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Proposed Regulation Agency Background Document

Agency name	Virginia Waste Management Board
Virginia Administrative Code (VAC) Chapter citation(s)	9VAC20-81
VAC Chapter title(s)	Solid Waste Management Regulations
Action title	Amendment 9
Date this document prepared	September 9, 2021 Updated Detail of Changes February 15, 2022

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1VAC7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code*.

Brief Summary

Provide a brief summary (preferably no more than 2 or 3 paragraphs) of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation). Alert the reader to all substantive matters. If applicable, generally describe the existing regulation.

A periodic review was conducted in 2019 of the Solid Waste Management Regulations and the result of the periodic review was to amend the regulation. Numerous public comments were received concerning the technical requirements of the regulation which were considered during the development of this proposed amendment. This amendment was developed by department staff based on the comments received during the periodic review and NOIRA comment period, recommendations included in the August 2019 final report submitted by the Office of the Secretary of Natural and Historic Resources to Governor Ralph Northam in response to the Governor's Executive Order 6 (2018), meetings with members of the Regulatory Advisory Panel (RAP), and feedback from program staff.

Acronyms and Definitions

Define all acronyms used in this form, and any technical terms that are not also defined in the "Definitions" section of the regulation.

ACL- alternate concentration limits

ACM- asbestos containing material
 CDD- Construction demolition debris
 CFR- Code of Federal Regulations
 DEQ- Department of Environmental Quality
 EOX- extractable organic halides
 EPA- Environmental Protection Agency
 LEL- lower explosive limit
 MCL- maximum contaminant levels
 NOIRA- Notice of Intended Regulatory Action
 PCBs- polychlorinated bi-phenyls
 PFAS- per- and polyfluoroalkyl substances
 RAP- Regulatory Advisory Panel
 RCRA- Resource Conservation and Recovery Act
 RDD- research, development and demonstration
 SW-846 – EPA’s Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium
 SWIA- Solid Waste Information and Assessment (SWIA)
 TCLP- Toxicity Characteristic Leaching Procedure
 TOX- total organic halides
 VDH- Virginia Department of Health
 VOC- Volatile Organic Compound

Mandate and Impetus

Identify the mandate for this regulatory change and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, petition for rulemaking, periodic review, or board decision). For purposes of executive branch review, “mandate” has the same meaning as defined in Executive Order 14 (as amended, July 16, 2018), “a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part.”

A periodic review was conducted in 2019 of the Solid Waste Management Regulations and the result of the periodic review was to amend the regulations. This amendment is being initiated as a result of the periodic review. Additionally, in August 2019, the Office of the Secretary of Natural and Historic Resources released a final report to Governor Ralph Northam in response to the Governor’s Executive Order 6 (2018) recommending areas in which this regulation be amended.

Legal Basis

Identify (1) the promulgating agency, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia and Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating agency to regulate this specific subject or program, as well as a reference to the agency’s overall regulatory authority.

Section 10.1-1402 (11) of the Code of Virginia authorizes the Virginia Waste Management Board to promulgate and enforce regulations. Section 10.1-1408.1 of the Code of Virginia requires a permit to be obtained to conduct nonhazardous solid waste disposal, treatment or storage activities. The Virginia Waste Management Board has adopted this regulation under the authority granted by state law.

The corresponding federal authority for the criteria for municipal solid waste landfills is found at 40 CFR Part 257 and 258.

Purpose

Explain the need for the regulatory change, including a description of: (1) the rationale or justification, (2) the specific reasons the regulatory change is essential to protect the health, safety or welfare of citizens, and (3) the goals of the regulatory change and the problems it's intended to solve.

The Virginia Solid Waste Management Regulations, 9 VAC 20-81, establish standards and procedures for the siting, design, construction, operation, maintenance, closure, and post-closure care of solid waste management facilities in the Commonwealth. It also establishes standards and procedures pertaining to the management of solid wastes. The proposed amendments are necessary to address issues that have arisen since the regulation was last amended. Public comments were submitted during the periodic review of this regulation and during the Notice of Intended Regulatory Action comment period requesting changes to the regulations. Additionally, changes to the regulation were recommended as a result of the August 2019 final report from the Office of the Secretary of Natural and Historic Resources to Governor Ralph Northam in response to the Governor's Executive Order 6 (2018). The proposed amendments are essential to protect the health, safety and welfare of citizens because the amendments include changes related to landfill gas, groundwater monitoring, and daily operational requirements of landfills. The amendments are needed to provide additional protection to the citizens in the vicinity of landfills from the operation of these facilities.

The regulations are being amended to strengthen some requirements to be more protective of human health and the environment, to clarify some existing requirements, to address recommended regulatory changes in the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6 (2018), and to include editorial corrections. The main goals of this amendment are to improve standards for the siting, operation and monitoring of landfills and revise the open burning exemptions to be more protective of human health and the environment.

Substance

Briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both. A more detailed discussion is provided in the "Detail of Changes" section below.

The regulations are being amended to strengthen some requirements to be more protective of human health and the environment, to clarify some existing requirements, to address recommended regulatory changes in the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6 (2018), and to include editorial corrections. The main goals of this amendment are to improve standards for the siting, operation and monitoring of landfills and revise the open burning exemptions to be more protective of human health and the environment.

Some of the major areas in which the regulations are being revised include the following:

Landfill Siting

Changes are being made to the landfill siting criteria in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6 (2018). The report recommended that the regulations be revised to update provisions related to setbacks and siting of solid waste facilities, as well as solid waste facility leachate pollution. Terminology used in the regulation pertaining to the siting setbacks is being updated to use the term "waste management boundary" to eliminate confusion by clarifying that the siting requirements for landfills apply to the locations where waste and leachate will be managed, not the entire parcel of the property. Changes have been made to clarify that the siting requirements apply to new and expanded waste management boundaries. The setback distance from the waste management boundary to the facility boundary is being increased from 50 feet to 100 feet, in

response to consensus from the RAP. The distance from the waste management boundary to any residence, school, daycare center, hospital, nursing home, or recreational park area in existence at the time of application is also being increased from 200 feet to 500 feet. These changes will create a larger buffer between the waste management boundary and development on properties adjacent to the landfill. The additional buffer from the waste management boundary is consistent with the requests received from the public for an increased buffer space to be placed around landfills and is consistent with the increased setback distances found in surrounding states. The increase to the setback distances will potentially reduce noise and odor concerns, as well as provide more protection to adjacent properties from potential subsurface methane gas migration. The regulation is also being amended in response to RAP consensus to state that a new or expanded waste management boundary will not be sited or constructed in any locally designated resource protection area as defined in 9VAC25-830-80.

Landfill Operations

A new requirement is being included in the regulation for active landfills to conduct a periodic topographic survey. The surveys will provide more accurate and updated information to the facility and the department on the current capacity and grades of the fill area, the remaining life of the landfill, and assist with planning for future landfill capacity. Survey reports will supplement and validate information provided in Solid Waste Information and Assessment (SWIA) reports. This requirement will also help to ensure that the final elevations of the landfill are as permitted and will prevent the overfilling of landfills from occurring. Landfills receiving fewer quantities of waste (those with a permitted daily disposal limit of 300 tons per day or less) are only required to conduct the survey on a biennial basis (once every 24 months) whereas all other landfills must survey and report on an annual basis (once every 12 months). Some landfills are already required by their permit to conduct these surveys. This language was drafted in consideration of RAP discussion and feedback.

A requirement for weekly cover to be applied over exposed waste at active industrial landfills is being added to the regulation. Currently the regulation states that these facilities are to provide “periodic cover,” which is not defined in the regulation. The absence of a requirement to provide cover at a specified frequency has resulted in working face areas not being minimized, and waste material is being exposed to the environment for longer periods of time. The department has observed an increase in the number and severity of occurrences of fires, odors, blowing litter, stormwater infiltration, excess leachate generation, surface and subsurface erosion of waste, and releases of waste and leachate at industrial landfills. The new requirement is proposed in order to be more protective of human health and the environment and provides consistency with the weekly cover requirement for CDD landfills. In consideration of RAP discussion and feedback, the amended regulation recognizes that the nature, type, and quantity of accepted wastes are unique to each industrial landfill and allows the department to evaluate alternate methods proposed by the facility to address the same performance standards.

Landfill Gas Monitoring

An additional requirement is being added for landfills to notify adjacent properties within 500 feet of gas compliance level exceedances (i.e. methane gas detected at or above the lower explosive limit) in the perimeter gas monitoring network. Landfill gas may migrate subsurface, and the goal is to keep those on neighboring properties informed concerning the potential for the subsurface migration of methane and safety risks related to explosive gases. Facilities will be required to offer to monitor inside nearby offsite structures for elevated levels of methane after an exceedance is detected in the perimeter gas monitoring network. The RAP achieved consensus on adding these requirements to the regulation.

Landfill Groundwater Monitoring

Revisions to the groundwater monitoring section for all landfills are being proposed to prepare for the addition of any MCLs established for PFAS and other emerging contaminants by the Virginia Department of Health (VDH). Chapter 1097 of the 2020 Acts of Assembly modifies §32.1-169 of the Code of Virginia on January 1, 2022 and directs the State Board of Health to “adopt regulations establishing maximum contaminant levels (MCLs) in all water supplies and waterworks in the Commonwealth for (i) perfluorooctanoic acid and perfluorooctane sulfonate, and for such other perfluoroalkyl and polyfluoroalkyl substances as the Board deems necessary; (ii) chromium-6; and (iii) 1,4-dioxane.” In anticipation of these new MCLs, this amendment proposes the addition of a new column, Column C, to Table 3.1. Column C

lists emerging constituents that VDH is directed to establish MCLs for in the future in response to §32.1-169 of the Code of Virginia. The content of Column C can be modified in the future if necessary, based on the actions taken by VDH to adopt MCLs for emerging constituents. MCLs must be adopted by VDH before this regulation will be amended to require monitoring for these constituents; however, this information has been included in this amendment to provide a framework for these additional monitoring constituents and to provide the regulated community with insight concerning how these new MCLs would be incorporated in monitoring requirements for solid waste disposal facilities. The RAP was in agreement with the proposed addition of Column C and framework to address the potential monitoring of emerging contaminants. The regulations are also proposing to allow other test methods other than EPA's SW-846 methods for constituents listed in Column C of Table 3.1 in response to RAP feedback. Once final MCLs are adopted by VDH, Column C will be updated, if necessary, for consistency with MCLs adopted by VDH, and monitoring for constituents listed in Column C would be required for all landfills.

Open Burning Exemptions

This amendment removes language that previously allowed citizens to dispose of their household solid waste through open burning of waste on their property if regularly scheduled collection services were not available at the adjacent road. Under the amended regulation, only vegetative waste, clean wood and clean paper products will be allowed to be open burned on private property when no regular collection services are available. This change is being made in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6. The report recommended that the regulations be revised to eliminate or significantly reduce the open burning of household solid waste. Combustion of materials commonly found in household waste is well documented to cause release of carcinogenic compounds, and the smoke and odors from the burning of household waste may be a nuisance to adjacent property owners. This change is more protective of human health and the environment. Other open burning exemptions are also being modified to be consistent with open burning requirements for Volatile Organic Compound (VOC) Emissions Control Areas found in regulations adopted by the State Air Pollution Control Board.

Other Changes

Minor clarifications and revisions have been made to the regulations, and some regulatory requirements have been re-organized as part of this amendment. Operational requirements applicable to non-landfill facilities have been clarified and consolidated where possible to assist the regulated community with understanding the requirements of the regulation.

Changes are being made to the regulation to further promote composting activities. Additional exemptions from permitting have been added to the regulation for certain composting activities on farms as well as composting activities performed in conjunction with a public/private event or festival. The agency is also proposing to remove the requirement for compost facilities to conduct parasite testing as historical data has demonstrated that parasites have not posed issues with final compost quality.

The regulation is also being revised to require closure cost estimates to include the costs related to the removal of stockpiled beneficial use materials at a facility in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6. The report recommended that the regulations be revised to ensure that facilities provide adequate financial assurance that they can fund cleanup and closure. This amendment will require facilities' closure cost estimates to include costs for removal of beneficial use materials (which were not included previously) when calculating the financial assurance a facility is required to provide for closure of the facility. This change protects the citizens of the Commonwealth from having to pay for the removal and disposal of beneficial use material if a facility fails to properly close.

Issues

Identify the issues associated with the regulatory change, including: 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; 2) the primary advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, include a specific statement to that effect.

Many of the changes being proposed to the regulation provide additional protection to human health and the environment; therefore, the changes are advantageous to private citizens. Advantages to the public, as residential areas increasingly expand toward preexisting landfills, include improved safety and reduced odor in the vicinity of landfills. Increases to setback distances will help to provide a larger buffer between landfill activities and adjacent properties.

Private citizens will no longer be allowed to open burn their general household waste (except for vegetative waste, clean wood, and clean paper products), and they will need to arrange for their waste to be properly managed at a permitted solid waste management facility. This change should reduce nuisance complaints from neighbors concerning the impact open burning has on the air quality on neighboring properties.

Changes being proposed to compost-related requirements, such as additional compost activities exempt from permitting and elimination of certain testing requirements for permitted facilities will promote composting activities in the Commonwealth, reduce regulatory burden without posing risks to human health and the environment, and are advantageous to public and private entities, and well as the regulated community.

There are no disadvantages to the agency or the Commonwealth.

The addition of regulatory requirements will impact the regulated community. This includes local governments and private companies that operate landfills. The additional regulatory requirements pertaining to the following areas are being added to the regulations to protect human health and the environment:

- Increased setback distances from waste management boundaries;
- Periodic topographic surveys of active landfills;
- Revised cover requirements for active industrial landfills to meet required performance standards;
- Notification and monitoring for neighbors in close proximity of landfill gas exceedances; and
- Groundwater monitoring of emerging contaminants, dependent upon actions taken by VDH.

These issues are all related to the proper siting, operation and monitoring of the landfill and protecting the safety of those in proximity of the landfill. Owners and operators of landfills will incur costs to comply with these requirements.

Requirements More Restrictive than Federal

Identify and describe any requirement of the regulatory change which is more restrictive than applicable federal requirements. Include a specific citation for each applicable federal requirement, and a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements, or no requirements that exceed applicable federal requirements, include a specific statement to that effect.

The RCRA Subtitle D program is not a program that is enforced directly by US EPA. The RCRA Subtitle D program includes a basic solid waste management program with many state options that are adopted and administered by the states. The Federal program has developed standards for facilities that are municipal solid waste management facilities. In addition to sanitary landfills, Virginia regulates CDD landfills, industrial landfills, incinerators and other solid waste facilities. The proposed amendment maintains

compatibility with Environmental Protection Agency (EPA) program approval for Subtitle D facilities and contains requirements for non-Subtitle D facilities, which are broader in scope than Federal requirements.

This amendment proposes to include criteria that is specific to Virginia facilities. The siting setback distances for landfills are being revised to increase the distance between the waste management boundary and the facility boundary, and to other features, such as residences, schools, daycare centers, hospitals, nursing homes, recreational park areas. This amendment also prohibits the siting of landfills in Resource Protection Areas that are designated by local governments. An annual topographic survey requirement is also being proposed for inclusion in this regulation to monitor the filling of landfills to ensure the landfills are constructed as originally designed and not overfilled. The requirements for monitoring and control of explosive landfill gas are being revised to address notification and monitoring of occupied structures in close proximity to landfills where methane has been detected at or above the lower explosive limit at the facility boundary, in order to be more protective of public safety and human health. This amendment also addresses groundwater monitoring for PFAS. In Virginia, VDH has been directed to establish state MCLs for certain constituents. PFAS monitoring is not required by federal regulations, but is being studied by VDH, and this amendment has been written to be adaptable to respond to VDH activities pertaining to the emerging contaminants. These Virginia specific requirements have been added to provide additional protection to citizens of the Commonwealth from the operation of solid waste facilities as development of residential and commercial properties continues to expand closer to preexisting landfills.

Agencies, Localities, and Other Entities Particularly Affected

Identify any other state agencies, localities, or other entities particularly affected by the regulatory change. "Particularly affected" are those that are likely to bear any identified disproportionate material impact which would not be experienced by other agencies, localities, or entities. "Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulation or regulatory change are most likely to occur. If no agency, locality, or entity is particularly affected, include a specific statement to that effect.

Other State Agencies Particularly Affected

State agencies that choose to own or operate landfills will be impacted by the regulatory changes similar to all other public and private entities that choose to own or operate landfills. There is currently only one landfill owned or operated by a state agency; the landfill is closed and in post-closure care. Owners or operators of landfills may be required to conduct additional groundwater monitoring in response to actions taken by VDH to address emerging contaminants. Owners or operators of landfills will be required to notify and offer landfill gas monitoring for adjacent properties if compliance level exceedances are detected within 500 feet of an occupied structure. State agencies that choose to own or operate non-landfill facilities will be minimally impacted by the regulatory changes. There is currently only one permitted non-landfill facility owned or operated by a state agency.

Localities Particularly Affected

Localities that choose to own or operate landfills will be impacted by the regulatory changes similar to all other public and private entities that choose to own or operate landfills. Owners or operators of active landfills that accept more than 300 tons of waste per day will be required to conduct annual topographic surveys, while those accepting 300 tons per day or less will conduct these surveys every other year. Owners or operators of landfills may be required to conduct additional groundwater monitoring in response to actions taken by VDH to address emerging contaminants. Owners or operators of landfills will be required to notify and offer landfill gas monitoring for adjacent properties if compliance level exceedances are detected within 500 feet of an occupied structure. Localities that choose to own or operate non-landfill facilities will be minimally impacted by the regulatory changes.

Other Entities Particularly Affected

Private citizens will no longer be allowed to open burn their general household waste (except for vegetative waste, clean wood, and clean paper products), and they will need to arrange for their waste to be properly managed at a permitted solid waste management facility. The reduction of open burning of household waste should improve air quality and reduce complaints from neighbors.

Private entities and federal agencies that choose to own or operate landfills will be impacted by the regulatory changes. Owners or operators of active landfills that accept more than 300 tons of waste per day will be required to conduct annual topographic surveys while those accepting 300 tons per day or less will conduct these surveys every other year. Owners and operators of landfills may be required to conduct additional groundwater monitoring in response to actions taken by VDH to address emerging contaminants. Owners or operators of landfills will be required to notify and offer landfill gas monitoring for adjacent properties if compliance level exceedances are detected within 500 feet of an occupied structure. Owners or operators of active industrial landfills will be required to provide weekly cover of waste unless alternate methods are approved to control fire, odor, litter, stormwater infiltration, erosion and displacement of waste. Currently periodic cover is required at industrial landfills, but the frequency of application is not defined. Private entities and federal agencies that choose to own or operate non-landfill facilities will be minimally impacted by the regulatory changes.

For purposes of "Locality Particularly Affected" under the Board's statutes

This regulation is applicable statewide and no localities have been identified to be particularly impacted by these regulations.

Economic Impact

Pursuant to § 2.2-4007.04 of the Code of Virginia, identify all specific economic impacts (costs and/or benefits), anticipated to result from the regulatory change. When describing a particular economic impact, specify which new requirement or change in requirement creates the anticipated economic impact. Keep in mind that this is change versus the status quo.

Impact on State Agencies

<p><i>For your agency:</i> projected costs, savings, fees or revenues resulting from the regulatory change, including:</p> <ul style="list-style-type: none"> a) fund source / fund detail; b) delineation of one-time versus on-going expenditures; and c) whether any costs or revenue loss can be absorbed within existing resources 	<p>DEQ currently issues permits to solid waste management facilities and inspects these facilities. The proposed changes to the regulation do not change the cost of the agency's oversight of solid waste management facilities. Any new information being required to be submitted to the agency by the regulation will be reviewed using current agency staff and resources.</p>
<p><i>For other state agencies:</i> projected costs, savings, fees or revenues resulting from the regulatory change, including a delineation of one-time versus on-going expenditures.</p>	<p>State agencies that own or operate waste management facilities would be subject to the same requirements as other publicly and privately owned or operated facilities. As of August 2021, there are only two permitted facilities owned or operated by state agencies - a sanitary landfill in post-closure care and a compost facility.</p> <p>State agencies that own or operate landfills would incur ongoing costs for conducting PFAS monitoring in groundwater samples if VDH establishes MCLs for PFAS or other emerging contaminants listed in Column C of Table 3.1. A</p>

	<p>Regulatory Advisory Panel (RAP) was appointed to assist with the development of this amendment. Members of the RAP provided cost information on conducting the analysis of groundwater samples. One estimate was for the testing for 49 PFAS constituents at a cost of \$349 using a non-SW-846 test method. (EPA test method 537.1) Other RAP members provided more general estimates of testing for PFAS of \$350-\$500 per sample, while others estimated costs of \$500-700 per sample and did not indicate the analytical test method used. The regulation has been drafted to allow the use of non-SW-846 test methods for constituents listed in Column C of table 3.1 to provide flexibility concerning the test methods to be used.</p> <p>State agencies that own or operate landfills may also potentially incur one-time and/or ongoing costs to notify and offer landfill gas monitoring for adjacent properties if compliance level exceedances are detected within 500 feet of an occupied structure. The costs of additional monitoring will vary from site to site depending on whether exceedances are detected and whether or not there are occupied structures in close proximity. The costs of additional offsite monitoring are not anticipated to be significant as the majority of landfills do not have occupied structures within 500 feet of the perimeter gas monitoring network, and any additional monitoring could be conducted in conjunction with the current monitoring that already occurs at the facility.</p> <p>Minimal impacts to non-landfill facilities owned or operated by state agencies are anticipated as proposed changes clarify the intent of existing requirements and are consistent with industry standard practice.</p>
<p><i>For all agencies:</i> Benefits the regulatory change is designed to produce.</p>	<p>The proposed changes are more protective of human health and the environment.</p>

Impact on Localities

<p>Projected costs, savings, fees or revenues resulting from the regulatory change.</p>	<p>Localities that own or operate waste management facilities would be subject to the same requirements as other publicly and privately owned or operated facilities.</p> <p>Localities, if operating an active landfill, will be required to conduct annual topographic surveys. Landfills permitted to receive lower quantities of waste per day will be required to conduct these surveys on a less frequent basis. Frederick</p>
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	<p>County's current landfill permits require an annual topographic survey to be conducted. Frederick County indicated the cost of the surveys for both landfills to be approximately \$16,000 annually for surveying and associated engineering.</p> <p>The costs for conducting PFAS monitoring of groundwater samples would be incurred if VDH establishes MCLs for PFAS or other emerging contaminants listed in Column C of Table 3.1. This would be an additional cost for localities that choose to own or operate a landfill. A Regulatory Advisory Panel (RAP) was appointed to assist with the development of this amendment. Members of the RAP provided cost information on conducting the analysis of groundwater samples. One estimate was for the testing for 49 PFAS constituents at a cost of \$349 using a non-SW-846 test method. (EPA test method 537.1) Other RAP members provided more general estimates of testing for PFAS of \$350-\$500 per sample, while others estimated costs of \$500-700 per sample and did not indicate the analytical test method used. The regulation has been drafted to allow the use of non-SW-846 test methods for constituents listed in Column C of table 3.1 to provide flexibility concerning the test methods to be used.</p> <p>Localities that choose to own or operate landfills may potentially incur costs to notify and offer landfill gas monitoring for adjacent properties if compliance level exceedances are detected within 500 feet of an occupied structure. The costs of additional monitoring will vary from site to site depending on whether exceedances are detected and whether or not there are occupied structures in close proximity. The costs of additional offsite monitoring are not anticipated to be significant as the majority of landfills do not have occupied structures within 500 feet of the perimeter gas monitoring network, and any additional monitoring could be conducted in conjunction with the current monitoring that already occurs at the facility.</p> <p>Minimal impacts to non-landfill facilities owned or operated by localities are anticipated as proposed changes clarify the intent of existing requirements and are consistent with industry standard practice.</p>
<p>Benefits the regulatory change is designed to produce.</p>	<p>Topographic surveys ensure the landfill is filled according to its permitted design capacity, prevents overfilling of the landfill and potential impacts to landfill stability, and verifies when final</p>

	<p>elevations and slopes have been attained so closure construction can be planned and implemented. Periodic topographic surveys also result in more accurate and up-to-date information on remaining capacity and remaining life of the landfill to aid in annual SWIA reporting.</p> <p>PFAS is found in many items that are allowed to be disposed of in landfills. Including the monitoring of PFAS constituents in groundwater is an additional measure to detect and address any PFAS impacts to groundwater from the landfill so that risks to human health and the environment can be better understood.</p> <p>The notification to adjacent property owners of LEL exceedances for methane and the offer to monitor inside structures is being included in the regulation to protect public safety. Owners and occupants of adjacent properties need to be aware of the existence of the high levels of methane gas at the perimeter of the landfill which may have the potential to migrate and collect in offsite structures.</p>
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Impact on Other Entities

<p>Description of the individuals, businesses, or other entities likely to be affected by the regulatory change. If no other entities will be affected, include a specific statement to that effect.</p>	<p>Both public and private owners and operators of landfills in Virginia will be impacted by the regulatory change. Landfills owned or operated by public entities will be subject to the same requirements as landfills owned or operated by private entities. Minimal impacts are anticipated for public and private owners and operators of non-landfill facilities.</p> <p>Citizens will no longer be allowed to burn their municipal solid waste and will be required to manage their waste at a solid waste permitted facility.</p>
<p>Agency's best estimate of the number of such entities that will be affected. Include an estimate of the number of small businesses affected. Small business means a business entity, including its affiliates, that:</p> <ul style="list-style-type: none"> a) is independently owned and operated and; b) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million. 	<p>As of August 2021, 181 permitted landfills would be affected by this amendment, including 128 sanitary landfills (including 80 closed), 24 CDD landfills (including 10 closed), and 29 industrial landfills (including 9 closed). 126 permitted landfills are publicly owned or operated, and 55 permitted landfills are privately owned or operated. Approximately nine percent of all landfills are estimated to be small businesses.</p> <p>Approximately 55 active landfills will be impacted by the requirement to conduct a periodic topographic survey as the remaining landfill permits already include this requirement. Based on the daily disposal limits of currently permitted</p>

	<p>landfills, approximately 35 active landfills will be impacted by the annual survey requirement, and approximately 20 active landfills will be impacted by the biennial survey requirement. Approximately fifteen percent of facilities impacted by the survey requirement are estimated to be small businesses.</p> <p>Approximately 20 active industrial landfills will be impacted by the proposed revised cover requirements, unless the owner or operator of the landfill demonstrates to the satisfaction of the department that alternate methods are effective to control fires, odors, blowing litter, stormwater infiltration, and prevent erosion and displacement of waste. Approximately ten percent of those facilities are estimated to be small businesses.</p> <p>Only landfills that detect compliance level exceedances of methane within 500 feet of an occupied structure will be impacted by the proposed requirement to notify and offer landfill gas monitoring for adjacent properties.</p> <p>All active landfills and all closed landfills conducting post-closure care may be impacted by the requirement for groundwater monitoring of additional constituents if VDH establishes MCLs for PFAS or other emerging contaminants listed in Column C of Table 3.1. Approximately nine percent of facilities affected by the monitoring requirement are estimated to be small businesses.</p> <p>As of August 2021, permitted non-landfill facilities include 15 compost facilities, 55 transfer stations, 53 materials recovery facilities, 4 waste to energy facilities, 3 incinerators, and 8 surface impoundments. Impacts to non-landfill facilities are anticipated to be minimal.</p> <p>It is not known how many citizen are currently burning their municipal solid waste and will be impacted by this regulatory change.</p>
<p>All projected costs for affected individuals, businesses, or other entities resulting from the regulatory change. Be specific and include all costs including, but not limited to:</p> <ul style="list-style-type: none"> a) projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses; b) specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the regulatory change; c) fees; d) purchases of equipment or services; and 	<p>This amendment adds the requirement for active landfills to conduct annual topographic surveys. Landfills permitted to receive lower quantities of waste per day will be required to conduct these surveys on a less frequent basis. Frederick County's current landfill permits require an annual survey to be conducted. Frederick County indicated the cost of the surveys for both landfills to be approximately \$16,000 annually for surveying and associated engineering.</p>

<p>e) time required to comply with the requirements.</p>	<p>The costs for conducting PFAS monitoring in groundwater samples would be incurred if VDH establishes MCLs for PFAS or other emerging contaminants listed in Column C of Table 3.1. This would be an additional cost for entities that choose to own or operate a landfill. Members of the RAP provided cost information on conducting the analysis of groundwater samples. One estimate was for the testing for 49 PFAS constituents at a cost of \$349 using a non-SW-846 test method. (EPA test method 537.1) Other RAP members provided more general estimates of testing for PFAS of \$350-\$500 per sample, while others estimated costs of \$500-700 per sample and did not indicate the analytical test method used. The regulation has been drafted to allow the use of non-SW-846 test methods for constituents listed in Column C of table 3.1 to provide flexibility concerning the test methods to be used.</p> <p>Entities that choose to own or operate landfills may potentially incur costs to notify and offer landfill gas monitoring for adjacent properties if compliance level exceedances are detected within 500 feet of an occupied structure. The costs of additional monitoring will vary from site to site depending on whether exceedances are detected and whether or not there are occupied structures in close proximity. The costs of additional offsite monitoring are not anticipated to be significant as the majority of landfills do not have occupied structures within 500 feet of the perimeter gas monitoring network, and any additional monitoring could be conducted in conjunction with the current monitoring that already occurs at the facility.</p> <p>Industrial landfills, which are all privately owned and operated except for one owned and operated by a local government authority, will be required to provide weekly soil cover , unless the owner or operator demonstrates to the satisfaction of the department that alternate methods are effective to control fires, odors, blowing litter, stormwater infiltration, and prevent erosion and displacement of waste. The costs of application of weekly soil cover will vary depending on the: landfill's adjusted ongoing working face size; extent to which soil is removed and reused between lifts; and availability of soil onsite versus purchase and/or transport from offsite. However, flexibility has been added to the regulation to allow landfills to investigate and propose less costly methods to meet the same performance standards based on site-specific conditions.</p>
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	<p>Minimal impacts to non-landfill facilities are anticipated as proposed changes clarify the intent of existing requirements and are consistent with industry standard practice.</p> <p>Due to the different fee structures implemented by localities to assess fees for waste disposal, the agency is not able to assess the economic impact of the change to the regulation that prohibits citizens from burning their municipal solid waste on their property.</p>
<p>Benefits the regulatory change is designed to produce.</p>	<p>Topographic surveys ensure the landfill is filled according to its permitted design capacity, prevents overfilling of the landfill and potential impacts to landfill stability, and verifies when final elevations and slopes have been attained so closure construction can be planned and implemented. Periodic topographic surveys also result in more accurate and up-to-date information on remaining capacity and remaining life of the landfill to aid in annual SWIA reporting.</p> <p>PFAS is found in many items that are allowed to be disposed of in landfills. Including the monitoring of PFAS constituents in groundwater is an additional measure to detect and address any PFAS impacts to groundwater from the landfill so that risks to human health and the environment can be better understood.</p> <p>The notification to adjacent property owners of LEL exceedances for methane and the offer to monitor inside structures is being included in the regulation to protect public safety. Owners and occupants of adjacent properties need to be aware of the existence of the high levels of methane gas at the perimeter of the landfill which may have the potential to migrate and collect in offsite structures.</p> <p>The requirement for industrial landfills to provide weekly cover or use alternate site-specific approved methods to address required performance standards will be more protective of human health and the environment. Current inspection data indicates the periodic cover being applied is not adequate to prevent issues with fires, odors, blowing litter, stormwater infiltration, excess leachate generation, surface and subsurface erosion of waste, waste slides, compromised stability, and releases of waste and leachate at industrial landfills. The requirement for weekly cover will likely lead to industrial landfills minimizing the size of their working face to minimize the amount of weekly cover required</p>

	<p>to be applied, and will in turn minimize the amount of exposed waste at the facility.</p> <p>Prohibiting citizens from burning municipal solid waste should improve air quality and reduce complaints from neighbors.</p>
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Alternatives to Regulation

Describe any viable alternatives to the regulatory change that were considered, and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the regulatory change. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in § 2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulatory change.

Viable alternatives to regulatory changes were considered during the development of this regulation. The agency considered requiring all active landfills to conduct the topographic survey every year and decided that the amount of waste managed by a facility greatly impacts the rate the landfill is filled. Landfills permitted to dispose smaller quantities of waste per day will reach final elevations and slopes slower. For this reason, an allowance was included in the regulation to allow landfills that dispose 300 tons of waste per day or less to conduct a topographic survey once every two years. This requirement still meets the goal of monitoring compliance with the permitted elevations and final slopes throughout the active life of the facility through the use of a less burdensome and less costly requirement for active landfills permitted to dispose lower quantities of waste per day.

Alternatives to requiring active industrial landfills to provide weekly cover instead of periodic cover were also examined. The current periodic cover requirement at active industrial landfills has not been preventing issues with fires, odors, blowing litter, stormwater infiltration, excess leachate generation, surface and subsurface erosion of waste, waste slides, compromised stability, and releases of waste and leachate from occurring. Flexibility has been added to the regulation to allow the department to evaluate alternate methods to prevent these issues from occurring in lieu of weekly soil cover. This assists with accounting for the variability among the different natures, types, and quantities of wastes managed at active industrial landfills, and allows landfills propose less burdensome and less costly methods to meet the same performance standards based on site-specific conditions.

Regulatory Flexibility Analysis

Pursuant to § 2.2-4007.1B of the Code of Virginia, describe the agency’s analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) establishing less stringent compliance or reporting requirements; 2) establishing less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishing performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the regulatory change.

The regulatory amendment contains flexibility for active landfills that are permitted to receive 300 tons of waste per day or less. These landfills will not be required to conduct an annual topographic survey, but instead will be required to conduct a survey once every two years. Landfills that are permitted to receive 300 tons of waste per day or less utilize disposal capacity at a slower rate and the less frequent

topographic survey requirement provides smaller facilities with a less stringent schedule for complying with a regulatory requirement.

Additionally, flexibility has been provided in the regulation to allow the department to evaluate alternate methods proposed by active industrial landfills to control fire, odor, litter, stormwater infiltration, erosion and displacement of waste in lieu of weekly soil cover. This assists with accounting for the variability among the different natures, types, and quantities of wastes managed at active industrial landfills and minimizes adverse impact on any facilities that may be considered small businesses.

Periodic Review and Small Business Impact Review Report of Findings

If you are using this form to report the result of a periodic review/small business impact review that is being conducted as part of this regulatory action, and was announced during the NOIRA stage, indicate whether the regulatory change meets the criteria set out in Executive Order 14 (as amended, July 16, 2018), e.g., is necessary for the protection of public health, safety, and welfare; minimizes the economic impact on small businesses consistent with the stated objectives of applicable law; and is clearly written and easily understandable.

In addition, as required by § 2.2-4007.1 E and F of the Code of Virginia, discuss the agency’s consideration of: (1) the continued need for the regulation; (2) the nature of complaints or comments received concerning the regulation; (3) the complexity of the regulation; (4) the extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (5) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation. Also, discuss why the agency’s decision, consistent with applicable law, will minimize the economic impact of regulations on small businesses.

A periodic review of these regulations was not announced in the Notice of Intended Regulatory Action for this amendment.

Public Comment

Summarize all comments received during the public comment period following the publication of the previous stage, and provide the agency response. Include all comments submitted: including those received on Town Hall, in a public hearing, or submitted directly to the agency. If no comment was received, enter a specific statement to that effect.

Commenter	Comment	Agency response
Keith Buch	Requested a public hearing be held following the publication of the proposed stage of this regulatory action.	Section 2.2-4007.01 of the Code of Virginia allows interested citizens to request during the NOIRA comment period for a public hearing to be held on the proposed regulation. The agency stated in its Notice of Intended Regulatory Action that it did not plan to hold a hearing on the proposed regulation. The agency received only one request for a public hearing. Since 25 or more requests were not received for a public hearing to be held the agency does not plan to hold a public hearing on the proposed

		regulation. At a minimum a 60 day public comment period will be held on the proposed amendment to provide the public an opportunity to submit written comments on the proposed changes.
Keith Buch	Requested 9VAC20-81-570 Revocation or suspension of permits A .8. below be revised to read as follows: 8. <u>The Director shall revoke the permit application of an applicant who</u> has knowingly or willfully misrepresented or failed to disclose a material fact in applying for a permit or in his disclosure statement, or any other report or certification required under this law or under the regulations of the board, or has knowingly or willfully failed to notify the director of any material change to the information in the disclosure statement.	9VAC20-81-570 of the regulation addresses the revocation or suspension of permits, not permit applications. Revocation or suspension of a permit occurs after the permit is issued. Section 10.1-1409 of the Code of Virginia specifies the reasons for which the director may revoke a permit and 9VAC28-81-570 includes the reasons listed in state law. If a permit application does not meet the requirements of the regulation, the Director would not issue the permit but deny the permit. Denial of a permit is addressed in 9VAC20-81-550. No change has been made to the regulation in response to this comment.
Keith Buch	The revisions to the Virginia Solid Waste Management Regulations 9VAC20-81 will apply to all new solid waste disposal facilities that have not received a certificate to operate on the effective date of the regulatory revisions.	The permitting of a disposal facility is a multi-step process which includes the Notice of Intent, the Part A (siting criteria) and Part B (design and operation criteria). A permit application shall be submitted in accordance with the requirements of the regulation at the time of permit application. Throughout the life of the permit, the agency may revise existing permits to include additional permit requirements to be consistent with the revised regulatory requirements. For example, if requirements pertaining to an ongoing activity, such as groundwater monitoring or landfill gas monitoring, were revised in the regulation, the facility would be required to meet the new standards. A certificate to operate is not a permit, but is concurrence from the department that the facility has met the construction requirements found in the facility permit and may commence operation.
Keith Buch	All new solid waste disposal facilities that will accept 3000 tons per day or more shall be located within five (5) miles of an exit or interchange of four (4) lane State Highway.	Section 1408.4 A 1 of the Code of Virginia states that the Director shall consider and address “Based on a written, site-specific report prepared by the Virginia Department of Transportation, the adequacy of transportation facilities that will be available to serve the landfill, including the impact of the landfill on local traffic volume, road congestion, and highway safety.” DEQ relies on the expertise provided by the Virginia Department of Transportation concerning traffic concerns with the new or expanded

		facility. State law does not provide DEQ with the authority to incorporate siting restrictions into the regulation based on the distance a facility would be located from an interchange. No change has been made to the regulation in response to this comment.
Keith Buch	Any landowner within one (1) mile of the new landfill disposal unit boundary whose current shallow well is less than 100 feet in depth shall be offered a deeper replacement well to include the sealing of their shallow well at no expense to the landowner.	Current state law does not authorize the Virginia Waste Management Board to require replacement of shallow wells with a deep well without cost to the landowner. No change has been made to the regulation in response to this comment.
Keith Buch	A new landfill shall be required to establish a Residential Well Mitigation Plan that provides a reasonable and timely framework for the resolving of damage claims (at no cost to the homeowner) that result from the contamination of residential wells by the Landfill.	Current state law does not authorize the Virginia Waste Management Board to require establishment of a Residential Well Mitigation Plan. No change has been made to the regulation in response to this comment.
Keith Buch	The Host Locality for the new landfill shall establish a Citizens Advisory Council that shall consist of five (5) appointed citizens, one elected official from the locality and the landfill manager. The Council shall meet monthly and use their best efforts to resolve reasonable issues connected with the operation of the landfill.	Current state law does not authorize the Virginia Waste Management Board to require the establishment of a Citizen's Advisory Council to meet after the permit has been issued. Localities, as part of their host agreement, may choose to establish a Citizen's Advisory Council, and the regulation does not prohibit this from being included in the host agreement. Section 10.1-1408.1 B 5 of the Code of Virginia does however require the development of a Citizen's Advisory Group for applicants who are the local government or public authority that proposes to operate a new municipal sanitary landfill or transfer station to assist with selecting a proposed location, and obtaining public comment on the proposed new landfill or transfer station. No change has been made to the regulation in response to this comment.
Keith Buch	Water samples of all drinking water wells within 3000 feet of a new landfill disposal unit boundary shall be analyzed using Virginia SW-846 Method 8260 for the analyses. Initial analyses shall be performed prior to the beginning of landfill operations and annually thereafter and the results shall be shared with the homeowners.	Current state law does not authorize the Virginia Waste Management Board to require monitoring of homeowner wells within a specified distance of a new landfill prior to the landfill beginning operation and annually during the operation of the landfill. The regulation does require a monitoring well network to be installed between the waste management boundary and the property boundary of the facility, the characterization of groundwater properties at the site, and sampling prior to receipt of waste. No change has been made to the regulation in response to this comment.

Keith Buch	A new landfills shall fund an onsite DEQ construction inspector to insure that the facility is constructed in strict accordance with the approved design drawings and specifications.	Inspections of landfill construction are conducted by DEQ staff. Localities may choose to address additional construction inspection requirements through the host community agreement. Facility owners are required to follow a construction quality assurance (CQA) plan during construction and provide design and CQA certifications following construction prior to DEQ issuing a Certificate to Operate new landfill cells. No change has been made to the regulation in response to this comment.
Keith Buch	Even though they have not registered as a public water system with the Virginia Department of Health and will not show up on a search for public water systems, many community centers and churches clearly meets the Safe Drinking Water Act definition of public water system (on-site well that serves 25 individuals 60 days of the year). For the purpose of landfill siting requirements all registered and unregistered wells meeting the Safe Drinking Water Act definition of a public water system shall be considered public water systems.	Section 1408.4 of the Code of Virginia and 9VAC20-81-120 C 3 of the regulations already contain requirements for the siting of municipal solid waste landfills in the vicinity of public water supplies. 9VAC20-81-460 of the regulations already requires information regarding the location of water supply wells in the vicinity of the proposed facility to be included as part of the permit application. The Virginia Department of Health is the agency that maintains records of public water supply wells and ensures public water supplies are registered and in compliance with the Safe Drinking Water Act. DEQ relies on the records of public water supplies maintained by VDH. No change has been made to the regulation in response to this comment.
Keith Buch	It is requested that the Solid Waste Management Regulations be amended to require that the EPA document entitled Promising Practices for EJ Methodologies in NEPA Reviews dated March 2016 be used by the DEQ to conduct environmental justice evaluations of new or expanded solid waste disposal facilities.	The Agency has recently established a new environmental justice office and hired an Environmental Justice Director who is currently examining the integration of environmental justice issues into the agency's numerous programs. No environmental justice issues are being addressed through this regulatory action.
Betty Myers	The regulation should include a specific, well-defined definition of out-of-state trash. This should clearly address if the trash from other states can be considered as Virginia trash if they pass through a transfer station or landfill located within the Commonwealth's boundaries.	The regulations currently distinguish between waste generated within the Commonwealth and waste generated outside of the Commonwealth. Provisions of the regulation already address incoming waste load inspection requirements for waste generated outside the Commonwealth and are being further clarified as part of this amendment. No change has been made to the regulation in response to this comment.
Betty Myers	The approval of the Notice of Intent should be a requirement for all three permits required for a proposed landfill and not just to the solid waste management permit. It does not make sense that the	The Notice of Intent (NOI) is the submission of specific information to the agency. An approval is not made of the NOI; however, the agency does review the NOI for completeness before proceeding with the review of a Part A permit application. Since

	<p>water or air application can be submitted if the Notice of Intent has not been approved.</p>	<p>all potential sites are unique, different permits may be required based on the activity to occur on the site and the impact to the environment. This may include permits related to potential impacts to air and water. Due to the variability of the different types of permits that may be required, the coordination of agency permits is addressed through agency guidance. No change has been made to the regulation in response to this comment.</p>
<p>Betty Myers</p>	<p>Department of Environmental Quality (DEQ) should be required to complete or have completed a thorough investigation into the key personal backgrounds of the applicant. It is not sufficient to require the gathering of the information from the applicant, if DEQ is not going to conduct an independent review.</p>	<p>10.1-1400 of the Code of Virginia defines “disclosure statement” and requires the disclosure statement to be a “sworn statement or affirmation.” Section 10.1-1405 D. of the Code of Virginia states “The Director shall obtain a criminal records check pursuant to § 19.2-389 of key personnel listed in the disclosure statement when the Director determines, in his sole discretion, that such a records check will serve the purposes of this chapter.” The applicant for a permit is also required to provide a certification from the State Corporation Commission that the business is a valid entity and authorized to transact business in Virginia. Additionally, the Virginia Department of Professional and Occupational Regulation also interacts with individuals to issue licenses to certified waste management facility operators and requires disclosure of any convictions of any misdemeanor or felony. The Director has the authority to obtain a criminal records check; however, it may not be necessary to conduct a criminal review of all applicants. No change has been made to the regulation in response to this comment.</p>
<p>Betty Myers</p>	<p>DEQ should complete or have completed a thorough financial background of all parties involved, to include parent companies and all their subsidiaries.</p>	<p>Solid waste disposal, transfer, and treatment facilities are required to provide financial assurance for the closure and post-closure costs of the facilities. Financial assurance must be provided to the agency for review and approval prior to operation, and the financial assurance document provides information on the financial health of the company.</p> <p>Separately, applicants are required to submit certification from the State Corporation Commission that the business entity pursuing the solid waste management permit is a valid entity, authorized to transact its business in Virginia. (9VAC20-81-450.B.10) No change has been made to the regulation in response to this comment.</p>

<p>Betty Myers</p>	<p>The site suitability and need for the landfill should be completed at the beginning of the process and not later. It is not feasible to spent dollars and time reviewing the application if the site is not suitable or there is not a need for another landfill in the Commonwealth to handle Virginians' trash.</p>	<p>The regulation follows the procedure as outlined in the Waste Management Act. The information used to demonstrate the need for the facility is submitted as part of the Notice of Intent and site suitability is examined as part of the Part A application. Permit fees are required to be submitted as part of the application to cover a portion of the costs of the agency's review of the application. Applicants decide, based on their knowledge of the site, applicable regulations, and fees associated with submitting a permit application, if they will apply for a permit for a solid waste facility. The RAP discussed and provided feedback on the permitting process and demonstration of need; however, there was no consensus on changes to the regulations. No change has been made to the regulation in response to this comment.</p>
<p>Betty Myers</p>	<p>The regulation needs revision to include the requirement for a FEMA floodplain map that is not more than 5 years old. Climate change, flooding, seismic activity, forest harvesting, and building construction all influence the 100-year floodplain.</p>	<p>The Federal Emergency Management Agency (FEMA) is responsible for updating the mapping of floodplains, and has procedures in place for localities to request updates to the floodplain maps. The RAP discussed the siting requirements for landfills as they pertain to floodplains, and consensus was reached to maintain the current requirements. No change has been made to the regulation in response to this comment.</p>
<p>Betty Myers</p>	<p>The regulation should have a requirement for unannounced, on-site inspections conducted by state employees. This is necessary to ensure regulations and other requirements are being followed. This to put a stop to the self-inspections now in place – go beyond reviewing and not verifying the information submitted by the corporation. This will save money in the long run and not have property turned over to the state to deal with later.</p>	<p>9VAC20-81-50.B. addresses the right of entry procedures specified by 10.1-1456 of the Code of Virginia. Agency staff conduct announced and unannounced inspections of facilities as outlined in DEQ's Solid Waste Compliance Program Inspection Manual. Additionally, the requirements for conducting and documenting self-inspections are being clarified as part of this amendment. Self-inspections conducted by the facility are a valuable tool used to ensure that the facility is being operated and maintained in compliance with the regulatory requirements. No change has been made to the regulation in response to this comment.</p>
<p>Andrea Wortzel, on behalf of Virginia Manufacturers Association (VMA)</p>	<p>Virginia should maintain regulations that are consistent with, and no more stringent than, any applicable federal requirements.</p>	<p>Virginia's regulations are consistent with Federal regulations and state law. This amendment provides clarification to existing requirements and includes additional criteria that is specific to Virginia facilities in order to be more protective of human health and the environment. The <i>Requirements More Restrictive Than Federal</i> section of this document provides specific details concerning proposed changes. No change has been made to the regulation in response to this comment.</p>

<p>Andrea Wortzel, on behalf of VMA</p>	<p>Believes the regulation as it exists does a good job of providing sufficient standards for landfill owners and operators to understand and implement the requirements, while providing flexibility in how such standards are met, but also stated there are a number of aspects of the regulation that could use some revision and clarification.</p>	<p>The proposed amendment clarifies certain requirements of the regulations and revises other requirements to be more protective of human health and the environment.</p>
<p>Andrea Wortzel, on behalf of VMA</p>	<p>Clarification of how the water and waste regulatory programs relate with respect to potential groundwater and surface water impacts from waste management facilities.</p>	<p>No specific examples of areas needing clarification were provided. Groundwater monitoring networks are required by the Solid Waste Management Regulations. Any discharges to state waters from surface water or stormwater runoff would be regulated by water related regulations, not the Solid Waste Management Regulation. No change has been made to the regulation in response to this comment.</p>
<p>Andrea Wortzel, on behalf of VMA</p>	<p>Clarification of how the certifications from local governments and solid waste management planning bodies relate to the landfill permitting process, particularly with respect to modifications to existing landfill permits. There is also confusion about the scope of local government authority in issuing such certifications outside of the zoning context. In some cases, localities have imposed requirements that duplicate state regulatory requirements. Revisions to the state regulation to address this confusion would be helpful.</p>	<p>9VAC20-81-450 B 3 of the regulations specifies when a local government certification is required to accompany a Notice of Intent for a permit application or modification in accordance with Section 10.1-1408.1 of the Code of Virginia. The Solid Waste Planning and Recycling Regulations (9VAC20-130) contain specific requirements to address the process for revising solid waste management plans to address new facilities and increases in facility capacities. These changes are outside of the scope of the Solid Waste Management Regulations. No change has been made to the regulation in response to this comment.</p>
<p>Andrea Wortzel, on behalf of VMA</p>	<p>With respect to existing landfills, DEQ needs to carefully consider how any changes to these regulations might affect their design and operation.</p>	<p>As part of the process of proposing changes to a regulation the impacts of these changes are reviewed. The <i>Agencies, Localities, and Other Entities Particularly Affected</i> section of this document provides specific details concerning impacts of the proposed changes. These impacts were considered as part of development of the proposed amendments.</p>
<p>Andrea Wortzel, on behalf of VMA</p>	<p>Streamlining of the solid waste management planning requirements more generally. Solid waste management plans have now been established throughout Virginia. The updating and amendment process for those plans should be updated, with clarification of the level of scrutiny updates will receive.</p>	<p>The Solid Waste Planning and Recycling Regulations (9VAC20-130) contain the process for revising solid waste management plans and are not included in this regulation. No change has been made to the regulation in response to this comment.</p>

<p>Andrea Wortzel, on behalf of VMA</p>	<p>Leachate management, and the relationship between the leachate disposal options outlined in the solid waste management regulations as compared to local publicly owned treatment works pretreatment requirements (both quality and quantity) should be reviewed.</p>	<p>Changes are not being proposed to leachate disposal options in the regulation. This regulation does not address the acceptance or treatment of leachate at publicly owned treatment works. Any leachate managed at publicly owned treatment works would be regulated by the Virginia Pollutant Discharge Elimination System Permit issued to the treatment facility. No change has been made to the regulation in response to this comment.</p>
<p>Andrea Wortzel, on behalf of VMA</p>	<p>There are important discussions taking place in Virginia relating to environmental justice, and how permitting and siting decisions should be revised to ensure environmental justice is achieved. Site suitability and public participation are components of that discussion. These issues are not unique to the solid waste permitting program and are being considered in the water and air regulatory programs as well. In order to promote consistency and comprehensive consideration of these issues, VMA recommends that a separate regulatory development process be established to address those issues uniformly and comprehensively.</p>	<p>The agency concurs with the commenter. No environmental justice issues are being addressed through this regulatory action.</p>
<p>Carroll Courtenay, Southern Environmental Law Center (SELC)*</p>	<p>The Board should use this regulatory amendment to assess the pathways of potential per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane contamination in the solid waste management process, and amend the existing regulations to monitor and control these compounds in order to minimize or eliminate risks to human health and the environment.</p>	<p>DEQ staff discussed with the RAP the current activities on the federal and state level to address emerging contaminants and specifically discussed the inclusion of PFAS monitoring with the RAP. EPA is currently working to establish drinking water standards (Maximum Contaminant Levels (MCLs)) for PFAS and to develop validated analytical methods for groundwater, surface water, wastewater, and solids, including soils, sediments, biota, and biosolids. VDH has also been directed by the General Assembly to establish MCLs for PFAS and 1,4-dioxane in water supplies and waterworks that does not exceed any MCL established by EPA. Changes are being proposed to the regulation to allow the regulations to accommodate anticipated changes on the federal and state level concerning PFAS and 1,4-dioxane. This includes the addition of a new Column C in Table 3.1 that identifies emerging contaminants and allowances for non-SW-846 testing methods to be allowed</p>

		for the monitoring of constituents listed in Column C.
Carroll Courtenay, Southern Environmental Law Center (SELC)*	The Board should amend the groundwater monitoring requirements of 9 VAC 20-81-250 to include 1,4-dioxane and PFAS, and should make corresponding amendments to related requirements for developing groundwater protection standards.	DEQ staff discussed with the RAP the current activities on the federal and state level to address emerging contaminants and specifically discussed the inclusion of PFAS monitoring with the RAP. EPA is currently working to establish drinking water standards (Maximum Contaminant Levels (MCLs)) for PFAS and to develop validated analytical methods for groundwater, surface water, wastewater, and solids, including soils, sediments, biota, and biosolids. VDH has also been directed by the General Assembly to establish MCLs for PFAS and 1,4-dioxane in water supplies and waterworks that does not exceed any MCL established by EPA. Changes are being proposed to the regulation to allow the regulations to accommodate anticipated changes on the federal and state level concerning PFAS and 1,4-dioxane. This includes the addition of a new Column C in Table 3.1 that identifies emerging contaminants and allowances for non-SW-846 testing methods to be allowed for the monitoring of constituents listed in Column C.
Carroll Courtenay, Southern Environmental Law Center (SELC)*	We ask the Board and DEQ to closely consider the issue of PFAS and 1,4-dioxane pollution in landfill leachate, and to assess how to best regulate and control these chemicals in order to protect human health and the environment. One approach could be to amend the Solid Waste Management Regulations to require monitoring of the characteristics of landfill leachate, especially in regards to PFAS and 1,4-dioxane. A monitoring requirement could promote the disclosure of these chemicals in discharges (as the Clean Water Act requires before granting a VPDES permit) and could give landfill operators and DEQ more information about how best to manage landfill leachate in the future.	DEQ acknowledges the concerns related to PFAS and 1,4-dioxane in landfill leachate. Depending on the outcome of the current work by VDH and EPA regarding the establishment of Maximum Contaminant Levels (MCLs) for PFAS and 1,4-dioxane, and any related amendments to regulations outside of the DEQ solid waste management program, DEQ may consider revising the regulation in the future. However, no changes are being made to the regulation to address monitoring of these constituents in landfill leachate at this time.
Robert Dick and Michael McLaughlin, SCS Engineers	It would be helpful to have the subparts in each Part be numbered to align with the Part. For example, the first subpart of Part III begins with 9VAC20-81-100. It would be beneficial for the first subpart of Part III to begin with 9VAC20-81-	The regulatory sections were renumbered when Chapter 80 was repealed and Chapter 81 was adopted in 2011. An attempt was made at that time to align the numbering of subparts with the Part number, but due to the number of sections within some Parts and the need to allow space for additional

	300 instead so that the user knows that the reference is from Part III of the Regulations.	sections to be inserted between sections in the future, this was not able to be accommodated. No change has been made to the regulation in response to this comment.
Robert Dick and Michael McLaughlin, SCS Engineers	We are working on a site where decomposition gas vents collect rainwater following significant rainfall events. These gas vents are installed in clean soil on the upgradient side of the landfill, outside the limits of buried solid waste, and they are installed to the water table (but not significantly into the water table). Sampling and analysis of representative samples of the rainwater demonstrates that it is uncontaminated. When rainwater collects in these gas vents, it interferes with their ability to vent decomposition gas. We think the best way to manage the rainwater would be to automatically pump it into the storm sewer, in this case subject to Fairfax County’s MS4 program requirements. The rainwater that collects in the gas vents is not leachate, nor is it decomposition gas condensate. Just because uncontaminated storm water finds its way into gas vents should not change its status as uncontaminated storm water. Frankly, we think the VSWMR already has sufficient language to allow this interpretation, and we do not know if any other site faces a similar issue, so this comment might best be addressed through interpretive guidance as opposed to new regulatory language.	The Board agrees that this issue is already addressed in the regulation and a specific regulatory change was not requested. No change has been made to the regulation in response to this comment.
Robert Dick and Michael McLaughlin, SCS Engineers	Some of the guidance provided in Submission Instruction 13 for landfill gas management is internally inconsistent, does not reflect sound science, and/or is impractical. We would be pleased to elaborate when appropriate.	The comment submitted pertained to agency guidance, not the regulation. No change has been made to the regulation in response to this comment.
Robert Dick and Michael McLaughlin, SCS Engineers	9VAC20-81-35.B – Since the dates in Table 2.1 “Final Prioritization and Closure Schedule for House Bill (HB) 1205 Disposal Areas” have all passed, it seems like this section can be deleted in its entirety.	DEQ agrees that Table 2.1 is no longer needed and is proposing to remove Table 2.1 from the regulation. This section has been revised to continue to reference this category of facility as called out in Section 10.1-1408.1 N of the Code of Virginia and reiterate the requirement for closure and post-closure care.

<p>Robert Dick and Michael McLaughlin, SCS Engineers</p>	<p>9VAC20-81-120.C.3.a states the following: 3. Sanitary landfills. a. No new sanitary landfill area shall be constructed: (1) Within a one mile upgradient of any existing surface or groundwater public water supply intake or reservoir; (2) Within three miles upgradient of any existing surface or groundwater public water supply intake or reservoir except as allowed under the provisions of § 10.1-1408.4 B 3 of the Code of Virginia; The word "area" should be deleted from the regulation; it creates confusion, since we understand the criterion is intended to apply to new sanitary landfills and not to lateral expansions of existing sanitary landfills. Also, the first provision (1) is redundant and should be eliminated from the regulations, because § 10.1-1408.4 B 3 of the Code of Virginia cited in the second provision (2) includes the prohibition that no new sanitary landfill be constructed closer than one mile upgradient of any existing surface or groundwater public water supply intake or reservoir.</p>	<p>The agency agrees that the use of the term "area" is confusing and has removed that term from Section 120 C 3 a. The proposed amendment uses the phrase "new or expanded waste management boundary" in Section 120 to replace terms such as "landfill," "landfill area," and "disposal unit" to provide clarity to the siting requirements.</p> <p>The existing language under 9VAC20-81-120 C 3 a (1) and 9VAC20-81-120 C 3 a (2) are being retained as part of this amendment as they are two separate requirements. The first provision specifies a siting restriction if the proximity is within one mile upgradient of any existing surface or groundwater public water supply intake or reservoir. The second provision specifies a siting restriction except as allowed under 10.1-1408.4 B 3 of the Code of Virginia if the proximity is between one and three miles upgradient of any existing surface water or groundwater public water supply intake or reservoir.</p>
<p>Robert Dick and Michael McLaughlin, SCS Engineers</p>	<p>9VAC20-81-130.J.1.b.(2) indicates that a control subgrade with a minimum thickness of 12 inches shall be provided immediately beneath the alternate liner. This section further specifies five Unified Soil Classifications that the subgrade must meet. The requirement for SC, ML, CL, MH, or CH soils beneath the alternate liner is completely unnecessary as the geosynthetic clay liner (GCL) installers require only a compacted subgrade free of rocks and stones in excess of 0.75 inches and do not care what USCS the subgrade consists of in order to accept the subgrade for GCL deployment. It is recommended that the second sentence be revised to "The controlled subgrade shall be compacted to a minimum of 95% of the maximum dry density, as</p>	<p>The agency concurs that the requirement for SC, ML, CL, MH, or CH soils beneath the alternate liner is not needed. Consensus was reached by the RAP to remove the Unified Soil Classification requirements for the controlled subgrade from the regulation. This change has been included in the proposed amendment.</p>

	<p>determined by ASTM D698 (Standard Proctor). The surface shall be smooth rolled and be free of rocks or stones in excess of 0.75 inches prior to placement of the overlying GCL.”</p>	
<p>Robert Dick and Michael McLaughlin, SCS Engineers</p>	<p>9VAC20-810-140.B.1.e, C.1.d, and D.1.e requires the initiation of final cover construction if an additional lift of waste will not be applied for one year, or within 90 days for areas that attain final elevation. The VSWMR provides some flexibility by allowing a longer period if approved in the landfill’s approved closure plan. It may be prudent to remove the timeframes for initiating landfill closure from this section and simply refer to the approved closure plan instead. Landfills have been known to settle up to ten percent of the waste thickness due to long term settlement and waste degradation. Waiting and planning for long term settlement may improve the stability and stormwater runoff collection and control of a landfill.</p>	<p>The timeframes for initiating closure are based on the federal requirements found in 40 CFR 258.60. Removing the timeframe for initiating closure would be viewed as more lenient than the requirements found in federal regulations. No change has been made to the regulation in response to this comment.</p>
<p>Robert Dick and Michael McLaughlin, SCS Engineers</p>	<p>9VAC20-81-450.B.8 allows for the demonstration to be presented under either 8 a or b, with 8b being an “alternative”, which includes a provision for sanitary landfills to demonstrate that there is less than 10 years of remaining capacity in the facility, and that according to the annual Solid Waste Information and Assessment Program, there is less than 20 years of remaining capacity in the Commonwealth of Virginia. 8a has no requirement for remaining capacity in either the facility or the Commonwealth of Virginia. Recently, several municipal landfills have been discouraged from applying for permit expansions because the Commonwealth has over 20 years of remaining capacity, but this should not apply if the demonstration is made under 8a requirements. Just as important, this seems unfair to the localities, and in at least a couple of instances, their expansion plans</p>	<p>9VAC20-81-450.B.8 addresses different scenarios under which the need for the additional capacity is evaluated. 8 a specifically addresses any solid waste management facility including sanitary landfills, and 8 b is applicable to only sanitary landfills. 8 b provides a streamlined evaluation of need based on the remaining capacity at the sanitary landfill (less than 10 years), and either the statewide or planning region or facilities within 75 miles having less than 20 years remaining permitted capacity. If a sanitary landfill is seeking to demonstrate the need for additional capacity and does not meet the conditions listed in 8 b, they may still seek to demonstrate need for the expansion by providing the information listed in 8 a. The information required to demonstrate that the additional capacity is needed is submitted at the beginning of the permitting process as part of the Notice of Intent. Some municipal landfills have been discouraged from applying for expansions if they do not meet the conditions listed in 8 b. since they will be proceeding with the expense of applying for a permit when it is not clear that the landfill will be able to successfully demonstrate there is a need for</p>

	<p>would better help protect human health and the environment.</p>	<p>the additional capacity, and will not be issued a permit for the additional capacity. No change has been made to the regulation in response to this comment.</p>
<p>Robert Dick and Michael McLaughlin, SCS Engineers</p>	<p>9 VAC 20-81-530 C 3 states “The permittee shall report to the department any noncompliance or unusual condition that may endanger health or environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the circumstances and its cause; the period of occurrence, including exact dates and times, and, if the circumstance has not been corrected, the anticipated time it is expected to continue. It shall also contain steps taken or planned to reduce, eliminate, and prevent reoccurrence of the circumstances resulting in an unusual condition or noncompliance”. The above VSWMR requirements have been inconsistent with solid waste permit modules which have required that “Within 7 days of noting any Corrective Action remedy component failure or shut-down, the Permittee shall submit to the Director a notification describing the cause of the failure”. The language within a facility’s solid waste permit for groundwater corrective action is not in line with the requirements outlined in the VSWMR and applied by some at DEQ. It is suggested that the VSWMR requirements be relaxed to allow 7 days for permittees to notify the Director, as noted in permit language, since shutdown of a component of a corrective action remedy normally does not endanger human health or the environment.</p>	<p>The agency acknowledges that an existing guidance document regards all corrective action remedy component failures and shutdowns as reportable conditions under Section 530 C 3 of the regulations, which may be more stringent than the requirements in some permits. The agency anticipates revisions to the guidance document to avoid inconsistencies with permit language. In order to provide clarity to the regulated community, additional language has been added to 9VAC20-81-530 C 3 of the regulations to specify known types of noncompliance and unusual conditions that require reporting to the Department and may endanger health or the environment.</p>

*Comments submitted by Carroll Courtenay, Southern Environmental Law Center, on behalf of Southern Environmental Law Center, Potomac Riverkeeper Network, Virginia Conservation Network, James River Association, and Virginia League of Conservation Voters

Public Participation

Indicate how the public should contact the agency to submit comments on this regulation, and whether a public hearing will be held, by completing the text below.

In addition to any other comments, the Board is seeking comments on the costs and benefits of the proposal and the potential impacts of this regulatory proposal. Also, the Board is seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code of Virginia. Information may include: 1) projected reporting, recordkeeping and other administrative costs; 2) probable effect of the regulation on affected small businesses; and 3) description of less intrusive or costly alternative methods of achieving the purpose of the regulation.

Anyone wishing to submit written comments for the public comment file may do so by mail, email or fax to Priscilla Rohrer, PO Box 3000, Harrisonburg, VA 22801, telephone: (540) 217-7074, fax: (804) 698-4178, priscilla.rohrer@deg.virginia.gov. Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall (<http://www.townhall.virginia.gov>). Written comments must include the name and address of the commenter. In order to be considered, comments must be received by 11:59 pm on the last day of the public comment period.

A public hearing will not be held following the publication of this stage of this regulatory action.

Detail of Changes

List all regulatory changes and the consequences of the changes. Explain the new requirements and what they mean rather than merely quoting the text of the regulation. For example, describe the intent of the language and the expected impact. Describe the difference between existing requirement(s) and/or agency practice(s) and what is being proposed in this regulatory change. Use all tables that apply, but delete inapplicable tables.

Update: The published version of the regulations was edited by the Virginia Registrar’s Office such that subsections in sections 120, 130, 140, 160, 170, 200, 320, 330, 340, 460 and 470 have been re-lettered. Cross references to these sections, and their subsections within, may have been affected as well.

Changes to 9VAC20-81

Current chapter-section number	New chapter-section number, if applicable	Current requirements in VAC	Change, intent, rationale, and likely impact of new requirements
10		Definitions	Additional terms are being defined in the regulation. The term “speculatively accumulated material” is being removed from the regulation and replaced with the term “accumulated speculatively” for consistency with existing language in the regulation. Additional language is being added to the term “benchmark” to

			<p>provide examples of acceptable coordinate systems for benchmark location data. The term “captive waste management facility” is being defined in the regulation to improve the clarity and readability of the regulation. The term “home use” is being removed from the regulation since it is no longer needed due to revisions that have been made to language concerning composting activities. The term “institutional solid waste” has been added as an alternate term to “institutional waste” for consistency with how the term is used in the regulation. Revisions have been made to the definition of the term “landfill mining” to clarify what constitutes landfill mining, and what does not. These changes are consistent with the requirements found in Section 385 of the regulation. The definition of the term “Site” is being revised to include a reference to the term “infrastructure”. The term “washout” has been removed from the regulation since the term is not used in the regulation. Other minor edits and clarifications have been made to definitions to improve clarity of the regulation.</p>
25		Purpose of chapter	Minor editorial corrections have been made.
35 B.		Applicability of chapter	Revisions are being proposed to this section to eliminate information that is no longer relevant. The closure dates of facilities established by 10.1-1413.2 of the Code of Virginia have passed and all facilities required to comply have ceased to accept waste and have either closed or are in the process of completing closure. This section has been revised to continue to reference this category of facility as called out in Section 10.1-1408.1 N of the Code of Virginia and reiterate the requirement for closure and post-closure care.
40 B		Prohibitions	Revisions have been made to clarify that the regulations prohibit treatment, storage, open burning, disposal, and other management of waste unless in accordance with the requirements of this chapter. Some activities meet the requirements of conditional exemptions under 9VAC20-81-95.
90 A		Relationship with the Virginia Hazardous Waste Management Regulations	A citation has been revised in response to EPA’s Hazardous Waste Generator Improvements Rule changing the term

			“conditionally exempt small quantity generator” to “very small quantity generator.” 40 CFR 262.14 now covers the conditions for exemption for a very small quantity generator.
95 C 7 c		Identification of solid waste-exemption for soil amendment	The regulation is being amended to clarify that soil amendments, if they meet the applicable requirements of the Virginia Department of Agriculture and Consumer Services, and do not create an open dump, hazard or public nuisance, are exempt from this regulation.
95 D 4		Identification of solid waste-conditionally exempt activities- composting	This change provides additional exemptions from this chapter relating to composting activities onsite at the farm of generation provided no open dump, hazard or public nuisance are created. This change also clarifies existing conditional exemptions from this chapter relating to composting activities which are also subject to additional requirements under 9VAC20-81-397.
95 D 10		Conditionally exempt activities- management of solid waste in appropriate containers	This change clarifies that the exemption applies to solid waste in appropriate containers at convenience centers in addition to solid waste in appropriate containers at the site of generation. Convenience centers that manage waste in appropriate containers are exempt from certain requirements found in this regulation. This change is consistent with current regulatory guidance. This subdivision has also been revised to recognize that waste in appropriate containers must be properly managed or disposed once the applicable storage time limits are reached. An additional requirement to quality for this exemption is being added. The waste is required to be managed in a manner that prevents discharges of leachate and wastewaters. The discharge of leachate or wastewater would potentially impact human health and the environment.
95 D 11		Conditionally exempt activities- clean fill materials	Additional details have been added to clarify the materials that qualify for this exemption.
95 D 15 b		Conditionally exempt activities- open burning for training and instruction of firefighters	This change clarifies that certain open burning activities in VOC Emissions Control Areas have additional requirements under the regulations of the State Air Pollution Control Board (9VAC5-130-30 & 9VAC5-130-40).

<p>95 D 15 e and 95 D 15 f</p>		<p>Conditionally exempt activities- open burning of household waste and vegetative waste</p>	<p>This change is being made in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6. The report recommended that the regulations be revised to eliminate or significantly reduce the open burning of household solid waste. Combustion of materials commonly found in household waste is well documented to cause release of carcinogenic compounds, and the smoke and odors from the burning of household waste may be a nuisance to adjacent property owners. This change removes the exemption for open burning of household solid waste. The revised exemption for open burning on private property is only for vegetative waste, clean wood and clean paper products when no scheduled collection service is available at an adjacent road. This change is more protective of human health and the environment.</p>
<p>95 D 15 g</p>	<p>95 D 15 f</p>	<p>Conditionally exempt activities- open burning of clean wood waste and debris waste</p>	<p>This change limits burning in VOC Emissions Control Areas to be consistent with the regulations of the State Air Pollution Control Board (9VAC5-130-40.A.8). Certain open burning activities shall not occur in VOC Emissions Control Areas during times of the year when open burning is prohibited.</p>
	<p>95 D 15 g</p>	<p>Conditionally exempt activities- open burning for destruction of debris waste from clean-up operations during state of emergency</p>	<p>Open burning for the destruction of debris waste from clean-up operations related to a Governor's declaration of a state of emergency was previously exempt under section 410. This change moves the exemption language to section 95 for inclusion with the listing of other conditionally exempt open burning activities. This exemption allows actions to occur without having to wait to receive an emergency permit for this activity.</p>
<p>95 D 16</p>		<p>Conditionally exempt activities- open burning of vegetative waste at closed landfills not yet released from post-closure care</p>	<p>Additional clarifications have been added regarding exempt open burning activities at closed landfills for consistency with conditions for open burning activities at active landfills under 9VAC20-81-140.A. This change limits burning at closed landfills not yet released from post-closure care which are in VOC Emissions Control Areas to be consistent with the regulations of the State Air Pollution Control Board. Open burning of solid waste shall not occur in VOC Emissions Control Areas during times of the year when open burning is</p>

			prohibited. Language has also been added to clarify the frequency of burning of vegetative waste that is allowed at a closed landfill not yet released from post-closure care in accordance with § 10.1-1410.3 of the Code of Virginia. This change is consistent with existing agency guidance.
	95 D 19	Conditionally exempt activities- composting associated with a public/private event or festival	This exemption promotes composting as an alternative to landfilling waste by adding an exemption for additional composting activities under certain criteria.
	95 D 20	Conditionally exempt activities- storage of nonhazardous wastes from emergency clean-up	This exemption is applicable to waste generated from emergency clean-ups. This language addresses the temporary storage of the waste, and the waste is still required to be properly managed, treated, or disposed. This requirement is similar to the requirements for the management of waste at convenience centers. This change is also consistent with existing agency guidance.
95 F 7	95 F 8	Exempt solid waste- scrap metal and mixtures of certain materials when reclaimed or temporarily stored for reclamation	This language clarifies that scrap metal for recycling may be exempt from this chapter if certain requirements are met. Previously the regulation did not specifically list scrap metal that had been separated for recycling as being exempt from this requirement but referred to scrap metal as part of a mixture. This change should avoid confusion concerning the requirements for scrap metal that is reclaimed or temporarily stored prior to reclamation.
	98	Appropriate containers	A new section is proposed to be added to the regulation to assist the regulated community with understanding the requirements of appropriate containers for waste management. Standards for appropriate containers have previously been discussed in agency guidance. Discussing these requirements in a new section eliminates the need for appropriate containers to be discussed repeatedly throughout the regulation. A new section is proposed to discuss appropriate containers instead of adding a definition of appropriate containers since the term's meaning is dependent on different situations.
100 E 1		Control program for unauthorized waste	Minor editorial clarification to replace "operating record" with "facility's operations manual" for consistency with the wording in section 485. Language

			has also been revised to clarify and eliminate confusion regarding which types of landfills are subject to the additional requirements for unauthorized waste control (i.e. random load inspections) under subdivision 5 of this subsection. Previously, this text referred to sanitary landfills, but subdivision 5 of this subsection referred to all landfills other than captive industrial landfills. All landfills, excluding captive industrial landfills are subject to the additional requirements for unauthorized waste control.
100 E 5 b		Control program for unauthorized waste-inspection requirement	The revisions to this language clarify that the existing 10% inspection requirement applies to incoming loads from each jurisdiction outside of Virginia with laws that allow disposal or incineration of wastes that Virginia prohibits.
100 E 5 d		Control program for unauthorized waste- training of landfill personnel	The regulation has been revised to clarify that staff should receive annual training on unauthorized wastes. This is needed to maintain facility staff that are able to comply with requirements of the regulation and the facility permit. This change is consistent with industry best practice as the majority of active landfills are already conducting this training annually.
100 E 5 e		Control program for unauthorized waste-notification to department of unauthorized waste at landfill	Detailed requirements concerning the required notification are being moved to section 9VAC20-81-530.C.3 (recording and reporting required of a permittee). The general requirement to notify the department remains in this subdivision, and refers the reader to the requirements found in 9VAC20-81-530.C.3. (recording and reporting of a permittee).
120 A 120 B 120 C 120 D 120 E 120 I		Landfill siting requirements	Changes are being made to the landfill siting criteria in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6 (2018). The report recommended that the regulations be revised to update provisions related to setbacks and siting of solid waste facilities, as well as solid waste facility leachate pollution. Terminology used in the regulation pertaining to the siting setbacks is being updated to use the term "waste management boundary" instead of the word "landfill" or the phrase "disposal unit or leachate storage unit" to make the regulation easier to understand. The

			<p>“waste management boundary” includes the disposal unit and the leachate storage areas. This change will eliminate confusion by clarifying that the siting requirements for landfills apply to the locations where waste and leachate will be managed, not the entire parcel of the property. Changes have been made to clarify that the siting requirements apply to new and expanded waste management boundaries.</p>
120 C 1 a		<p>Landfill siting restrictions-setback distance from any residence, school, daycare center, hospital, nursing home or recreational park</p>	<p>The setback distance of a new or expanded waste management boundary from any residence, school, daycare center, hospital, nursing home or recreational park is being increased from 200 feet to 500 feet. This change is being made in order to increase the setback of new and expanded waste management boundaries (from 200 feet to 500 feet) from certain receptors in order to be more protective of human health and the environment. Other state regulations (including North Carolina, South Carolina, Pennsylvania, and Delaware) were reviewed and found to have a greater setback than 200 feet. This language was drafted in consideration of RAP discussion and feedback.</p>
120 C 1 c		<p>Landfill siting restrictions-setback distance facility boundary</p>	<p>The RAP reached consensus to change the siting setback distance of a new or expanded waste management boundary from 50 feet to 100 feet from the facility boundary. The definition of the facility boundary for a landfill includes the waste management boundary and other ancillaries such as scales, maintenance facilities, monitoring wells. Public comments were also submitted indicating that this distance should be increased since other states are using larger setback distances.</p>
120 C 2		<p>No landfill siting in Resource Protection Areas</p>	<p>A prohibition against siting waste management boundaries within locally designated resource protection areas has been included. This protects against the loss of local resource protection areas to the development of landfill disposal areas. The RAP reached consensus on this topic and agreed to require Resource Protection Areas designated by localities on the near vicinity maps for landfills.</p>
120 I 2		<p>Notification required to Federal Aviation</p>	<p>49 USC § 44718(d), restricts the establishment of landfills within six miles</p>

		Administration (FAA) and affected airport if owners or operators are proposing to site a new landfill or expand an existing landfill within a certain radius of an airport runway	of public airports under certain conditions. The regulation has been revised to increase the radius requiring notification from five miles to six miles to be consistent with the Federal Aviation Administration's guidance regarding landfill proximity to airports.
130 G		Landfill Design and Construction requirements- Benchmarks	Additional language has been added to provide clarification to the requirements for benchmarks and for consistency with industry standards. The RAP achieved consensus on including references to survey coordinate systems in the regulations. Default datum standards are now specified, and the flexibility exists for a different datum or geographic coordinate system to be used, if appropriate.
130 H		Surface water runoff at landfills	The regulation has been clarified to specify that the current available rainfall intensity data is to be used in plans and designs for run-on/run-off control systems. The run-on/run-off standard is based on information from the Atlas 14 data for Virginia (Volume 2, Version 3.0 from 2006) and Predictive Rainfall Intensity-Density Frequency curves (updates anticipated to be completed in 2021), both of which are maintained by the National Oceanic and Atmospheric Administration (NOAA). The RAP recommended this change be made to clarify that the most recent available information on current rainfall intensity data should be used when planning and designing the stormwater management system.
	130 H 4	Erosion and sediment control at landfills	Additional language has been added to mention Erosion and Sediment Control Measures. These measures are not part of the permit but are addressed through another agency program.
130 J 1 b		Sanitary Landfill- bottom liner- Alternate liner system	The term "Alternate liner system" is being removed to avoid confusion concerning alternate liners. This subdivision specifically addresses the Flexible Membrane Liner/Geosynthetic Clay Liner requirements.
130 J 1 b (2)		Sanitary Landfill- bottom liner- Controlled liner subgrade requirements	Consensus was reached by the RAP to remove the Unified Soil Classification requirements for the controlled subgrade from the regulation since the regulation already specifies the compaction requirements for the subgrade.

130 J 1 b (3)		Sanitary Landfill- bottom liner- Hydraulic conductivity of lower liner	The regulation is being updated to include the new industry standard for hydraulic conductivity. The RAP reached consensus on changing the hydraulic conductivity of the lower geosynthetic clay liner (GCL) from 1×10^{-9} cm/sec to 5×10^{-9} cm/sec to be consistent with industry standards.
140		Operation requirements for landfills	Duplicative language concerning the content of Operations Manuals has been removed as it is already addressed in section 485.
	140 A 1	Operation requirements- landfill performance standards	Language has been added to address the existing statutory requirement for permitted solid waste management facilities to operate under direct supervision of a licensed waste management facility operator. The added language is consistent with the statutory language in § 10.1-1408.2 of the Code of Virginia.
140 A 4 b	140 A 5 b	Landfill- Open burning	Changes have been made to clarify the frequency of burning of vegetative waste that is allowed at an active landfill in accordance with § 10.1-1410.3 of the Code of Virginia. This change is consistent with agency guidance. Language has also been added to limit burning at active landfills in VOC Emissions Control Areas to be consistent with the regulations of the State Air Pollution Control Board (9VAC5-130-40.A.10). Certain open burning activities shall not occur in VOC Emissions Control Areas during times of the year when open burning is prohibited.
140 A 4 c	140 A 5 c	Landfill- Fire control	New language is being added to ensure that landfills follow the fire control plan when responding to fires. The RAP reached consensus on stating in the regulations that landfill fires shall be effectively controlled and extinguished as soon as possible. RAP consensus was also achieved on adding more detail to the regulation to emphasize the use of soil in controlling landfill fires as a standard industry practice. Flexibility has been retained to allow the use other fire suppression materials as appropriate.
140 A 4 c	140 A 5 d	Landfill- No open burning on disposal areas	This language has been removed since it is already stated in the subdivision 4 b of this section.
	140 A 5 e	Landfill- Training on fire hazards and response	Additional training requirements are being specified in the regulation in accordance with RAP consensus. The RAP agreed that active landfills should

			provide an annual training for their staff on the contents of the fire control plan to ensure that staff are prepared and knowledgeable of site-specific fire hazards and the steps to respond to a fire.
140 A 5	140 A 6	Landfill- Implementation of gas management plan	Clarifications have been made throughout the text of the regulations to specify the equivalent measurement of methane by volume when compared to the lower explosive limit (or a percentage of the lower explosive limit) for methane. Language has also been added throughout the regulation to clarify the existing requirement that all probes within the gas monitoring network serve as points of compliance to monitor lateral migration of methane at the facility boundary.
	140 A 7 e	Landfill- No waste placement allowed outside of the disposal unit boundary or above the vertical design capacity	Language has been added to clarify the existing requirement that landfills shall not be overfilled. In other words, landfills shall not place waste outside the permitted landfill horizontal and vertical limits. This change prevents the facility from exceeding the final elevations specified in the permit. This language was drafted in consideration of RAP discussion and feedback.
140 A 13	140 A 14	Landfill- Internal road maintenance	Language has been added to clarify that the roadways that access monitoring locations (such as groundwater monitoring wells and gas monitoring probes) are also required to remain accessible for sampling, inspection, and routine maintenance.
140 A 16	140 A 17	Landfill- Self-inspection requirements and documentation	Regulatory text has been revised to clarify that as part of self-inspections, landfills shall inspect for the presence of leachate seeps so that immediate actions can be taken (in accordance with the requirements of section 210) to eliminate any seeps and manage leachate at the source of a seep in order to prevent releases outside of the landfill. Language regarding self-inspection records for solid waste disposal facilities is also being added to be consistent with the requirements of self-inspection documentation for solid waste management facilities.
	140 A 19	Landfill- Hours of operation	Language has been added to clarify that the facility shall only operate within permitted hours of operation, and allows for facilities to request a temporary extension of operational hours if needed

			to respond to emergencies. Consensus was reached by the RAP to include this flexibility in the regulation.
	140 A 20	Landfill- Daily disposal limit/ waste storage limit	This language has been added to the regulation to clarify that the facility shall only receive and store quantities of waste allowed by the permit. A similar requirement has been added for other waste management facilities. This limit is based on the specific design and operations at a facility, and the quantities are specified in the facility's permit.
	140 A 21	Landfill- Topographic survey	A new requirement is being included in the regulation for active landfills to conduct an annual (or biennial) topographic survey and report the results to the department. The surveys will provide more accurate and updated information to the facility and the department on the current capacity and grades of the fill area, the remaining life of the landfill, and assist with planning for future landfill capacity. Survey reports will supplement and validate information provided in Solid Waste Information and Assessment (SWIA) reports. This survey requirement will also help to ensure that the final elevations of the landfill are as permitted and will prevent the overfilling of landfills from occurring. Landfills receiving fewer quantities of waste (those with a permitted daily disposal limit of 300 tons per day or less) are only required to conduct the survey on a biennial basis (once every 24 months) whereas all other landfills must survey and report on an annual basis (once every 12 months). Some landfills are already required by their permit to conduct these surveys. This language was drafted in consideration of RAP discussion and feedback.
140 B 1 a		Sanitary landfill- active working face area	Language from B 1 a and B 2 are being consolidated to avoid unnecessary repeating of the same or similar requirement.
140 B 1 c		Sanitary landfill- Daily cover	Revised language clarifies that the purpose of daily cover material also includes controlling stormwater infiltration into the waste cell and clarifies that alternate cover must be applied in a way that ensures its use is as effective as using soil cover. The additional language regarding the application and use of alternate covers is consistent with

			existing permit language and agency guidance.
	140 B 1 d	Sanitary landfill- Cover requirements for asbestos-containing waste	Language added to clarify sanitary landfills shall comply with asbestos disposal requirements for all landfills in section 620.C.
140 B 1 c	140 B 1 e	Sanitary landfill- 3 day cover material stockpile	This language is being moved to a separate subdivision to improve the readability of the regulations. The additional language clarifies that three-day cover stockpiles need to be as close as practicable to the working face and ready to use for multiple reasons. Inclement weather could prevent or delay access, excavation or transportation of cover material, so having the material on hand nearby would ensure daily cover can still be applied. Materials should also be in close proximity and ready to use to minimize the time it takes to respond to a landfill fire in order to prevent the fire from spreading to a larger area or depth. This language is consistent with current industry best practice.
140 B 1 d	140 B 1 f	Sanitary landfill- Intermediate cover maintenance	The requirement to grade intermediate cover to prevent ponding was already specified for CDD landfills and is being added for sanitary and industrial landfills for consistency. This requirement is also consistent with industry best practice to minimize stormwater infiltration, reduce surface and subsurface erosion of waste and cover materials, and minimize the generation of excess leachate.
140 B 1 f	140 B 1 h	Sanitary landfill- Final cover maintenance	Language has been added to clarify final cover maintenance at active landfills that have not yet entered post-closure care. It is very common for landfills to close and cap some areas, while other areas are still receiving waste. The areas that have been closed still require maintenance similar to the maintenance required under the post-closure care section of the regulations.
140 B 2	140 B 1 a	Sanitary landfill- Active working face area	Language consolidated with 140 B 1 a.
140 C 1 b		CDD landfill- Soil cover and cover requirements for asbestos-containing waste	Language was updated to clarify the purpose of soil cover at a CDD landfill. Soil cover is needed at CDD landfills to control fire, odor, litter, and stormwater infiltration. Other language was added to clarify that CDD landfills shall comply with asbestos disposal requirements for all landfills in section 620.C.

	140 C 1 c	CDD landfill-3 day cover material stockpile	The additional language clarifies that three-day cover stockpiles need to be as close as practicable to the working face and ready to use for multiple reasons. This is currently a requirement that is applicable to Sanitary and Industrial landfills. This requirement is being added for Construction Demolition Debris Landfills. Inclement weather could prevent or delay access, excavation or transportation of cover material, so having the material on hand nearby would ensure progressive cover can still be applied. Materials should also be in close proximity and ready to use to minimize the time it takes to respond to a landfill fire in order to prevent the fire from spreading to a larger area or depth.
140 C 1 c	140 C 1 d	CDD landfill- Intermediate cover maintenance	This requirement already existed for sanitary and industrial landfills and is being added for construction/demolition/debris landfills for consistency. Intermediate cover should be maintained to ensure waste is not exposed, to control stormwater infiltration, and minimize excess generation of leachate. This requirement is consistent with industry best practice.
140 C 1 e	140 C 1 f	CDD landfill- Final cover maintenance	Language has been added to clarify final cover maintenance at active landfills that have not yet entered post-closure care. It is very common for landfills to close and cap some areas, while other areas are still receiving waste. The areas that have been closed still require maintenance similar to the maintenance required under the post-closure care section of the regulations.
140 D 1 c		Industrial landfill- Weekly soil cover unless alternate methods approved	This requirement has been revised to change the minimum cover standard for industrial landfills from “periodic cover” to a weekly 6-inch compacted soil cover, unless alternate methods are approved by the Department that are just as effective as weekly soil cover at controlling fires, odors, litter, stormwater infiltration and at preventing erosion and displacement of waste. The previous requirement for “periodic cover” was undefined (i.e. no minimum frequency or thickness). The absence of a requirement to provide cover at a specified frequency has resulted in working face areas not being minimized and waste material being exposed to the environment for longer periods of time.

			<p>The department has observed an increase in the number and severity of occurrences of fires, odors, blowing litter, stormwater infiltration, excess leachate generation, surface and subsurface erosion of waste, waste slides, compromised stability, and releases of waste and leachate at industrial landfills. The new requirement is proposed in order to be more protective of human health and the environment and provides consistency with the weekly cover requirement for CDD landfills. In consideration of RAP feedback, the amended regulation recognizes that the nature, type, and quantity of accepted wastes are unique to each industrial landfill, and allows the department to evaluate alternate methods proposed by the facility to address the same performance standards. If alternate methods are not effective in addressing these issues, then the weekly 6-inch compacted soil cover is required.</p>
140 D 1 c	140 D 1 d	Industrial landfill- Cover requirements for asbestos-containing waste	<p>This language clarifies that industrial landfills shall comply with asbestos disposal requirements for all landfills in section 620.C.</p>
140 D 1 c	140 D 1 e	Industrial landfill- 3 day cover material stockpile	<p>This language clarifies the existing requirement for three-day cover stockpiles to be maintained at industrial landfills and clarifies that the stockpiles need to be as close as practicable to the working face and ready to use for multiple reasons. Inclement weather could prevent or delay access, excavation or transportation of cover material, so having the material on hand nearby would ensure cover can still be applied when needed. Materials should also be in close proximity and ready to use to minimize the time it takes to respond to a landfill fire in order to prevent the fire from spreading to a larger area or depth.</p>
140 D 1 d	140 D 1 f	Industrial landfill- Intermediate cover maintenance	<p>Language is being revised in order to establish a consistent intermediate cover standard for all landfill types. An allowance for alternate weekly cover materials and alternate schedules for cover application has been retained and addressed in the new subdivision c above. A requirement for intermediate cover to be graded to prevent ponding was already specified for CDD landfills and is being added for sanitary and</p>

			<p>industrial landfills for consistency. This requirement is also consistent with industry best practice to minimize stormwater infiltration, reduce surface and subsurface erosion of waste and cover materials, prevent slope failures and waste slides, and minimize the generation of excess leachate.</p>
140 D 1 f	140 D 1 h	Industrial landfill- Final cover maintenance	<p>Language has been added to clarify final cover maintenance at active landfills that have not yet entered post-closure care. It is very common for landfills to close and cap some areas, while other areas are still receiving waste. The areas that have been closed still require maintenance similar to the maintenance required under the post-closure care section of the regulations.</p>
140 D 2		Industrial landfill- Dust control	<p>This language clarifies the existing requirement for industrial landfills to use dust control measures when managing any wastes that could become airborne and distinguishes dust control requirements from cover requirements.</p>
160 B f		Closure requirements- landfill closure cost estimates	<p>Language has been added to clarify that the closure cost estimate in the closure plan must include the costs of removing stockpiles of material at the site that are approved for beneficial use. In the event the facility was to close, the material stockpiled for beneficial use would need to be removed as part of closure of the facility. This change to the regulation was made in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6 (2018). The report recommended that the regulations be revised to ensure that facilities provide adequate financial assurance that they can fund cleanup and closure. This amendment will require facilities' closure cost estimates to include costs for removal of beneficial use materials (which were not included previously) when calculating the financial assurance a facility is required to provide for closure of the facility. Similar language is being added for closure plans of other solid waste management facilities. This change is also consistent with existing agency guidance. This change protects the citizens of the Commonwealth from having to pay for the removal and disposal of beneficial use material if a facility fails to properly close.</p>

160 D 2 d (3)		Closure requirements- Sanitary landfill protective cover layer requirements	The regulation is being revised to recognize that the protective cover layer is for the protection of both underlying layers (the barrier layer and the infiltration layer).
160 D 2 e (1)		Closure requirements- CDD and industrial landfill barrier layer requirements	This change has been incorporated into this amendment based on RAP consensus to allow a barrier layer of a CDD or industrial landfill alternate cover system to be 30 mils in thickness if using PVC.
160 D 2 e (2)		Closure requirements- CDD and industrial landfill protective layer requirements	The term “infiltration layer” is being replaced with “barrier layer” for clarification and consistency with existing language in this subsection. Changes were discussed with the RAP.
160 D 4		Closure requirements- landfill closure certification	The regulation has been revised to clarify that the certification to be provided is a certification that the CQA plan has been successfully completed.
170 A 1 a		Post-closure care requirements- final cover maintenance	Language regarding mowing of final cover vegetation was previously only found in the operations section of the regulation but is also an applicable requirement for a facility that is in post-closure care. Language is also being added to clarify other maintenance requirements related to vegetation on the final cover. Certain types of vegetation should not be allowed on the final cover of the facility due to damage the root structure of the vegetation can cause. In some cases woody vegetation naturally grows on the final cover and will need to be removed as part of maintaining the integrity of the final cover.
	170 A 2 d	Post-closure care requirements- quarterly inspections	A requirement for quarterly inspections to be conducted is being added to the regulations for consistency with current post-closure care plans in landfill permits, existing agency guidance on post-closure care, and industry best practices. The quarterly self-inspections will be conducted by the owner or operator to monitor conditions at the facility during post-closure care. A checklist is required to be completed and maintained and available for review to verify self-inspections are occurring.
170 B 3 a 170 B 3 b		Post-closure care requirements- certification to demonstrate reduction of post-closure care period	The regulation is being revised to allow a professional geologist (in addition to a professional engineer) to provide an evaluation of the landfill’s potential for increased risk to human health and the environment if the post-closure care period is decreased.

170 C 1 a 170 C 1 b		Post-closure care requirements- certification to request termination of post-closure care	The regulation is being revised to allow a professional geologist (in addition to a professional engineer) to provide a certification that the post-closure care has been conducted as required by the post-closure care plan.
	170 C 3, 170 C 4, 170 C 5	Post-closure care requirements- public participation requirements for termination of post-closure care	New language has been added to address the public participation requirements for termination of post-closure care of solid waste disposal facilities. The additional steps are part of the current process used by the department as outlined in agency guidance and ensure that adjacent land owners and occupants are aware of the post-closure care termination and have opportunity to provide comment. A combination of public participation requirements from guidance and for permitting was used to outline a standard procedure.
200		Control of decomposition gases	References to applicable air regulations are being updated.
200 A 1 a 200 A 1 b 200 C 1 200 C 2		Control of decomposition gases- general requirements	Clarifications were made throughout the text of the regulations to specify the equivalent measurement of methane by volume when compared to the lower explosive limit and to clarify the existing requirement that all probes within the gas monitoring network serve as points of compliance to monitor lateral migration of methane at the facility boundary
200 A 2		Control of decomposition gases- general requirements	Language has been added to the regulation to clarify the minimum requirements for landfill operators to demonstrate that there is no potential for gas migration in order to request approval to terminate quarterly gas monitoring.
200 B 3		Control of decomposition gases- additional monitoring required by air regulations	References to applicable air regulations are being updated.
200 B 4		Control of decomposition gases- minimum monitoring frequency	Language has been added to the regulation to clarify the expectation for representative quarterly monitoring that is sufficient to detect landfill gas migration and is consistent with industry practice as well as current agency guidance.
	200 B 5	Control of decomposition gases- gas monitoring probes	This language was added to clarify the requirements for operating and maintaining the gas monitoring network and to improve the accuracy of data collected at the facility. This language

			was drafted in consideration of RAP feedback and consensus.
	200 C 1 c	Control of decomposition gases- gas remediation- action level exceedance	Revisions have been made to this subdivision to clarify that increased monitoring to address risk to public health and safety may be necessary following an action level exceedance. The additional language is consistent with industry practice as well as requirements in existing landfill permits and current agency guidance.
	200 C 2 a 200 C 2 b 200 C 2 c	Control of decomposition gases- gas remediation- compliance level exceedance	This change is being made to clarify the minimum steps the facility must take following a compliance level exceedance. The additional language is consistent with industry practice as well as requirements in existing landfill permits and current agency guidance
	200 C 2 d	Control of decomposition gases- gas remediation- compliance level exceedance- notification to adjacent properties	A new requirement that is more protective of public safety, human health and the environment has been added in this subdivision. The RAP achieved consensus that the regulations should require landfills to notify adjacent properties of compliance level exceedances (methane gas detected at or above the lower explosive limit) and offer to provide monitoring, when occupied structures are within 500 feet of the detected methane. This requirement will ensure that landfills are making adjacent properties aware of potential safety concerns and will prompt facilities to resolve subsurface methane gas migration in a more timely manner. The notification is required at the first compliance level exceedance of a probe and then again when the issue has been corrected (i.e. when the exceeding probe is again returned to a quarterly monitoring frequency), unless the exceedance continues after a year. If the exceedance continues after a year, the landfill should re-notify the adjacent property to keep them updated on the status of remediation for the subsurface methane migration. If the probe returns to compliance (quarterly monitoring) and has another compliance level exceedance, the notification process would restart. The notification process is required for each probe that exceeds the compliance level for methane.
200 C 2 e		Control of decomposition gases- compliance level	The regulation has been revised to specify that probe spacing in the gas monitoring network shall be assessed

		exceedance- assessment of gas probe spacing	following a compliance level exceedance to ensure that the network is sufficient to address any new receptors or potential migration pathways posed by current activities on adjacent properties that may not have been present when the network was originally designed. The additional language is consistent with industry best practice as well as requirements in existing landfill permits and current agency guidance.
200 C 4		Control of decomposition gases- Gas remediation system	References to applicable air regulations are being updated.
200 C 5		Control of decomposition gases	Language previously found in this subdivision regarding notification procedures is now addressed under 200 C 2 and 530 C 3. Landfills are already required to notify DEQ of unusual conditions that may endanger human health and the environment. New language has been included in this subdivision that specifies certain types of unusual conditions identified by the RAP that may endanger human health and the environment, and include subsurface heating events, which are indicative of, or could cause subsurface fire, combustion, subsurface reaction or oxidation. The language clarifies that the landfill shall also take immediate actions as necessary to investigate and control those conditions.
	200 D 1	Odor management- odor complaints	Additional requirements are being included in the regulation to ensure that landfills appropriately address odor complaints received from the public. This language is consistent with industry best practice and current agency guidance and was drafted in consideration of RAP feedback.
200 D 1 200 D 2	200 D 2	Odor management- Odor management plan	This subdivision has been reorganized and clarifications have been made to specify that the odor plan shall also include odor complaint response procedures and remedial measures for odor control for consistency with industry best practice and current agency guidance.
200 D 3		Odor management- Annual review and update of odor management plan	Changes have been made to clarify the intent of the original requirement to annually review and update the odor management plan to ensure the remedial measures are effective to address current odor concerns at the facility. Additional actions may be required for

			the facility to address ongoing odor complaints or persistent odor issues. The actions listed in the regulations are consistent with industry best practice and current agency guidance to minimize odor migration offsite.
200 E 1 200 E 3		Recordkeeping	Additional details have been included concerning the concentration to be recorded and calibration procedures. Calibration information for landfill gas monitoring equipment is required to be documented as part of facility recordkeeping requirements in order to demonstrate that equipment has been calibrated to obtain accurate measurements during landfill gas monitoring. Calibration information to be recorded is consistent with industry standards, permit requirements (landfill gas management plans), and agency guidance, and this language was drafted in consideration of RAP discussion and feedback. The air regulations similarly require calibration of equipment used to monitor landfill surface emissions.
210 A 2		Leachate control- collection system design, construction, and operation	Changes have been made to the regulation to clarify that the leachate collection system shall not only be designed and constructed to maintain less than a 30 cm depth of leachate, but shall also be operated to maintain less than a 30 cm depth of leachate over the liner. This was the intent of the original requirement but is being clarified in this amendment.
	210 G	Leachate control- sampling and analysis	Additional language has been added to recognize that it may be necessary for a facility to conduct sampling of surface water, stormwater, or other receptors to confirm if leachate has been released or discharged so that appropriate remedial actions can be determined and implemented.
250		Groundwater Monitoring Program	Throughout this section references to Column C of Table 3.1 have been added to address potential emerging contaminants for which monitoring may be required for all landfills in the future. Column C includes contaminants that the Virginia Department of Health (VDH) is reviewing to potentially establish MCLs. The RAP was in agreement with the proposed addition of Column C and framework to address the potential monitoring of emerging contaminants. Column C may be modified in the future

			based on actions taken by VDH to address emerging contaminants. MCLs must be adopted by VDH before this regulation will require monitoring for these constituents.
250 A 2 c		Groundwater Monitoring- General requirements- Director's authority	The word "sampling" has been added to clarify that the groundwater monitoring and reporting requirements also include sampling.
250 A 3 a (2)	250 A 3 a (1)	Groundwater monitoring system requirements	These subdivisions have been revised to clarify that the uppermost aquifer must be monitored unless a variance has been granted for the location of monitoring wells. This clarification is needed since multiple types of variances are available.
250 A 3 c		Groundwater Monitoring- Well construction	Additional language has been added to specify the information that needs to be included in the groundwater monitoring plan concerning the monitoring well installation and construction. Including this information here assists the regulated community with complying with the requirements of the groundwater monitoring plan.
	250 A 3 c (4)	Groundwater Monitoring- Well construction	Language has been added to clarify that the well screen needs to be installed at a depth that will always yield water for sampling.
250 A 3 e	250 A 3 e (1) and (2)	Groundwater Monitoring- Well maintenance	Additional language has been included in the regulation to specify minimum requirements for maintaining groundwater wells. This includes labeling and locking the well, and maintaining the concrete apron surrounding the well to protect the integrity of the well.
250 A 3 e	250 A 3 f	Groundwater Monitoring- Well replacement	Requirements for well replacement have been separated from requirements pertaining to well maintenance to add additional clarity to the regulation. Language has been added to address the process for abandonment of non-functioning wells.
250 A 3 f (1) (c)	250 A 3 g (1) (c)	Groundwater Monitoring- Network specifics	Regulation has been amended to clarify that there may be multiple confining units for aquifers and that all should be considered when developing the groundwater monitoring network.
250 A 3 (g) (1) (d)	250 A 3 g (1) (e)	Groundwater Monitoring- Listing of technical information to be provided on groundwater monitoring network	This is not a new requirement. Previously this information was listed in 250 A 3 (g) (1) (d) but has been moved to a new subsection (e) to make it easier to understand the information required to be submitted concerning the groundwater monitoring network.

250 A 3 g	250 A 3 h (1) and 250 A 3 h (2)	Groundwater Monitoring- Monitoring well certification	The requirements of this subdivision have been separated to clarify the actions to occur within 30 days of well installation to certify monitoring wells.
250 A 4 a		Groundwater Monitoring- Quality assurance and control	Language has been added to the regulation to clarify that the quality assurance and control program is to be described in the groundwater monitoring plan.
250 A 4 b	250 A 4 b (1), 250 A 4 b (2), 250 A 4 b (3)	Groundwater Monitoring- Analytical Methods	Requirements in the subdivision have been listed separately to assist with improving clarity concerning the requirements. Language has been added to specify that EPA SW-846 methods are required for constituents found in Columns A and B of Table 3.1. This change is being made to distinguish between testing methods required for constituents listed in Columns A, B, and C. This will provide flexibility for Column C constituents to be tested using non-EPA SW-846 test methods. Additional reasons for the department requesting re-sampling to occur have also been included for clarification.
250 A 4 f		Groundwater Monitoring- Sampling and statistics- collection of groundwater samples by bailers	Language has been added to the regulation to specify that collection of groundwater samples through the use of dedicated bailers must be approved by the department. The regulation does not currently address the use of bailers. The use of bailers is not the preferred method of sampling groundwater due to challenges with maintaining the integrity of the groundwater sample.
250 A 4 h (3)		Groundwater Monitoring- Evaluation and response	The phrase “by the department” has been added to this subdivision to clarify the department will not accept qualified or non-final determinations concerning notifications. Previously it was implied that the department would not accept these notifications.
250 A 4 i		Groundwater Monitoring- Verification sampling	Language has been added to clarify that there may be one or multiple wells requiring verification sampling.
250 A 5 a		Groundwater Monitoring- Alternate source demonstration allowance	Minor editorial correction made to change “anytime” to “any time”.
250 A 5 c (2) (b)		Groundwater Monitoring- Evaluation and response to alternate source demonstration	The 90 day timeframe is being removed from the regulation and is being replaced with a date selected by the director. This provides the director the option of providing the operator additional time to complete changes to the monitoring

			system, and would be reflective of the type of changes that are needed.
250 A 5 c (2) (c)		Groundwater Monitoring-Evaluation and response to alternate source demonstration	The requirement for the permit to be modified within 90 days of the approval of the alternate source demonstration is not needed and is being removed. The permit will be modified and approved as detailed in 9VAC20-81-600.
250 A 6 a		Groundwater Monitoring-Establishment of groundwater protection standards- requirements	When participating in the Assessment or Phase II monitoring program, once a statistically significant increase over background has been recognized, groundwater protection standards shall be proposed by the owner or operator for detected constituents in both Column B and C (emerging contaminants).
250 A 6 b (1)		Groundwater Monitoring-Establishment of groundwater protection standards- establishment process	Language has been added to the regulation to require groundwater protection standards to be established for any constituents that have a maximum contaminant limit (MCL) established by Virginia Department of Health (VDH) regulation. VDH is currently evaluating the need to establish MCLs for additional constituents (emerging contaminants).
250 A 6 e		Groundwater Monitoring-Alternate concentration level revisions	The regulation has been clarified to address revisions to alternate concentration limits (ACLs). The approved ACL on the date of the sampling event shall be used.
250 B 2 a		Groundwater Monitoring-Detection monitoring sampling requirements	Facilities in detection monitoring are required to sample for constituents in Column A and Column C of Table 3.1. VDH is currently evaluating the need to establish MCLs for additional constituents (emerging contaminants) that are listed in Column C. References to the requirement to monitor for Column C constituents have been added to the detection monitoring program. In the future, if maximum contaminant levels (MCLs) are established by Virginia Department of Health (VDH) regulation, those constituents would be listed in Column C. Column C currently lists constituents for which VDH is considering establishing MCLs.
250 B 2 a (1) (a)		Groundwater Monitoring-Detection monitoring program sampling requirements- initial sampling	The regulation is being revised to require 8 instead of 4 independent groundwater samples from each well. This change is being made to be consistent with EPA's 2009 statistical guidance. Additionally, language has been added to allow the facility to sample wells prior to the receipt of waste. This provides more flexibility to

			the operational requirement for the facility, and this change would not negatively impact human health and the environment.
250 B 2 a (2)		Groundwater Monitoring-Subsequent monitoring events	Language pertaining to background monitoring has been removed from this subdivision and moved to 9VAC20-81-250 B 2 a (4). More details concerning background sampling have been provided in a new subdivision (4) below.- 9VAC20-81- 250 B 2 a (4)
	250 B 2 a (4)	Groundwater Monitoring-Data from background wells during subsequent monitoring events	This requirement was previously included in 250 B 2 a (2) but has been included in a separate subdivision. Background well sampling information is to be used to re-establish background values to maintain an accurate representation of groundwater quality. This change is consistent with EPA's 2009 statistical guidance.
	250 B 2 b (1) (c)	Groundwater Monitoring-Statistically significant increase evaluation and response	This subdivision was created to improve the readability of the subdivision and the understanding of the requirements found in subdivision 250 B 2 b (1).
250 B 3		Groundwater Monitoring-Assessment monitoring program sampling requirements	Facilities in assessment monitoring are required to sample for constituents in Column B and Column C of Table 3.1. VDH is currently evaluating the need to establish MCLs for additional constituents (emerging contaminants) that are currently listed in Column C. Changes to the constituents listed in Column C may be necessary prior to finalizing this amendment in response to VDH establishing maximum contaminant limits (MCLs) for emerging contaminants. References to the requirement to monitor for Column C constituents have been added to the assessment monitoring program.
250 B 3 b (1)		Groundwater Monitoring-Assessment monitoring program-well subsets	Language has been added to the regulation to allow the director to approve a subset of wells to remain in detection monitoring when other monitoring wells are in assessment monitoring. All wells continue to be monitored; however, it may not be appropriate to monitor all wells for all constituents. New wells will be allowed to be part of the well subset based on the initial monitoring event. This change is a clarification of what is currently allowed by the regulation.
250 B 3 b (1) (b)		Groundwater Monitoring-Assessment monitoring-establishment of well subsets	Language has been added to clarify that if a statistically significant increase of a constituent is detected in a well in the

			subset, the well is no longer considered part of the detection monitoring well subset.
250 B 3 b (2)		Groundwater Monitoring-Modifications to the constituent list	Additional descriptive language has been added to assist with understanding the context of the requirement.
250 B 3 b (3)		Groundwater Monitoring-Sampling frequency	Additional descriptive language has been added to assist with understanding the context of the requirement.
250 B 3 c (3)		Groundwater Monitoring-Development of background	The regulation is being revised to require 8 instead of 4 independent groundwater samples from each well. This change is being made to be consistent with EPA's 2009 statistical guidance. Language has also been included to allow less than 8 samples to be used if approved by the department.
250 B 3 e (1)		Groundwater monitoring plan- deadline for submitting permit modification	The regulation is being amended to remove the deadline to submit a permit modification. DEQ establishes a timeframe for modification of the permit as part of the Groundwater Monitoring Plan approval.
250 B 3 e (2)		Groundwater monitoring plan- exceedance of deadline for submitting permit modification	This subdivision is no longer needed due to the removal of the timeframe for requesting a permit modification in the previous subdivision (9VAC20-81-250 B 3 e (1)).
250 B 3 f (1)		Groundwater Monitoring-Evaluation and response – reevaluation to return to detection monitoring	This change clarifies that the comparison used for returning to detection monitoring is made only for downgradient monitoring wells, not the entire monitoring well network.
250 B 3 f (2)		Groundwater Monitoring-Evaluation and response-reevaluation and remaining in assessment monitoring	This change clarifies that the comparison used for remaining in assessment monitoring is made only for downgradient monitoring wells, not the entire monitoring well network.
250 B 3 f (3)		Groundwater Monitoring-Evaluation and response-exceedance of groundwater protection standards	This change clarifies that the comparison occurs between downgradient monitoring wells and groundwater protection standards.
250 B 3 f (3) (a)		Groundwater Monitoring-Evaluation and response-exceedance of groundwater protection standards	This change clarifies that the exceeding groundwater monitoring well must be identified when the department is notified of the exceedance of groundwater protection standards.
250 B 3 f (3) (b)		Groundwater Monitoring-Evaluation and response-description of results	Regulation clarifies that the sampling results are to be described in the report.
250 C 2		Groundwater Monitoring-First determination monitoring program	The regulation is being clarified to reference sampling for Column C constituents (emerging contaminants).
250 C 2 b (1) (a)		Groundwater Monitoring-First determination	The regulation is being revised to require 8 instead of 4 independent groundwater

		monitoring program- establishment of background	samples from each well. This change is being made to be consistent with EPA's 2009 statistical guidance.
250 C 2 b (1) (b)		Groundwater Monitoring- First determination monitoring program- establishment of background	Collection of 4 samples for background development will not be required if new wells are installed downgradient from waste disposal units that have already received waste. This is due to the fact that background has already been established for the groundwater monitoring program. This change will reduce the cost of compliance with the regulation by the cost to collect 8 samples and conduct laboratory analysis for those samples.
250 C 2 d (3)		Groundwater Monitoring- First determination monitoring program- establishment of alternate source demonstration	An editorial change has been made to the location of the language that allows for the director to provide additional time for the owner or operator to submit an alternate source demonstration. This is not a new regulatory provision.
250 C 3		Groundwater Monitoring- Phase II monitoring	This subdivision has been reorganized to improve the readability and understanding of the requirements. Some subdivisions have been renumbered.
250 C 3 a (1), 250 C 3 b	250 C 3 c	Groundwater Monitoring- Phase II monitoring background development	The regulation is being clarified to reference sampling for Column C constituents (emerging contaminants).
250 C 3 d (1)	250 C 3 e	Groundwater Monitoring- Groundwater monitoring plan- deadline for submitting permit modification	The regulation is being amended to remove the deadline to submit a permit modification. DEQ establishes a timeframe for modification of the permit as part of the Groundwater Monitoring Plan approval.
250 C 3 d (2)	250 C 3 e	Groundwater monitoring plan- exceedance of deadline for submitting permit modification	This subdivision is no longer needed due to the removal of the timeframe for requesting a permit modification in the previous subdivision (9VAC20-81-250 C 3 d (1)).
250 C 3 e (1)	250 C 3 f (1)	Groundwater Monitoring- Evaluation and response – reevaluation to return to first determination monitoring	This change clarifies that the comparison used for returning to first determination monitoring is made only for downgradient monitoring wells, not the entire monitoring well network.
250 C 3 e (2)	250 C 3 f (2)	Groundwater Monitoring- Evaluation and response- reevaluation and remaining in Phase II monitoring	This change clarifies that the comparison used for remaining in phase II monitoring is made only for downgradient monitoring wells, not the entire monitoring well network.
250 C 3 e (3)	250 C 3 f (3)	Groundwater Monitoring- Evaluation and response- exceedance of groundwater protection standards	This change clarifies that the comparison occurs between downgradient monitoring wells and groundwater protection standards.

250 C 3 e (3) (a)	250 C 3 f (3) (a) (i)	Groundwater Monitoring-Evaluation and response-exceedance of groundwater protection standards	This change clarifies that the exceeding groundwater monitoring well or wells and associated constituent or constituents must be identified when the department is notified of the exceedance of groundwater protection standards.
250 C 3 e (3) (a)	250 C 3 f (3) (b)	Groundwater Monitoring-Evaluation and response-Alternate source demonstration	The regulatory text in this subdivision has been re-numbered to avoid confusion concerning the requirements of the regulation. No new requirements were added to the regulation.
250 C 3 e (3) (b)	250 C 3 f (3) (c)	Groundwater Monitoring-Evaluation and response-description of results	Regulation clarifies that the sampling results are to be described in the report.
	250 E 2 a (2) (g)	Groundwater Monitoring-Recordkeeping and reporting requirements- annual report-constituents identified	A new requirement for the constituents identified during the year's sampling events to be presented in a table displaying the concentration detected, the monitoring well detecting the constituents and the relevant groundwater protection standard has been included in the annual report.
250 E 2 a (2) (g) and 250 E 2 a (2) (h)	250 E 2 a (2) (h) and 250 E 2 a (2) (i)	Groundwater Monitoring-Recordkeeping and reporting requirements- annual report	Subdivisions have been renumbered in response to addition of new language in 250 E 2 a (2) (g)
250 E 2 b (1) (d)		Groundwater Monitoring-Recordkeeping and reporting- semi-annual or quarterly report- calculated rate of groundwater flow	Requirements previously found in 250 E 2 b (1) (d) and 250 E 2 b (1) (e) have been combined into a single subdivision and 250 E 2 b (1) (e) is being deleted. The language is being clarified to require the groundwater flow rate and direction to be calculated using the information collected during the monitoring events. This should be calculated for each monitoring event as part of monitoring groundwater characteristics.
250 E 2 b (1) (e)		Groundwater Monitoring-Recordkeeping and reporting- semi-annual or quarterly report- groundwater flow direction	The content of 250 E 2 b (1) (e) has been consolidated with 250 E 2 b (1) (d) and 250 E 2 b (1) (e) has been deleted.
250 E 2 b (1) (f)	250 E 2 b (1) (e)	Groundwater Monitoring-Recordkeeping and reporting- semi-annual or quarterly report	This subdivision has been renumbered.
250 E 2 b (1) (g)	250 E 2 b (1) (f)	Groundwater Monitoring-Recordkeeping and reporting- semi-annual or quarterly report- report on CD-ROM format	The regulation is being revised to reflect that reports will no longer be accepted on CD-ROM since that format is no longer needed due to the advancement of technology related to electronic submissions.
Table 3.1		Ground Water Solid Waste Constituent Monitoring List	Column C has been added to address potential contaminants for which

			<p>monitoring may be required in the future. Column C lists emerging constituents that VDH is directed to establish MCLs for in the future in response to §32.1-169 of the Code of Virginia. The content of Column C will be modified in the future, based on the actions taken by VDH to adopt MCLs for emerging constituents. MCLs must be adopted by VDH before this regulation will be amended to require monitoring for these constituents; however, this information has been included in this amendment to provide a framework for these additional monitoring constituents and to provide the regulated community with insight concerning how these new MCLs would be incorporated in monitoring requirements for solid waste disposal facilities.</p>
260 A	260 B	Corrective Action program- Interim measures	<p>Language in this subsection concerning interim measures has been removed and moved to subsection B to improve the clarity of the regulation.</p>
260 B	260 B 1 and 260 B 2	Corrective action – Actions that may occur at any time	<p>Actions that may be taken at any time during the corrective action process have been consolidated into subsection B. These are existing requirements that have been consolidated into a single subsection to improve readability.</p>
260 C 1 b		Corrective action- Notification of landowners over the release	<p>Additional information is being added to the notification of landowners over the release. This includes the contaminants in the release, including the names and concentrations, that have migrated offsite. Language has also been added to clarify when the notification must occur.</p>
260 C 1 d		Corrective action- Financial assurance	<p>Regulatory language has been revised to reference the requirement to provide additional financial assurance once the landfill enters corrective action. The amount of financial assurance to be provided is specified in the Financial Assurance Regulations for Solid Waste Disposal, Transfer and Treatment Facilities (9VAC20-70).</p>
260 C 2 d (1)		Corrective action- Submission requirements- assessment of risks	<p>Language is being added to clarify that the contamination to be addressed is groundwater contamination that has been identified at the disposal unit boundary as well as the permitted facility boundary.</p>
260 C 2 d (2)		Corrective action- Submission requirements- groundwater trends	<p>Language has been added to include information on the site’s groundwater background data in addition to the</p>

			groundwater protection standards as part of the corrective action evaluation.
260 C 2 f (a), 260 C 2 f (b), 260 C 2 f (c), and 260 C 2 f (d)	260 C 2 f (1), 260 C 2 f (2), 260 C 2 f (3), and 260 C 2 f (4)	Corrective action-presumptive remedy	Editorial changes have been made to the numbering of these subdivisions. No change was made to regulatory requirements.
260 C 3 c (1) (a), 260 C 3 c (1) (b), 260 C 3 c (1) (c)	260 C 3 c (1), 260 C 3 c (2), and 260 C 3 c (3)	Corrective action-assessment of corrective measures	Editorial changes have been made to the numbering of these subdivisions. No change was made to regulatory requirements.
260 C 3 c (1) (d)	260 C 3 c (4)	Corrective action- Selection of remedy and management of wastes	This change clarifies that wastes generated as part of investigating contamination are to be properly managed.
260 C 3 d		Evaluation and response-assessment of corrective measures	The phrase “without revision” is being removed since the assessment of corrective measures may need to be revised prior to the department approving. The current language does not specify an action to occur if the assessment is approved without revision.
260 C 4 a (3)		Corrective action- Public meeting process- location on physical materials for public review	Regulatory language has been clarified to require materials to be available for public review and copying in a location accessible to the public.
260 D 1 b (6) (f)		Corrective action plan requirements- schedule of remediation activities	Regulatory language has been clarified. The term “extraction” is replacing the term “removal” since it is more accurate to describe that the groundwater is extracted, not removed.
260 D 1 b (8) (f)		Corrective action plan requirements- schedule of remediation activities	The regulation is being clarified to state that the progress report will detail the work that is anticipated to be completed during the next reporting period. The current phrase “work for next reporting period” is vague and causes confusion.
260 D 2 d (2)		Proposed corrective action plan review by director	Language is being included in the regulation to address use of the Uniform Environmental Covenants Act (UECA) Regulation (9VAC15-90) as part of the correction action plan for a facility.
260 D 4 a, 260 D 4 b, 260 D 4 c, and 260 D 4 d	260 D 4 a and 260 D 4 b	Proposed corrective action plan review by director	The content from 260 D 4 a, 260 D 4 b, and 260 D 4 c is being consolidated and clarified in 260 D 4 a, and the citation referencing permit modification procedures has been corrected. 260 D 4 d has been renumbered to 260 D 4 b.

260 F 3 b		Corrective action- Interim measures- factors to be considered- exposure	Language is being revised to reference groundwater constituents that are exceeding groundwater protection standards. Corrective action is initiated due to constituents exceeding groundwater protection standards, not due to hazardous constituents. The regulatory language now reflects terminology used in the solid waste management program.
260 F 3 e		Corrective action- Interim measures- factors to be considered- migration potential	Language is being revised to more accurately describe the issues being examined. Conditions, not limited to weather, that may cause the groundwater constituents to further migrate or be released into the environment, including receptors such as surface waters, are to be considered. This is a more holistic approach to examining the potential for migration.
260 H 3		Corrective Action- Remedy completion- certification and report	Language has been added to clarify a Corrective Action Completion Report should be submitted which would include the certification that the remedy has been completed and include the data relevant to the demonstration of successful remedy completion.
260 H 4 b		Corrective action- Remedy completion- director reviews and determines	Language has been revised to improve the readability of the regulation. This subdivision provides additional clarity that the corrective actions defined in the solid waste permit are required to continue.
Part IV		Other Solid Waste Management Facility Standards	The title of Part IV is being revised to not reference specific types of facilities. The length of the current title is being truncated in the Regulation Information System (RIS).
300		General	Minor editorial corrections have been made.
300 F 1 c		General- control program for unauthorized waste	Changes have been made to the regulation to clarify that staff should receive annual training on unauthorized wastes. This is needed to maintain facility staff that are able to comply with requirements of the regulation and the facility permit. This change is consistent with industry best practice as the majority of facilities are already conducting this training annually.
300 F 3		General- control program for unauthorized waste	Citation has been updated.
	310 A 3 c (4)	Compostable/biodegradable food containers	Biodegradable food containers and utensils have been viewed to be post-consumer food waste. The regulation is

			being amended to include this specific type of material eligible for use as a Category III feedstock.
320 E		Siting requirements- waste piles	Citation has been updated.
	320 F 3	Siting requirements- compost facilities	Additional siting criteria has been added consistent with the FAA Advisory Circular No. 150/5200-33C which restricts siting of certain compost operations on or near airport operations to avoid attraction of hazardous wildlife.
	330 B 5	Transfer station design-unloading areas	A requirement has been added for the design of solid waste transfer stations to provide sufficient internal areas for waste management in order to reduce the potential for vectors and prevent the escape of waste, wash water, odor, dust, and litter from the facility during unloading and transfer of waste. This requirement is similar to an existing requirement for other solid waste management facilities, and almost all, if not all, solid waste transfer stations already provide internal areas for unloading and management of incoming solid waste.
330 C 8 330 D 6 330 E 6		Internal storage area- based on facility's daily process rate	Minor editorial clarification made for consistency with the defined term "process rate". Previously the phrase "maximum anticipated daily incoming waste" was used in this subdivision.
340		Operational requirements applicable to all non-landfill facilities	Duplicative language concerning the content of Operations Manuals has been removed as it is already addressed in section 485.
	340 A 1	Operational requirements applicable to all non-landfill facilities	This language addresses the existing statutory requirement for permitted solid waste management facilities to operate under direct supervision of a licensed waste management facility operator. The added language is consistent with the statutory language in § 10.1-1408.2 of the Code of Virginia.
	340 A 2	Operational requirements applicable to all non-landfill facilities	Language has been added to clarify that the facility shall only operate within approved hours of operation, and allows for facilities to request a temporary extension of operational hours if needed to respond to emergencies. Consensus was reached by the RAP to include this flexibility in the regulation.
	340 A 3	Operational requirements applicable to all non-landfill facilities	This language has been added to clarify that the facility shall only receive, process, and store approved quantities of waste based on the specific design

			and intended operation at the facility. A similar requirement has been added for landfills.
	340 A 4	Operational requirements applicable to all non-landfill facilities	This requirement is being added to the operational requirements for all solid waste management facilities. The design of solid waste management facilities must already address these requirements, and this additional language clarifies that facilities must also be operated to meet these requirements on a continual basis.
	340 A 5	Operational requirements applicable to all non-landfill facilities	This operational requirement has been added to the regulation to prevent the escape of litter from the facility and is similar to, and no more stringent than, litter control requirements for disposal facilities.
	340 A 6	Operational requirements applicable to all non-landfill facilities	Language has been added to specify that the emergency contingency plan needs to be implemented when emergencies arise.
340 A 1	340 B 1	Requirements applicable to all compost facilities	Requirements for composting facilities are being reorganized. Requirements applicable to all compost facilities have been listed in subdivision 1.
340 A 1 b	340 B 1 a	Compost facilities- materials that may be accepted	The addition of the new subdivision a is replacing the previous language in existing subdivision b and places limits on the wastes that can be accepted for composting based on the design and intended operation of the facility.
340 A 1 d	340 B 1 d	Compost facilities- dust control	Citation has been corrected.
	340 B 1 i	Compost facilities- Maintenance and inspections	Maintenance requirements for composting facilities are being re-located in the regulation to assist with clarifying the requirements of the regulation. These requirements were previously listed in 9VAC20-81-340 A 2 h but are applicable to all compost facilities.
340 A 2 a		Compost facilities- noncompostable waste	Language has been removed to avoid duplicative requirements.
340 A 2 b	340 B 2 a	Clarification of compost testing requirement	Language has been added to clarify that the compost sampling frequency is applicable to all three subdivisions listed.
340 A 2 d	340 B 2 c	Compost testing for compost produced from Category III and IV materials	The requirement for certain compost facilities to conduct parasite testing has been removed from the regulations. Historical data from parasite testing at compost facilities has demonstrated that parasites have not posed issues with final compost quality. The majority of the compost facilities permitted under the VSWMR have demonstrated viable

			helminth ova reduction after one year of quarterly testing and are no longer required to conduct the testing in accordance with the existing subsection. The remaining compost facilities have been testing for less than one year, and the availability of labs offering this type of testing is limited. This test has been discontinued by VDACS labs, and there are no other VELAP accredited labs in the Commonwealth that offer this type of testing. The only VELAP accredited lab currently offering this type of test is in Florida. In addition, neither the U.S. Composting Council's Seal of Testing Assurance Program, nor the U.S. Composting Council's latest version of the Model Compost Rule require parasite testing.
340 A 2 f 340 A 2 g 340 A 2 h 340 A 2 i	340 B 1 g 340 B 1 h 340 B 1 i	Compost facility requirements	Language in these subdivisions has been moved to other locations in the regulation as part of the reorganization of the regulation. Requirements for buffer zones (A 2 f), maintenance and inspections (A 2 h), and leachate control (A 2 i) are applicable to all compost facilities and have been relocated to 340 B 1 as part of the reorganization of composting requirements. Operations plan requirements for compost facilities are being addressed under section 485 in the regulation, for consolidation with other Operations Manual requirements. Some language has been removed because it is duplicative of existing requirements for the content of Operations Manuals. Separate language limiting compost storage is no longer needed in the compost section as new language has been added to subsection A for all solid waste management facilities that requires compliance with the approved storage capacity.
340 B 2 340 B 3		Transfer stations- operating plan and contingency plan	This information has been moved to 485 B to consolidate all operations plan and emergency contingency plan requirements in a single location under the Operations Manual section of the regulation.
340 B 5	340 C 3	Transfer stations- household hazardous waste storage	Citation for federal regulations has been corrected to reference standards for container storage areas. The previous citation referenced hazardous secondary materials, which was incorrect.
	340 C 4 340 C 5	Transfer stations- operational requirements	This language clarifies the operational requirements for transfer stations to

	340 C 6		ensure that uncontainerized putrescible waste and waste residues are not left on the tipping floor. If waste residues are not cleaned from the floors and ramps on a regular basis, there is an increased risk for odor, disease vectors, dust, and blowing litter. Floor drains need to be kept free flowing, and tipping floors and ramps need to be maintained, in order to prevent releases of leachate and waste.
340 C 3 340 C 4		Centralized waste treatment facilities- operating plan and contingency plan	This information has been moved to 485 B to consolidate all operations plan and emergency contingency plan requirements in a single location under the Operations Manual section of the regulation.
	340 D 5 340 D 6 340 D 7	Centralized waste treatment facilities- operational requirements	This language clarifies the operational requirements for centralized waste treatment facilities to ensure that waste residues are removed from floors and ramps on a regular basis to avoid an increased risk for odor, disease vectors, dust, and blowing litter. Floor drains need to be kept free flowing, and tipping floors and ramps need to be maintained, in order to prevent releases of leachate and waste.
340 D 3 340 D 4		Materials recovery facilities- operating plan and contingency plan	This information has been moved to 485 B to consolidate all operations plan and emergency contingency plan requirements in a single location under the Operations Manual section of the regulation.
	340 E 4 340 E 5 340 E 6	Materials recovery facilities – operational requirements	This language clarifies the operational requirements for materials recovery facilities to ensure that uncontainerized putrescible waste and waste residues are not left on the tipping floor. If waste residues are not cleaned from the floors and ramps on a regular basis, there is an increased risk for odor, disease vectors, dust, and blowing litter. Floor drains need to be kept free flowing, and tipping floors and ramps need to be maintained, in order to prevent releases of leachate and waste.
340 E 2 340 E 4		Waste to energy and incineration facilities- operating plan and contingency plan	This information has been moved to 485 B to consolidate all operations plan and emergency contingency plan requirements in a single location under the Operations Manual section of the regulation.
	340 F 6 340 F 7 340 F 8	Waste to energy and incineration facilities- operational requirements	This language clarifies the operational requirements for waste to energy and incineration facilities to ensure that waste residues are removed on a regular basis.

			<p>If waste residues are not cleaned from the floors and ramps on a regular basis, there is an increased risk for odor, disease vectors, dust, and blowing litter. Floor drains need to be kept free flowing, and tipping floors, ramps, and other surfaces need to be maintained, in order to prevent releases of leachate and waste.</p>
340 F 2 340 F 3		Waste piles- operating plan and contingency plan	<p>This information has been moved to 485 B to consolidate all operations plan and emergency contingency plan requirements in a single location under the Operations Manual section of the regulation.</p>
350 1		Recordkeeping requirements applicable to non-landfill facilities	<p>The regulation is being amended to specify that self-inspections shall be conducted monthly at a minimum. This requirement is similar to the inspection requirement for disposal facilities. Previously, the inspection frequency for these facilities was not specified in regulation, which created confusion and inconsistencies. The majority of non-landfill facilities already conduct self-inspections monthly or more frequently.</p>
360 2		Closure requirements- closure cost estimates	<p>Language has been added to clarify that the closure cost estimate must be included in the closure plan and must include the costs of removing stockpiles of material at the site that are approved for beneficial use. In the event the facility was to close, the material stockpiled for beneficial use would need to be removed as part of closure of the facility. This was a needed change to the regulation in response to the Secretary of Natural and Historic Resources' report to the Governor in response to Executive Order 6 (2018). The report recommended that the regulations be revised to ensure that facilities provide adequate financial assurance that they can fund cleanup and closure. This amendment will require facilities' closure cost estimates to include costs for removal of beneficial use materials (which were not included previously) when calculating the financial assurance a facility is required to provide for closure of the facility. Similar language is being added for closure plans of other solid waste disposal facilities. This change is also consistent with existing agency guidance. This change protects the citizens of the Commonwealth from</p>

			having to pay for the removal and disposal of beneficial use material if a facility fails to properly close.
370 A 2		Closure requirements for surface impoundments and lagoons	Minor editorial corrections have been made.
380 C 4		Remediation waste management units	Minor editorial corrections have been made.
385 B		Landfill mining	Regulatory language has been revised to distinguish the landfill mining plan from the operations manual. The landfill mining plan is a required permit document for review and approval by the department, whereas the operations manual is not a permit document and is updated regularly by the facility.
395 F		Miscellaneous facilities	Minor editorial corrections have been made.
397 B 2		Exempt yard waste composting facilities	The term "yard waste" is being removed to allow agricultural operations receiving all Category I feedstocks to potentially be exempt from other provisions of the regulation if certain criteria is met. Category I feedstock may contain yard waste as a component, but is not required to contain yard waste to potentially qualify for this exemption. This change allows more flexibility concerning composting requirements.
397 C		Small disposal units for vegetative waste	Minor editorial corrections have been made.
410 A 2		Permits by rule- Submission	Language is being added to clarify that the agency's DEQ Form SW PBR (Solid Waste Management Facility Permit-by-Rule Application) shall be provided as part of the submission for a permit-by-rule. Applicants have already been using this form to apply for a PBR for almost a decade. This form provides a streamlined process for applicants to submit information to the department and has been posted on the agency's website and included in submission instructions guidance on VA Town Hall since 2012.
410 B 5		Emergency permits	The language describing the conditional exemption for open burning allowed during a state of emergency has been moved to section 9VAC20-81-95, for inclusion with the existing list of all other conditionally exempt activities related to open burning. There is no change to this regulatory requirement.
450 B 6		Notice of intent- Host agreement	Language is being added to clarify that the DEQ Form SW-11-2 (Host

			Agreement Certification Request) shall be provided with the notice of intent, as part of the permit application process, when a host agreement with the locality is required for a new private sanitary landfill or expansion to a private sanitary landfill. It is already standard practice for applicants to submit this form to certify that the host agreement includes all information required by the statute (10.1-1408.1 B 7 of the Waste Management Act).
450 C 1		Part A application	The number of paper copies of an application required to be submitted is being reduced to one paper copy and one electronic copy. A certification that currently appears on the application form has been added to the regulation for consistency.
450 D 1		Part B application	The number of paper copies of an application required to be submitted is being reduced to one paper copy and one electronic copy. A certification that currently appears on the application form has been added to the regulation for consistency.
460 C 9		Part A permit application- vicinity map	A requirement has been added for the vicinity map to delineate Resource Protection Areas designated by localities, in order to prevent siting of landfills in those areas. The RAP reached consensus on requiring these areas to be included on the vicinity maps.
470 A 1 j		Permit application for solid waste disposal facilities- design plan sheets	New language has been added to ensure that plan sheets submitted to the Department identify the datum, units of measure, and coordinate systems associated with location information for the site.
470 A 3		Permit application for solid waste disposal facilities	Minor editorial corrections have been made.
485 A		Operations manual requirements for solid waste disposal facilities	The annual certification is being revised to occur at least once every 12 months for consistency with other requirements that are due on an annual basis. All facilities are already recertifying at least once every 12 months in accordance with existing agency guidance.
485 A 1 c 485 A 1 d		Operations plan requirements	Minor editorial clarifications have been made for consistency with operations plan requirements for other solid waste management facilities. The facility's daily disposal limit and methods for noise control should be included in the plan to ensure compliance with the operations

			requirements in section 140. Language has been added to ensure that facilities have site-specific protocols in their operations plan to help them prepare for severe weather and storm events. This is needed to address the increasing frequency of severe weather and increasing severity of storm events observed in Virginia.
	485 A 1 e	Operations plan requirements- leachate collection system maintenance	A new subdivision has been added to identify information and instructions required in a landfill Operations Manual that is necessary for the site operator to ensure proper leachate management to achieve compliance with the regulations. This list is consistent with language in current agency guidance and standard industry practices.
485 A 2 b		Inspection plan requirements	Language has been modified to require the frequency of inspections in the inspection plan to be consistent with the self-inspection requirements under section 140.
	485 A 5 e	Emergency contingency plan requirements	Procedures for periods of nonoperation are being added for disposal facilities. Other facilities are already required to address non-operation in their emergency contingency plan.
	485 A 5 f	Active landfills- fire control plan	Details are being added to the regulation concerning the content of the fire control plan in response to consensus from the RAP. This information is needed to ensure that landfill staff are prepared to control and extinguish any fires that may occur.
485 B		Operations manual requirements for other solid waste management facilities	The annual certification is being revised to occur at least once every 12 months for consistency with other requirements that are due on an annual basis. All facilities are already recertifying at least once every 12 months in accordance with existing agency guidance.
485 B 1 b		Operations plan requirements	This change consolidates items to be included in all operations plans into a single location. This change reduces duplicative language in the regulation. Language has been added to ensure that facilities have site-specific protocols in their operations plan to help them prepare for severe weather and storm events. This is needed to address the increasing frequency of severe weather and increasing severity of storm events observed in Virginia.

	485 B 1 e	Operations plan requirements for composting facilities	Language was relocated from section 340 to section 485 to consolidate all operation plan content requirements into a single location for ease of use. Section 340 requires operations plans to be developed and implemented, and Section 485 specifies the contents of the plan.
	485 B 1 f	Operations plan requirements for centralized waste treatment facilities	Language was relocated from section 340 to section 485 to consolidate all operation plan content requirements into a single location for ease of use. Section 340 requires operations plans to be developed and implemented, and Section 485 specifies the contents of the plan.
	485 B 1 g	Operations plan requirements for materials recovery facilities	Language was relocated from section 340 to section 485 to consolidate all operation plan content requirements into a single location for ease of use. Section 340 requires operations plans to be developed and implemented, and Section 485 specifies the contents of the plan.
	485 B 1 h	Operations plan requirements for waste piles	Language was relocated from section 340 to section 485 to consolidate all operation plan content requirements into a single location for ease of use. Section 340 requires operations plans to be developed and implemented, and Section 485 specifies the contents of the plan.
485 B 2 b		Inspection plan	Language has been modified to require the frequency of inspections in the inspection plan to be consistent with the self-inspection requirements under section 350.
485 B 4		Unauthorized waste control plan	Language has been added to specifically list regulated medical waste as a waste to screen for. The citation referencing the unauthorized waste control program requirements has been corrected.
	485 B 5 e 485 B 5 f	Emergency contingency plan content requirements	This information was moved from section 340 to section 485 to consolidate all emergency contingency plan content requirements into a single location and remove duplicative language for ease of use. Section 340 requires emergency contingency plans to be implemented and Section 485 specifies the contents of the plan.
490		Effect of the permit	Minor editorial corrections have been made.
530 C 3		Recording and reporting required of a permittee	A clarification has been made to the regulation to state that the notification is

			required within five working days. Written submissions may be submitted either by mail or electronically. This provides the facility with more options by which to notify the department. In order to provide clarity to the regulated community, additional language has been added to the regulation to specify known types of noncompliance and unusual conditions that require reporting to the Department and may endanger health or the environment.
530 D		Recording and reporting required of a permittee	The regulation is being amended to clarify that training records shall be maintained for 3 years. This is consistent with the retention schedule for permit records.
570		Revocation or suspension of permits	Minor editorial corrections have been made.
600		Modification of permits	Minor editorial corrections have been made.
620 B		Asbestos-containing waste materials	Additional language has been added to clarify, that proper packaging of asbestos-containing waste materials includes adequate wetting, sealing in leak-tight containers or leak-tight packaging, and labeling in accordance with the federal regulations. These are not new regulatory requirements.
620 C 1		Disposal of asbestos-containing waste materials	Additional language has been added to specify the pertinent requirements for receipt of asbestos-containing waste at a landfill.
	620 C 3 620 C 4 620 C 5	Disposal of asbestos-containing waste materials	Additional language has been added to specify disposal requirements in order to prevent exposure and releases of asbestos into the air. Heavy equipment usage over uncovered Category I or Category II non-friable asbestos at the working face of a landfill is likely to render the asbestos friable, which supports the requirement to cover all types of asbestos waste immediately (rather than at the end of the working day) and in a manner that prevents it from becoming airborne. The clarified requirement is more protective of human health and consistent with standard industry best practice. Language was also added to clarify recordkeeping requirements consistent with minimum requirements in the federal regulations.
620 D		Closure and post-closure care requirements for	Minor editorial corrections have been made.

		disposal of asbestos-containing materials	
660 B		Soil contaminated with petroleum products- testing requirements	A change have been made to require test results for extractable organic halides, which are more applicable to solids than the total organic halides, which were designed for water samples.
660 D		Soil contaminated with petroleum products- disposal criteria	References to TOX have been changed to EOX to be consistent with the changes in B 1 of this section.

In addition to the changes listed above, throughout the regulatory text the phrase “postclosure” is being revised to read “post-closure” to maintain consistency with the term as used in federal regulations. The term “semiannual” is also being revised to read “semi-annual” to be consistent with its usage throughout the regulation. The term “landclearing” is being revised to read “land-clearing” to be consistent with its usage throughout the regulation. The term “appurtenances” is being replaced with the term “infrastructure” in several sections to improve readability. This amendment also updates the name of the Department of Mines, Mineral and Energy (DMME) to the Department of Energy.

Family Impact

In accordance with § 2.2-606 of the Code of Virginia, please assess the potential impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one’s spouse, and one’s children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

This regulation does not impact the institution of the family or family stability.