1,040	3,833	6,064
Total	2,643	10,654	20,880

C. Sewage Hauling Capacity

Another important factor to keep under consideration when evaluating septic tank pump-out programs, is the capacity of local sewage haulers and wastewater disposal facilities to pump, haul, and receive the septage. The average septic tank holds roughly 1,000 gallons of septage. To obtain a goal of having every system in the three regions pumped out once every five-years, haulers and disposal facilities would need to handle 20,880,000 gallons of septage per year, or 80,308 gallons of septage per workday, based on VDH’s estimate of 104,399 systems in the three regions.

To evaluate the capacity of these two sectors, VDH contacted sewage hauler’s and wastewater disposal facilities throughout the three regions to collect information and input. Scripts used when conducting outreach to sewage hauler’s and wastewater disposal facilities are included in Appendix B.

To identify sewage haulers working within the three regions, VDH contacted all sewage haulers that have signed up to be listed on the agency service provider website where the hauler's base point was within one of the three identified regions or within an adjacent Health District.⁶ Staff with the TRHD and Eastern Shore Health District (ESHD) provided the name of additional service providers working with their respective areas.

In total, VDH contacted 52 sewage haulers and received responses from 28 service providers. Of the 28 service providers that responded, seven either did not provide services in any of the three regions under review or did not provide sewage hauling services for residential septic system pump-outs; some companies only provide sewage hauling services for portable toilets. It was not uncommon for service providers to work in both the Middle Peninsula and Northern Neck (10 of 28 respondents). However, service providers on the Eastern Shore typically work exclusively on the Eastern Shore. A total of 16 respondents reported working in the Middle Peninsula, 11 in the Northern Neck, and only four on the Eastern Shore.

A total of 17 service providers operating 40 sewage hauling trucks reported operating in the Middle Peninsula and Northern Neck regions and reported current average daily sewage hauling in excess of 100,000 gallons per day (102,375 gallons). While this reported capacity includes services provided outside of the Middle Peninsula, it appears there is more than sufficient capacity to meet demand even if 100% of homes receive a pump-out every five years. Only half of the service providers responded to VDH, and those responding reported a capacity well in excess of the potential demand in the region.

⁶ The VDH service provider website can be accessed at <https://www.vdh.virginia.gov/environmental-health/onsite-sewage-water-services-updated/septic-system-and-private-well-service-providers/>

The ESHD reported that there are eight sewage haulers operating 21 trucks on the Eastern Shore. The four service providers on the Eastern Shore that responded to VDH's survey reported the current average daily sewage hauling of 43,000 gallons per day. The majority of this capacity is directly from pump-outs in Accomack County or Northampton County. Therefore, it appears there is also more than sufficient capacity to meet demand even if 100% of homes receive a pump-out every five years.

In addition to providing information on sewage hauling capacity, service providers also provided their thoughts on making a pump-out program successful. Hauler's noted it is evident when mailings go out regarding five-year pump out requirements and commented on the importance of assuring that mailings are spread out and not sent in large bulk mailings that could overrun service providers' capacity. One service provider also noted that if mailings were sent to targeted areas, it could help reduce cost if multiple clients could be pumped out relatively close together.

With regards to reporting, several service providers noted that having an online reporting mechanism would be beneficial. TRHD staff suggested one option would be to work from the existing online reporting structure for alternative onsite sewage system (AOSS) operation and maintenance. Other providers commented that ease of reporting is important; less is better and eliminates duplication of effort. One service provider suggested allowing haulers to provide a list of addresses once a month to VDH through email for reporting.

D. Sewage Disposal Capacity

There are more than 50 facilities operated by localities or regional sanitation districts in the Eastern Shore, Middle Peninsula, Northern Neck, and surrounding Health Districts that have a Virginia Pollution Discharge Elimination System Permit (VPDES) from DEQ (see Appendix

C). There are also a number of privately owned facilities within these three regions.

Unfortunately, many of these facilities do not accept septage from septic tank pump-outs. For example, the Town of Kilmarnock reported their plant typically runs at 50% to 60% of total capacity, and that septage is too disruptive for dissolved oxygen. Other examples are the two wastewater treatment plants in Westmoreland County. The County reports that neither plant can accept septage from sewage haulers; one facility has a specific permit condition and the other facility is a very limited spray irrigation plant. Even for facilities capable of receiving septage from sewage haulers, some will not accept the waste if it was generated outside of the locality (e.g. Caroline County only accepts waste from homes in Caroline County.)

The majority of sewage haulers surveyed reported using only a handful of disposal facilities throughout the three regions. On the Eastern Shore, service providers reported taking the majority of their waste to the disposal facility in Pocomoke, Maryland. Two providers noted they sometimes take loads to Snowhill in Maryland but commented that the facility is not always open for sewage haulers. One provider also noted that they sometimes take loads from the Eastern Shore to the Hampton Roads Sanitation District (HRSD) facility in Virginia Beach. Service providers on the Eastern Shore noted that both Onancock and Cape Charles will occasionally allow haulers to offload, but they rarely use those facilities. Public Works staff for Onancock confirmed they sometimes accept waste from residential septic only, and that they are able to accept 4,000 to 5,000 gallons per day.

VDH staff spoke with the operator of the facility at Pocomoke. The operator noted they receive on average 40,000 gallons per day from sewage haulers, and the majority of that septage is coming from Virginia's Eastern Shore. The operator commented that the facility could potentially receive up to 100,000 gallons per day, dependent upon a number of other factors such

as infiltration and inflow from rain events. The capacity of the Pocomoke facility appears sufficient to meet demand, even if all homes on the Eastern Shore were to receive a pump-out once every five years. Pump-outs must be spread out evenly over the five years to ensure the facilities capacity is not exceeded. A number of stakeholders voiced concern with the lack of capacity on the Eastern Shore in Virginia, rather than relying upon facilities in Maryland and Virginia Beach.

In the Middle Peninsula and Northern Neck regions service providers reported three primary facilities for offloading; HRSD's plant in York, HRSD's plant in Williamsburg, and the Middle Peninsula Treatment Center in Gloucester. The Middle Peninsula Treatment Center is a privately owned lagoon. The Three River Health District reports the Middle Peninsula Treatment Center has a capacity of 15,000 gallons per day for five and a half days per week.

HRSD currently operates nine large plants and seven smaller plants in Coastal Virginia. Of those facilities, only six of the larger plants currently accept septage from haulers: the Williamsburg Treatment Plant, York River Treatment Plant, Boat Harbor Treatment Plant, Nansemond Treatment Plant, Chesapeake-Elizabeth Treatment Plant, and Atlantic Treatment Plant. HRSD reported that the capacity at these plants is mainly limited by how many trucks could discharge at the site within the operating hours, estimating that approximately 20 to 23 trucks per day could offload at each location. Currently, HRSD only receives approximately six trucks per day at each facility. In VDH's analysis of sewage hauler capacity, the most commonly reported truck size was a 2,000 to 2,500-gallon truck. If approximately 20 trucks hauling 2,500 gallons of septage offload at just the Williamsburg and York River plants, that provides a disposal capacity of 100,000 gallons per day.

Two other haulers operating in the Middle Peninsula and Northern Neck reported disposing in their own permitted lagoons. Operators also reported offloading septage at wastewater treatment plants in Hanover, Hopewell, and Tappahannock. Hanover County Utilities confirmed that companies that are based in Hanover can offload at the Harris dumpsite, which feeds to a wastewater treatment plant in Henrico. They reported receiving 22,000 gallons per day from sewage haulers; VDH anticipates that only a small portion of sewage received at Hanover facilities is from the Middle Peninsula or Northern Neck. Hanover County Utilities noted that the primary limitation to the amount that can be offloaded in a day is the speed at which trucks can offload, and not necessarily the capacity to treat the septage.

The operator that reported offloading at Hopewell commented they are using larger trucks to haul to Hopewell and travel the extra distance because of lower tipping fees. No other operators reporting offloading at Hopewell, likely because of the long travel distance from the Middle Peninsula and Northern Neck.

As with the Eastern Shore, there appears to be adequate capacity for disposal of septage from the Middle Peninsula and Northern Neck; however, that capacity is located in adjacent regions. Several stakeholders raised concern and a desire to increase disposal capacity within the Middle Peninsula and Northern Neck regions. Expanding capacity within the regions could reduce driving distances for sewage haulers, which could reduce cost if tipping fees are comparable to fees in adjacent regions. One suggestion from stakeholders to address this concern was to work with HRSD to place an offload site in the Middle Peninsula that would tie into a collection system directed to a larger treatment facility outside of the region.

E. Options for Transition of Authority

VDH has discussed two overarching options with stakeholders for transitioning pump-out programs in the Eastern Shore, Middle Peninsula, and Northern Neck from local oversight to VDH oversight: 1) modification of LGA between VDH and localities⁷; or 2) revisions to the Code of Virginia. The overwhelming consensus among stakeholders was to revise the Code of Virginia.

LHD's operate through cooperative budgets with local governments where both the state and the locality pay a portion of the LHD budget. The LGA provides a contractual agreement between VDH and localities for the implementation and enforcement of local ordinances regarding the Chesapeake Bay septic tank pump-out program.

The benefit to transitioning oversight through amendment of LGAs is the transition can be acted upon quickly, requiring only that each locality comes to an agreement with VDH and that adequate resources be made available to VDH to implement the program. This type of transition would also maintain the status quo regarding the implementation of seaside pump-out requirements on the Eastern Shore and limiting the scope of applicable properties in King and Queen County, Mathews County, and Middlesex County. However, stakeholders raised concern that transitioning via LGAs would not afford VDH any additional enforcement authority beyond that of localities. There is significant interest in VDH utilizing its civil penalty authority under § 32.1-164.J of the Code of Virginia. Stakeholders also raised concern that administering the program through LGA would make it unclear as to which entity is ultimately responsible for meeting the requirements of the CBPA and CBPADM Regulations.

The CBPA and CBPADM Regulations require that localities adopt ordinances for water quality protection measures, including septic tank pump-out requirements. In order to provide

⁷ See Virginia Code § 32.1-31.

VDH direct authority to implement these duties, the CBPA would need to be amended to specifically exclude localities in the Eastern Shore, Middle Peninsula, and Northern Neck from enforcement authority for septic pump-out programs and provide VDH necessary authority. Chapter 6 of Title 32.1 of the Code would also need to be revised to provide VDH authority to promulgate regulations to establish requirements for septic tank pump-outs in the Eastern Shore, Middle Peninsula, and Northern Neck. If the desire is for VDH to also access its civil penalty authority to assist with enforcement, then § 32.1-164.B and 32.1-164.J of the Code would need to be specifically revised. VDH would be required to promulgate the regulations before civil penalties could be issued.

The benefit of a code revision process is that it provides authority for VDH to oversee pump-out programs in these three regions. It also provides a mechanism for VDH to develop its own regulations regarding pump-out programs, providing an opportunity to administer a more uniform program across the three regions. The process to implement this type of transition would be considerably longer than amending LGAs. The process would require passage of multiple pieces of legislation, approval of a budget for VDH resources, and development of regulations in accordance with the Administrative Process Act. This process, however, would not address pump-outs outside of the Chesapeake Bay watershed. Seaside pump-outs are not required in the Code, but may be required via local ordinances. Seaside pump-outs on the Eastern Shore would either continue to be managed by the localities or administration of the local requirement would need to be transferred to VDH through the amendment of an LGA that would not have the same enforceability as the Code and regulations for bayside systems.

F. Addressing Data Needs

An absolute key to the successful implementation of any pump-out program, whether managed by a locality or VDH, is access to a complete dataset of properties served by OSS. As evident by the information provided in Table 1, there are wide gaps in understanding of the total number of systems actually in use today. VDH is confident in the ability to accurately identify properties with either new or repair OSS installed since 2003 when VDH began the first statewide onsite database. However, there are thousands of records still in only hard copy format in LHD files. A tremendous amount of resources is required to populate those records into a database in a reliable and accurate manner. But as previous projects in the Northern Neck have shown, it is possible.

The level of resources needed to compile the necessary dataset is directly tied to the confidence being sought in the dataset, and the level of confidence in the accuracy of a dataset is tied to the level of enforcement. If the goal of a program transition is simply for VDH to take over sending letters without any enforcement, this could potentially be accomplished with several small data mining projects. If the goal is for VDH to achieve 100% compliance with pump-outs via issuance of civil penalties, then VDH will require significant resources to pull hard copy files to ensure that a complete, accurate, and reliable dataset of properties served by OSS is available. Below are several options for addressing the need to create a more complete dataset.

Division of Data Management and Process Improvement (DMPI) Data Mining.

DMPI is housed within the OEHS at VDH. DMPI is currently engaged in conducting a pilot program to collect data from various available electronic sources to compare against existing records in EHD to create a more complete inventory of properties served by OSS.

Through the pilot program, DMPI has sought to obtain records from real estate tax assessment databases and similar datasets to identify properties served by OSS. A number of local datasets include the information of whether a property is connected to a public sewer or an OSS; however, many local datasets do not track this information.

Thus far DMPI has already completed this process for 23 localities, although none within the Eastern Shore, Middle Peninsula, and Northern Neck. If funding is provided to complete the project in these three regions, VDH would have an improved dataset that could be used to send notifications to owners regarding the five-year pump-out requirement. This strategy would be an ideal first step in improving VDH's dataset, or could be used as a singular tool if the goal is only to send reminders to property owners. Stakeholders commented that using a list of 911 addresses could be an effective tool; one locality commented they could tell VDH which 911 addresses have sewer.

Entry of Hard Copy Records

If the goal of a transition of oversight is for VDH to take active enforcement, then VDH must pull hard copy records to fill data gaps. Hard copy records would need to be pulled and the information entered directly into EHD. There are several options for completing this task.

The first would be to work in concert with other current efforts. VDH was recently awarded more than \$400,000 by the Strengthening Environmental Health Capacity (EHC) Grant from the Center for Disease Control and Prevention (CDC). The grant will be used for three different approaches to improve detection, prevention, and control of environmental health hazards through data-driven, evidence-based approaches. To administer the grant OEHS is partnering with the TRHD and the National Environmental Health Association (NEHA). As part of the grant, VDH will work with NEHA to hire interns to enter OSS and private well records in

VDH's database in up to four counties in the Middle Peninsula and Northern Neck. VDH will have the ability to apply for additional funding to expand these projects over the next five years. Therefore, it is possible that VDH could complete the entry of at least a significant portion of onsite records in the Eastern Shore, Middle Peninsula, and Northern Neck over the next five years using only CDC grant funding. VDH also has the existing Access database available for Northern Neck localities. However, grant funding is not guaranteed moving forward, and even with funding, the project would take a number of years.

Another option is to use pump-out program staff to complete data entry into EHD. As discussed later in the report, VDH must be provided the necessary resources to hire program staff to administer a pump-out program. The initial task for those staff could be to do direct data entry supplemental to the CDC grant program. VDH could then achieve a completed dataset in a shorter time window with dedicated full-time staff performing the task. The amount of time required would be dependent upon the number of staff provided.

A third option would be to provide VDH with financial resources to hire temporary interns or contractors, in addition to the CDC grant interns, to perform dedicated data entry of hard copy files. The amount of time required to complete the project would be dependent upon the number of interns or contractors provided. Several stakeholders noted there may be interest at state universities and colleges to partner with VDH on data collection projects. One stakeholder also suggested the option to start with a pilot project through a competitive Coastal Zone Management grant project.

G. Program Implementation Options

There are numerous options for the implementation of a pump-out program transitioned to VDH. The appropriate options depend upon the desired goal of the transition.

Education and Outreach Option

This option is suitable if the desire is to transition the pump-out programs away from local government oversight to VDH oversight, without enforcement. Under this option, VDH would request necessary staffing resources to send reminder letters to all property owners regarding the five-year pump-out requirements, respond to questions from the public, conduct education activities to encourage septic tank pump-outs, and track and report pump-outs. At a minimum, VDH would require adequate resources to complete the DMPI data mining options to create a more complete data set of properties served by OSS prior to the implementation of this transition. This option could be done with either amendments to LGAs or revisions to the Code. If completed through a Code change, then VDH would first have to develop regulations for septic tank pump-outs.

In the education and outreach option, once the DMPI data mining process has been completed and supplemented with available information from the CDC grant project and local government pump-out program data, then the new pump-out program staff would work to conduct any necessary data clean up. Once data clean-up is complete, the records would need to be transferred into EHD. This will require coordination with VDH's contractor for EHD and will have a cost to the agency.

VDH would then divide properties into five groups. The groups would be based on the date the OSS was installed. When the installation date is not available, the date of home construction will be used. Properties where the date of installation and date of home construction are unknown would be assigned to a random group. The goal of grouping is to create 5 equal groups of properties. It is preferable that VDH also establish a process with

localities that will allow for the continuous update of property owner names so that outreach efforts can be directed to a specific individual as opposed to “Resident”.

During this time VDH would also work with sewage haulers to develop necessary tools for reporting pump-outs. This may include developing an online reporting tool. The use of an online reporting tool would reduce staff resource needs, and therefore reduce overall program cost. LHD staff suggested that resources could be further reduced if staff could approve batch submissions of pump-out reports as opposed to individual approvals. There would be an initial development cost and ongoing maintenance cost for any online reporting tool.

Prior to sending an initial round of letters, VDH would recommend that new program staff develop and conduct community outreach regarding the pump-out program via social media, new releases, outreach to services providers, and other activities to improve awareness of the transition. New program staff would then send reminders to the first group of approximately 20,880 property owners in a staggered fashion over the next six months. Letters would be staggered in small batches to ensure that service providers and disposal facilities are not overloaded.

After the initial mailing, staff would respond to calls from owners and service providers, conduct data clean-up (e.g. update properties reported as now being connected to sewer), respond to Freedom of Information Act (FOIA) request from services providers seeking OSS records to locate tanks for pumping, and track and process pump out records as they are submitted.

After all owners in the first group have received an initial mailing, staff would then identify properties that still had not submitted a pump-out record and send out a follow-up reminder letter. The follow-up letters would also be staggered over a six-month time period. VDH recommends these letters be sent via certified mail to assure the letter was received. The

initial letter and follow-up letter would include information on resources to assist owners with pump-out of their systems where available.

After one year mailings, the first group of properties would be complete, and staff would move to the second group. The process would continue each year until the end of the fifth year by which time all property owners in EHD will have received at least one reminder. This process is similar to one employed in Chesterfield County. In 2018, Chesterfield reported to DEQ having 23,881 onsite sewage systems. Between 2016 and 2018, Chesterfield averaged 4,021 pump-outs per year, which equals 84% of systems being pumped out over five years without direct enforcement. There are a number of factors that dictate the level of community acceptance in the implementation of a pump-out program, so localities in the Eastern Shore, Middle Peninsula, and Northern Neck, may not achieve 84% of systems being pumped out. However, it is reasonable to anticipate an increase in pump-outs using this option.

Criminal Enforcement or Civil Penalty Option

This option is suitable if the desire is to transition the pump-out programs away from local government oversight to VDH oversight, with the goal of 100% compliance with septic tank pump-outs. Under this option, VDH would request necessary staffing resources to send initial letters to all property owners regarding the five-year pump-out requirements, respond to questions from the public, conduct education activities to encourage septic tank pump outs, track and report pump outs, issue Notices of Alleged Violations, participate in Informal Fact-Finding Conferences (IFFC), participate in formal hearings, issue notices of violation, take out summons to appear in court, issue civil penalties, and participate in associated legal proceedings. Under this option it is likely the Office of the Attorney General would require additional staffing to represent VDH in associated legal proceedings.

This option would mirror the education and outreach option up to the follow-up notice. Under this option the follow-up notice would be a Notice of Alleged Violation. From that point, staff would then initiate any necessary legal proceeding, whether criminal charges or issuance of civil penalties, as appropriate for each case of non-compliance with pump-out requirements. It is important to note that either a criminal case or a civil penalty can result in a court case, as the property owner would have the right to challenge a civil penalty in court. Therefore, staffing and Office of Attorney General staffing would need to be sufficient to participate in potentially thousands of court cases each year. Stakeholders asked whether VDH could possibly bulk criminal cases or civil penalties; VDH would seek to issue civil penalties in groups as opposed to one-by-one.

For this option, VDH would require adequate resources to complete the review of all hard copy records for entry into the EHD in addition to the use of data mining tools. VDH must have a high level of confidence that every OSS in the Eastern Shore, Middle Peninsula, and Northern Neck is included in EHD before any enforcement action can be conducted. This option would require a Code revision, and VDH would first have to develop regulations for septic tank pump-outs prior to any additional actions.

Phased and Targeted Option

This option is suitable if the desire is to transition the pump-out programs away from local government oversight to VDH oversight, without initial enforcement. This option would be identical to the education and outreach option to begin. This option could start with either amendments to LGAs or revisions to the Code. If completed through a Code change, then VDH would first have to develop regulations for septic tank pump-outs prior to any additional actions.

The variation from the education and outreach option would start after VDH collects necessary information on the rate of compliance with the pump-out program; at least one year and as much as five years after initial implementation. After sufficient time has passed to collect information on compliance rates, VDH would coordinate with DEQ and other stakeholders to assess the best path forward for enhanced compliance. This will include an assessment of necessary additional funding and administrative changes. If it is determined that the best path forward is for VDH to issue civil penalties, then a Code change would be required if not already completed, along with applicable regulations.

VDH would require additional staffing resources at this time if any enforcement will be conducted, along with enhancements to ensure a complete and accurate dataset is available in EHD. Under this option, the enforcement staff resources may be reduced compared to the criminal enforcement and civil penalty option, by targeting enforcement to certain areas such as individual localities with low compliance rates or systems closest to sensitive receiving environments. Stakeholders may also work with VDH to develop targeted education or funding programs to avoid enforcement actions. For example, rather than targeting enforcement in localities with low compliance rates, program staff could work with stakeholders to apply for grants to pay for pump-outs to address compliance issues.

Voucher Program Option

This is a unique option that a number of sewage haulers and other stakeholders suggested. Under this option, the Commonwealth would dedicate the necessary funding to pay for all or a portion of all septic tank pump-outs in the Eastern Shore, Middle Peninsula, and Three Rivers. The funding could be provided directly to the localities or VDH, and then the entity receiving the funding pays for qualifying owners' pump-outs. One sewage hauler noted

the Middle Peninsula Planning District Commission often provides vouchers for \$125. The service provider commented on the success of the program and how well it worked assisting elderly homeowners.

Contract Compliance Option

This option is similar to existing programs some localities used to enforce requirements such as weed ordinances. Under this option, necessary changes would be made to the Code to allow localities or VDH to contract with sewage haulers to pump out tanks on non-compliant properties, and then bill the owner for the cost. A proper notice would be required to property owners before such pump out could occur. Several stakeholders voiced concern over liability if the contracted hauler damages the onsite system or other property during the pump out. Local government representatives were unanimous in their opposition to this option.

Local Tax or Fee for Pump Out

A final option discussed with stakeholders was to provide localities or VDH necessary authority to assess a tax or fee to cover the cost of pumping out every system once every five years. The concept was that by using the assessed tax or fee to pay for a large volume of pump-outs, the locality or VDH could enter into contracts with sewage haulers at much lower rates per pump-out as compared to individual pump-outs. Local government representatives were unanimous in their opposition to this option. One stakeholder noted that local service authorities may already have some authority to enter into agreements with property owners to conduct pump-outs and bill the property owners.

Other suggestions from stakeholders were to have VDH require pump-outs as part of the issuance of an operation permit, or instituting a process similar to car inspections where the state sets the price for system inspections.

H. Resources Requirements

Education and Outreach Option

VDH estimates this option will cost \$761,900 annually for staffing resources, in addition to upfront cost to develop the inventory of systems and developing a reporting mechanism. This cost includes an estimated \$97,300 to send the 20,880 initial reminder letters each year, and an estimated 16,700 follow-up letters to be sent via certified mail. This cost also covers an estimated \$664,600 in salary, benefits, and overhead to hire two full-time Environmental Health Supervisors and four full-time Environmental Health Specialists. VDH would propose one pump program supervisor for each of the two health districts – ESHD and TRHD – with the Environmental Health Specialist distributed based on anticipated workload.

Staff time would be dedicated approximately 25% to education and outreach, 20% to data entry and data clean-up, 10% to FOIA response (estimate more than 800 FOIA requests per year), 20% to telephone response, 10% to actual sending of letters, and 15% to other duties. In discussing current programs with local governments, they reported that one of the greatest resource strains was the overwhelming number of phone calls from property owners following the mailing of notices. The supervisor's duties would mirror the Environmental Health Specialist, with additional supervisory and reporting requirements.

Criminal Enforcement or Civil Penalty Option

VDH estimates this option will cost at least \$3,581,050 annually for VDH staffing resources. There would also be a significant addition to upfront cost to develop the inventory of systems and developing a reporting mechanism. The Office of the Attorney General may also require a significant funding increase, as the Office of Attorney General staff would be representing VDH in any court cases resulting from the issuance of civil penalties. The cost

estimate includes \$200,000 to send the initial reminder letters each year, send Notice of Alleged Violation letters via certified mail, and send additional Notice of Violation and Notice of Civil Penalty letters via certified mail or hand delivery. This cost also covers an estimated \$3,381,050 in salary, benefits, and overhead to hire five full time Environmental Health Supervisors and 27 full time Environmental Health Specialists.

The goal of this option would be to ensure 100% of systems are pumped out every five years. VDH would propose to hire at least four Environmental Health Specialists working throughout the three regions to conduct education and outreach, and to respond to an anticipated increase in phone calls from owners as compared to the education and outreach option. Having increased staffing for education and outreach would be vital to reducing enforcement staff resource needs. VDH would also propose to have five Environmental Health Specialists working solely on data entry and data clean-up for reported pump-outs based on the estimated total number of systems. Next, VDH would propose at least one Environmental Health Specialist in each region to handle FOIA requests, and one Environmental Health Specialist in each region to handle the notice letters for a total of six additional positions. VDH would propose having one Environmental Health Manager working in each of the two health districts to supervise the education and outreach, data entry, FOIA, and letter staff.

Additionally, VDH would propose to hire at least 12 Environmental Health Specialists, one per locality, to handle enforcement actions. These staff would be responsible for all activities related to enforcement actions, including participation in Informal Fact-Finding Conferences, formal hearings, issuance of civil penalties, and representing the agency in court cases resulting from civil penalties. Three Environmental Health Supervisors would be necessary to supervise these staff, one in each region.

The number of enforcement staffing may need to be increased once implementation begins and once better information is available on the rate of compliance with pump-outs. There is a comparable enforcement program currently in place at the Loudoun County Health Department (LCHD) for the operation and maintenance of AOSS, including the issuance of civil penalties. In 2019, LCHD reported having a total of 2,010 AOSS in the county. There are a total of five staff members dedicated to the enforcement program for those 2,010 systems. If an equivalent level of resources is required for enforcement of the pump-out programs in the Eastern Shore, Middle Peninsula, and Northern Neck, VDH would need a total of 51 staff members as opposed to the 32 staff proposed above.

Phased and Targeted Option

For the phased and targeted option, VDH estimates the same initial cost as that of the education and outreach option; \$761,901 for staffing resources plus the cost to develop the inventory of systems and reporting mechanisms. Following additional data collection and discussion with stakeholders, VDH would develop an estimated cost for additional staffing and resources based on the desired targeting approaches.

Voucher Program Option

The cost of this option would depend upon the level at which the General Assembly chooses to fund pump-outs. DEQ shared with VDH that the cost of pump-outs in the Middle Peninsula and Northern Neck run between \$180 and \$300 based on Chesapeake Bay Implementation Grant Program (CBIG) data. Several sewage haulers also reported pump out cost around \$300 per 1,000 gallons. Using \$300 as an average cost per pump-out, a voucher program funded at \$6,264,000 annually would pay for the pump of every septic tank in the Eastern Shore, Middle Peninsula, and Northern Neck once every five years. This cost could be

significantly reduced if the voucher paid only a portion of the pump-out cost, or if the vouchers were targeted to assist low-income households. Stakeholders from the Eastern Shore commented that the most efficient option is to have the state contract with haulers and pay for the pump-outs, with permission from the property owners to conduct the pump-out.

Contract Compliance Option

If VDH were directed to implement this option, it would have a cost similar to the education and outreach options in order to identify properties not conducting a five (5) year pump-out. Costs associated with contracting pump out services and collection of fees could be offset by providing VDH authority to cover all program costs via the fee for services.

Local Tax or Fee for Pump Out

This option would not have any cost to the Commonwealth, provided authority is given to cover all program costs via the tax or fee.

I. Options to Address Financial Assistance Needs for Pump-Outs

The voucher options for enforcement was suggested by several stakeholders as the best option to achieve compliance while also providing financial assistance for pump-outs. Sewage haulers commented that their costs are not only for the pump-out, but also to cover the cost of finding and uncovering the system.

Another suggestion from stakeholders on options to address financial assistance needs was pro bono inspections for low-income households. Many localities provide an exemption to the pump-out requirement if the system is inspected and found not to require a pump-out. The suggestion was to work with service providers to conduct fee system inspections for low-income households to hopefully avoid the cost of a pump-out.

The NNPDC also noted there are no approved implementation plans for waterways in the Northern Neck, meaning the region cannot access 319 grants. NNPDC suggested working with the Rappahannock River Basin Commission and DEQ to develop implementation plans for the lower Rappahannock River and Potomac River.

A final common suggestion was to simply increase funding to existing resources that provide financial assistance for pump-outs or improvements to wastewater treatment facilities. Appendix D includes a list of available funding programs, such as 319 Grants administered by VDH that could be used to provide financial assistance for pump-outs or improvements to wastewater treatment facilities. All three of the planning district commissioners have experience with providing assistance for septic system pump-outs. For example, the Accomack Northampton Planning District Commission (ANPDC) recently had two 319 grants for pump-outs extended to the end of 2021.

J. Ideas for Incentivizing Septic Pump Outs

In addition to suggestions for increasing financial assistance to increase pump-outs, stakeholders provided a number of other ideas for incentivizing septic tank pump-outs, including:

- Providing a nitrogen reduction credit to the haulers for every gallon transported. Haulers could then monetize that credit value.
- Providing necessary funding to wastewater treatment plants in the Eastern Shore, Middle Peninsula, and Northern Neck to install upgrades so plants are capable of accepting septage. The thought being, this would reduce the cost of pump-outs in each region, thereby encouraging more pump-outs.

- Enhance education and outreach so people understand the public health and environmental benefits of a pump-out. Stakeholders suggested that VDH send out information regarding system maintenance with all permits, including conventional system permits.

K. Other Issues Discussed

Eastern Shore Health Department staff commented on the need to identify other BMPs within the Chesapeake Bay and conduct a cost-benefit analysis of those BMPs. While a cost-benefit analysis of all Chesapeake Bay BMPs goes beyond the scope of the request for the HB 2322 report and VDH staff expertise, there are a number of resources available that provide information on the various cost of Chesapeake Bay BMPs including the Chesapeake Assessment Scenario Tool found at <https://cast.chesapeakebay.net/Documentation/CostProfiles>. It is also important to note that many BMP's have co-benefits, such as the human health benefits of septic pump-outs which may be difficult to quantify. A BMP co-benefits matrix tool is available on DEQ's website at <https://www.deq.virginia.gov/Programs/Water/ChesapeakeBay/ChesapeakeBayTMDL/Resource/sandTools.aspx>.

Several stakeholders also asked whether there would be potential issues with double accounts for BMP reporting in DEQ's BMP warehouse. If authority for oversight is transferred to VDH, credit for septic tank pump-outs would still go to the locality where they occurred. VDH would be responsible for conducting the reporting.

Sewage haulers noted that many homes in Coastal Virginia have water softeners for their wells that are discharging the backwash into the OSS. This can cause major issues by disrupting treatment processes in the OSS.

Lastly and most importantly, a common concern that was raised by stakeholders is the increased flooding of OSS in Coastal Virginia. As the impact of sea-level rise becomes more evident in Virginia, more existing homes are finding their OSS is inundated by surface water or rising groundwater levels. The Virginia Coastal Resilience Master Planning Framework identifies failing septic systems as a unique issue facing rural coastal communities. Many of the properties impacted are small, with little room for a new OSS that is fully protective of public health and the environment. The Virginia Institute for Marine Science at William and Mary recently worked with VDH to develop a wastewater needs tool that provides a visual representation of areas that are hot spots for septic failures, including areas potentially impacted by sea-level rise. This tool could serve as an excellent starting point for identifying properties in rural Coastal Virginia most at risk so that long-term solutions to address wastewater needs can be developed.

V. Conclusion

There are many options available to transition locally operated septic pump-out programs, either to shifting oversight to VDH or developing new methods of local implementation. This includes voucher programs potentially implemented by multiple agencies or enforcement through civil penalties and targeted enforcement options all implemented by VDH. The cost of implementation ranges from zero dollars for the Commonwealth to \$6.3 million. The variations in cost to the government depends upon who will bear the financial cost of the program; at zero dollars, all cost would be paid for by OSS owners. Depending upon the option selected, there may be an additional cost associated with the development of necessary datasets and data collection tools, and cost incurred by other state offices.

Two critical aspects to any transition plan that is selected are ensuring that VDH or localities are provided sufficient resources to create a complete inventory of OSS and that VDH or localities have sufficient staffing resources to conduct oversight of the estimated 104,399 onsite systems in the Eastern Shore, Middle Peninsula, and Northern Neck regions of Virginia.

Many OSS in these three regions are not being pumped out every five years and all the pump-outs are not being reported. As reported, the three regions combined are currently only achieving about 25% of the anticipated septic tank pump-out goals in the WIP III.

Information from sewage haulers and wastewater disposal facilities indicate there is adequate sewage hauling and disposal capacity for all three regions. However, the majority of disposal facility capacity is located outside of the three regions, and sometimes outside of the Commonwealth. This lack of disposal capacity within the three regions increases the cost of pump-outs, which may serve as a deterrent to septic tank pump-outs.

Stakeholders were unanimous in recommending that any transition of oversight to VDH be completed through revisions to the Code of Virginia if the General Assembly chooses to make such a transition. This was recommended to draw a clear distinction as to the entity responsible for oversight.

VDH stands ready to implement any plan chosen by the General Assembly. We recommend the Phased and Targeted option for transitioning oversight from local governments to VDH. This approach will require legislative action and provides the greatest flexibility for implementation at a reasonable cost to the Commonwealth.

Appendix A
Applicable Local Ordinances

Accomack County

Accomack County Code Section 106-384.b.5

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five years, or have a plastic filter installed and maintained in the outflow pipe from the septic tank to filter solid material from the effluent while sustaining adequate flow to the drainfield to permit normal use of the septic system, or provide certified documentation every five years from a sewage handler permitted by the Virginia Department of Health, that the septic system has been inspected, is functioning properly, and the tank does not need to have the effluent pumped out of it.

Essex County

Essex County Code Section 15-1.10.b.5

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five (5) years.

Gloucester County

Gloucester County Code Section 5.5-9.b.5

All on-site sewage disposal systems not requiring a Virginia Pollutant Discharge Elimination System (VPDES) permit shall be pumped out at least once every five (5) years. Furthermore, in lieu of requiring proof of septic tank pump-out every five (5) years, the county may allow owners of on-site sewage treatment systems not requiring a VPDES to submit to the county, documentation every five (5) years, certified by a sewage handler permitted by the Virginia Department of Health, that the septic system has been inspected, is functioning properly, and the tank does not need to have the solids pumped out.

King and Queen County

King and Queen County Code Section 3-270.b.5

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five years, in accordance with the provisions of the King and Queen County Health Code. Note: Alternatives for pump-out are also permitted including the installation of a plastic filter in the outflow pipe from the septic tank as long as the filter satisfies the standards established in the Sewage Handling and Disposal Regulations under 12 VAC 5-6-10 et. seq. as administered by the Virginia Department of Health or owners of on-site sewage treatment systems may submit, every five (5) years, documentation certified by a sewage handler permitted by the Virginia Department of Health that the septic system has been inspected and is functioning properly and does not need to be pumped out.

King William County

King William County Code Section 86-409.e.1

Systems shall be pumped out at least once every five (5) years unless the owner submits documentation, certified by a sewage handler permitted by the Virginia Department of Health, that the septic system has been inspected, is functioning properly, and the tank does not need to have the effluent pumped out of it. As an alternative to the mandatory pump-out or

documentation, a plastic filter approved by the health department may be installed and maintained in the outflow pipe from the septic tank to filter solid material from the effluent. Such a filter shall satisfy standards established in the sewage handling and disposal regulations administered by the Virginia Department of Health.

Lancaster County

Land Development Code of Lancaster County Section 4-5.a

All on-site sewage disposal systems not requiring a NPDES permit shall be pumped out at least once every five (5) years, in accordance with the requirements of the Virginia Department of Health. Alternatives for pump-out are also permitted including the installation of a plastic filter in the outflow pipe from the septic tank as long as the filter satisfies the standards established in the sewage handling and disposal regulations under the 12 VAC 5-6-10 et seq. as administered by the Virginia Department of Health. As a second alternative, owners of on-site sewage treatment systems may submit, every five (5) years, documentation certified by a sewage handler permitted by the Virginia Department of Health that the septic system has been inspected and is functioning properly and does not need to be pumped out.

Mathews County

Mathews County Code Section 175-22.10.G

All on-site sewage disposal systems not requiring a Virginia Pollutant Discharge Elimination System (VPDES) permit shall:

- (1) Have pump-out accomplished for all such systems at least once every five (5) years.
- (2) If deemed appropriate by the local health department and subject to conditions the local health department may set, as an alternative to the mandatory pump-out, the option of having a plastic filter installed and maintained in the outflow pipe from the septic tank to filter solid material from the effluent while sustaining adequate flow to the drainfield to permit normal use of the septic system. Such a filter should satisfy standards established in the Sewage Handling and Disposal Regulations (12 VAC 5-610) administered by the Virginia Department of Health.
- (3) In lieu of requiring proof of septic tank pump-out every five (5) years, owners of on-site sewage treatment systems to submit documentation every five (5) years, certified by sewage handler permitted by the Virginia Department of Health, that the septic system has been inspected, is functioning properly, and the tank does not need to have the effluent pumped out of it.

Middlesex County

Middlesex County Zoning Ordinance Section 4A-10.G.1

All on-site sewage disposal systems not requiring a NPDES permit shall be pumped out at least once every five years.

Northampton County

Northampton County Code Section 154.2.163.M.2.f

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five (5) years unless an exception is granted by the Zoning Administrator.

- i. The following pump-out frequency (stated in years) standards will be considered upon request by a landowner and may apply if the Zoning Administrator is satisfied, based

upon information furnished by the landowner, that the household size, occupancy per year, and septic tank size warrant an exception as described in NCC § 154.2.163(N)(2)(f).

Pump-Out Frequency Standards																		
Household Size (# of people)																		
Tank Size (gallons)	1			2			3			4			5			6		
	Occupancy Per Year																	
	>6 Mos	4 to 6 Mos	<4 Mos	>6 Mos	4 to 6 Mos	<4 Mos	>6 Mos	4 to 6 Mos	<4 Mos	>6 Mos	4 to 6 Mos	<4 Mos	>6 Mos	4 to 6 Mos	<4 Mos	>6 Mos	4 to 6 Mos	<4 Mos
500	5.8	11.6	17.4	5.0	5.2	7.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
750	9.1	18.2	27.3	5.0	8.4	12.6	5.0	5.2	7.8	5.0	5.0	5.4	5.0	5.0	5.0	5.0	5.0	5.0
900	11.0	22.0	33.0	5.2	10.4	15.6	5.0	6.6	9.9	5.0	5.0	6.9	5.0	5.0	5.1	5.0	5.0	5.0
1,000	12.4	24.8	37.2	5.9	11.8	17.7	5.0	7.4	11.1	5.0	5.2	7.8	5.0	5.0	6.0	5.0	5.0	5.0
1,250	15.6	31.2	46.8	7.5	15.0	22.5	5.0	9.6	14.4	5.0	6.8	10.2	5.0	5.2	7.8	5.0	5.0	6.0
1,500	18.9	37.8	56.7	9.1	18.2	27.3	5.9	11.5	17.7	5.0	8.4	12.6	5.0	6.6	9.9	5.0	5.2	7.8
1,750	22.1	44.2	66.3	10.7	21.4	32.1	6.9	13.8	20.7	5.0	10.0	15.0	5.0	7.8	11.7	5.0	6.2	9.3
2,000	25.4	50.8	76.2	12.4	24.8	37.2	8.0	16.0	24.0	5.9	1.8	17.7	5.0	9.0	13.5	5.0	7.4	11.1
2,250	28.6	57.2	85.8	14.0	28.0	42.0	9.1	18.2	27.3	6.7	13.4	20.1	5.2	10.4	15.6	5.0	8.4	12.6
2,500	31.9	63.8	95.7	15.6	31.2	46.8	10.2	20.4	30.6	7.5	15.0	22.5	5.9	11.8	17.7	5.0	9.6	14.4

- ii. Septic Pump-Out Exception Policy. While the above regulation was adopted in compliance with requirements of the Chesapeake Bay Preservation Area Designation and Management Regulations (9 VAC 25-830 et seq.), the county and the Commonwealth of Virginia recognize that under some circumstances the requirement may impose an undue burden and hardship. Therefore, the county may grant administrative exceptions to this requirement according to the following guidelines.
- iii. Each request for an exception will be reviewed on a case-by-case basis.
- iv. At the time such request is made, the property owner(s) shall provide evidence that the septic system was pumped or installed within the previous five (5) years.
- v. When an exception is granted, subsequent pump-outs will be required according to the chart below. However, each exception will be reviewed after five-year intervals, and at the end of such five-year intervals, property owners will be notified and requested to verify occupancy status.
- vi. The county reserves the right to check, during the five-year intervals, properties that have been granted pump-out exceptions for building permit activities or changes in property ownership that may indicate a change in status of the septic system.

Northumberland County

Northumberland County Code Section 54-16.B.5

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five (5) years. [Note: Alternatives for pump-out are also permitted, including the installation of a plastic filter in the outflow pipe from the septic tank as long as the filter satisfies the standards established in the Sewage Handling and Disposal Regulations under 12VAC5-6-10 et seq. as administered by the Virginia Department of Health, or owners of on-site sewage treatment systems may submit, every five (5) years, documentation certified by a sewage handler permitted by the Virginia Department of Health that the septic system has been inspected and is functioning properly and does not need to be pumped out.]

Richmond County

Richmond County Code Section 157.047.J.2.f

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five (5) years, in accordance with the regulations of the State Department of Health.

As alternatives to pump-out:

1. An effluent filter may be installed and maintained in the outflow pipe from a septic tank as long as the filter satisfies the standards established in the Sewage Handling and Disposal Regulations under 12 VAC 5-610 et seq., as administered by the State Department of Health; or
2. Owners of on-site sewage treatment systems may submit documentation, every five (5) years, certified by a sewage handler permitted by the State Department of Health that the septic system has been inspected, is functioning properly, and does not need to be pumped out.

Westmoreland County

Westmoreland County Zoning Ordinance Section 3-1.10.B.5

All on-site sewage disposal systems not requiring a VPDES permit shall be pumped out at least once every five (5) years, in accordance with the provisions of the Virginia Department of Health.

- a) If deemed appropriate by the Virginia Department of Health and subject to conditions the Virginia Department of Health may set, the owners of such systems, as an alternative to the mandatory pump-out, may have the option of having a plastic filter installed, and maintained, in the outflow pipe from the septic tank to filter solid material from the effluent while sustaining adequate flow to the drainfield to permit normal use of the septic system. Such a filter should satisfy standards established in the Sewage Handling and Disposal Regulations (12 VAC 5-610-10 et. seq.) administered by the Virginia Department of Health.
- b) In lieu of requiring proof of septic tank pump-out every five (5) years, owners of on-site sewage treatment systems shall submit documentation every five (5) years, certified by an operator or on-site soil evaluator licensed or certified under Chapter 23 (§ 54.1-2300 et seq.) of Title 54.1 as being qualified to operate, maintain or design on-site sewage systems, that the septic system has been inspected, is functioning properly, and the tank does not need to have the effluent pumped out of it.

Appendix B
Sewage Hauler Survey Script

Hello, my name is (name). I'm (position description) for the Virginia Department of Health's Onsite Sewage Division. We are currently in the process of developing a report for the General Assembly assessing the potential to transition the septic tank pump-out program from local government implementation to VDH within the Eastern Shore, Middle Peninsula, and Northern Neck regions of Virginia. As part of that assessment, we are looking to gather additional information on the current sewage hauling and disposal capacity within the region. If you have a few moments, as a sewage hauling company in the region, I would greatly appreciate your assistance in helping us better understand regional sewage hauling capacity.

Do you have a moment?

Before I start, I'd like to provide a quick background. In 2019 the General Assembly approved HB 2322. The bill requires VDH to evaluate transitioning oversight and enforcement of the Chesapeake Bay septic tank pump-out requirements from local government to VDH in the Eastern Shore, Middle Peninsula, and Northern Neck. VDH plans to provide a final report to the General Assembly in November. As part of that report, we feel it is important to understand what the capacity of sewage hauling is in the area, as the goal of the transition would be to increase compliance with the five (5) year pump-out requirements.

My first few questions are to help us understand the total number of companies operating in the various regions.

- Does your company provide sewage hauling services in the Eastern Shore region (Accomack and Northampton Counties)?
- Does your company provide sewage hauling services in the Middle Peninsula region (Essex, King and Queen, King William, Middlesex, Mathews, and Gloucester Counties)?
- Does your company provide sewage hauling services in the Northern Neck region (Westmoreland, Richmond, Northumberland, Lancaster Counties)?
- How many trucks do you operate?
- Are those trucks operated during normal business hours, or do you provide services 7 days a week? (If emergency services, explain)
- What is your average daily capacity for sewage hauling?
- Where do your trucks typically offload their sewage?
- If sewage hauling were to increase in the Eastern Shore, Middle Peninsula, and Northern Neck, do you have the capacity to increase your sewage hauling operations?
- Do you have any thoughts or items that you believe VDH should consider as part of our assessment?

Wastewater Disposal Facility Survey Script

Hello, my name is (name). I'm (position description) with the Virginia Department of Health's Onsite Sewage Division. We are currently in the process of developing a report for the General Assembly assessing the potential to transition the septic tank pump-out program from local government implementation to VDH within the Eastern Shore, Middle Peninsula, and Northern Neck regions of Virginia. As part of that assessment, we are looking to gather information on existing sewage disposal capacity within the region. If you have a few moments, I would greatly appreciate your assistance in helping us better understand regional sewage disposal capacity.

Do you have a moment?

Before I start, I'd like to provide a quick background. In 2019, the General Assembly approved HB 2322. The bill requires VDH to evaluate transitioning oversight and enforcement of the Chesapeake Bay septic tank pump-out requirements from local government to VDH in the Eastern Shore, Middle Peninsula, and Northern Neck. VDH plans to provide a final report to the General Assembly in November. As part of that report, we feel it is important to understand what the capacity of sewage disposal/dump stations is in the area, as the goal of the transition would be to increase compliance with the five (5) year pump-out requirements which should result in increased septic tank pump-outs and thus increase sewage disposal at local wastewater treatment plants.

- How many wastewater treatment plants do you operate?
- Do all of your treatment plants accept waste from sewage haulers (i.e. septic tank pump-outs)? If not all, please list which facilities do accept waste.
- Do these treatment plants accept waste from outside of your locality (i.e. can a hauler bring septic tank waste from another county)?
- What is the daily capacity of each of these treatment plants to accept waste from sewage haulers?
- If sewage hauling were to increase in the Eastern Shore, Middle Peninsula, and Northern Neck, do you have the ability to increase your capacity to meet additional demand for sewage offloads?
- Do you have any thoughts or items that you believe VDH should consider as part of our assessment?

Appendix C

List of VPDES Permitted Treatment Facilities in the Eastern Shore, Middle Peninsula, Northern Neck, and Adjacent Health Districts – Operated by Localities of Regional Sanitation Districts

Owner	Facility
Accomack County	Accomack County Leachate Treatment Facility
Bowling Green Town	Bowling Green Wastewater Treatment Plant
Cape Charles Town	Cape Charles Town - Wastewater Treatment Plant
Caroline County Department of Public Utilities	Caroline County Regional WWTP
Charles City County of	Charles City Administration Building
Charles City County of	Hideaway STP
Charles City County of	Ruthville Community Center WWTP
Charles City County of	Mt Zion Rustic WTP
Chesapeake City - Department of Public Utilities	Chesapeake City - Lake Gaston WTP
City of Fredericksburg	Fredericksburg Wastewater Treatment Facility
College of William and Mary	VIMS Gloucester Point
Colonial Beach Town of	Town of Colonial Beach Wastewater Treatment Plant
Gloucester County	Gloucester County Water Treatment Plant
Hampton Roads Sanitation District	HRSD - Army Base WWTP
Hampton Roads Sanitation District	HRSD - Atlantic Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD - Boat Harbor Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD - Chesapeake-Elizabeth Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD - James River Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD - Virginia Initiative WWTP
Hampton Roads Sanitation District	HRSD - Williamsburg Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD - York River Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD Central Middlesex STP
Hampton Roads Sanitation District	HRSD King William County Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD Mount Olive Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD Urbanna Sewage Treatment Plant
Hampton Roads Sanitation District	HRSD West Point Sewage Treatment Plant
Hanover County	Ashland WWTP
Hanover County	Hanover County Doswell WWTP
Hanover County	Hanover County Totopotomoy WWTP
Hanover County	Hanover Courthouse WWTP
James City Service Authority	JCSA - Five Forks Water Treatment Facility
King George County Service Authority	Dahlgren District Wastewater Treatment Plant
King George County Service Authority	Fairview Beach Wastewater Treatment Plant

King George County Service Authority	Hopyard Farm Wastewater Treatment Facility
King George County Service Authority	Oakland Park Sewage Treatment Plant
King George County Service Authority	Purkins Corner Wastewater Treatment Plant
KING WILLIAM COUNTY PUBLIC SCHOOLS	Hamilton Holmes Wastewater Treatment Plant
New Kent County	Parham Landing WWTP
Newport News City - Dept of Public Utilities	Newport News City - Harwoods Mill Water Treatment
Newport News City - Public Utilities	Newport News City - Lee Hall WTP
Northampton County Public Schools	Northampton County Facilities Building
Onancock Town	Onancock Town - Waste Water Treatment Plant
Spotsylvania County - Dept of Public Utilities	FMC Wastewater Treatment Facility
Spotsylvania County - Dept of Public Utilities	Massaponax Wastewater Treatment Facility
Spotsylvania County - Dept of Public Utilities	Thornburg Community Sewage Treatment Plant
Spotsylvania County - Dept of Public Utilities	Motts Run Water Treatment Plant
Stafford County Board of Supervisors	Aquia Wastewater Treatment Plant
Stafford County Board of Supervisors	Little Falls Run Wastewater Treatment Facility
Town of Kilmarnock	Kilmarnock Wastewater Treatment Plant
Town of Tappahannock	Tappahannock Town of WWTP
Town of Warsaw	Warsaw Wastewater Treatment Plant
Westmoreland County	Montross Westmoreland WWTP
Williamsburg Department Public Works & Utilities	City of Williamsburg Water Filter Plant

Appendix D
List of Funding Assistance Programs

Source Title	Funding Agency	Funding Source	Eligible Applicants	Grant, Loan, Combination	Recurring or One-time
Clean Water Financing & Assistance Program	DEQ	On-site local program loan.	Municipalities, political subdivisions.	Loan	Both
319 Funding - Nonpoint Source Implementation Grants	DEQ	Federal	Local Governments, county health departments, soil and water conservation districts, planning district commissions, non-profits	Grant	Both
Water Quality Improvement Fund	DEQ / DCR	State	Significant dischargers within Ches. Bay watershed.	Grant	One-time
Indoor Plumbing Rehabilitation	DHCD	Federal / State	8 Sub-Recipients	Forgivable Loans	One-time
Community Development Block Grant - Competitive Fund	DHCD	Federal	Localities	Grant	One-time
Community Development Block Grant - Construction Ready Fund	DHCD	Federal	Localities	Grant	One-time
Community Development Block Grant - Regional Infrastructure Fund	DHCD	Federal	Localities	Grant	One-time
Jessie Ball duPont Fund	Jessie Ball duPont Fund	Private	Churches, schools, cultural organizations	Grants and loans	na
Local Government loans per 15.2-958.6 of the Code of VA	Private financial institutions	Private	na	na	na
Southeast Rural Community Assistance Project	SERCAP	Federal and State	Individual and community	Loans and small grants	Recurring
SERCAP	SERCA	Federal and	Local governments	Loan	Recurring

Community Development Loans	P	state			
Loan guarantee program	USDA	Federal	na	Other	Recurring
Predevelopment Planning Grants	USDA	Federal	na	Grant	Recurring
Chesapeake Bay Implementation Grant	EPA	Federal	Planning District Commissions and Localities	Grant	Ongoing